

SECURITIES & EXCHANGE COMMISSION EDGAR FILING

DMC Global Inc.

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**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
WASHINGTON, D.C. 20549

Form 10-K

(Mark One)

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES AND EXCHANGE ACT OF 1934**

For the fiscal year ended **December 31, 2017**

☐ **TRANSITION REPORT UNDER SECTION 13 OR 15(d) OF THE SECURITIES ACT OF 1934**

FOR THE TRANSITION PERIOD FROM _____ TO _____

Commission file number **001-14775**

DMC Global Inc.

(Exact name of Registrant as Specified in its Charter)

Delaware

(State of Incorporation or Organization)

84-0608431

(I.R.S. Employer Identification No.)

5405 Spine Road, Boulder, Colorado 80301

(Address of principal executive offices, including zip code)

(303) 665-5700

(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class

Common Stock, \$.05 Par Value

Name of each exchange on which registered

The Nasdaq Global Select Market

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes ☐ No ☒

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Act from their obligations under those sections. Yes ☐ No ☒

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ☒ No ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of the registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☐

Accelerated filer ☒

Non-accelerated filer ☐

(Do not check if smaller reporting company)

Smaller reporting company ☐

Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 under the Act). Yes ☐ No ☒

The approximate aggregate market value of the voting stock held by non-affiliates of the registrant was \$152,439,264 as of June 30, 2017.

The number of shares of Common Stock outstanding was 14,905,241 as of March 8, 2018.

Certain information required by Items 10, 11, 12, 13 and 14 of Form 10-K is incorporated by reference into Part III hereof from the registrant's proxy statement for its 2018 Annual Meeting of Stockholders, which is expected to be filed with the Securities and Exchange Commission ("SEC") within 120 days of the close of the registrant's fiscal year ended December 31, 2017.

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PART I**ITEM 1. Business**

References made in this Annual Report on Form 10-K to “we”, “our”, “us”, “DMC” and the “Company” refer to DMC Global Inc. and its consolidated subsidiaries. Unless stated otherwise, all dollar figures in this report are presented in thousands (000s).

Overview

DMC Global Inc. operates two technical product and process business segments serving the energy, industrial and infrastructure markets. These segments, NobelClad and DynaEnergetics, operate globally through an international network of manufacturing, distribution and sales facilities. NobelClad is a global leader in the production of explosion-welded clad metal plates for use in the construction of corrosion resistant industrial processing equipment and specialized transition joints. DynaEnergetics designs, manufactures and distributes products utilized by the global oil and gas industry principally for the perforation of oil and gas wells. See Note 6 within Item 8 — Financial Statements and Supplementary Data for net sales, operating income, and total assets for each of our segments.

Our Strategy

Our diversified segments each provide a suite of unique technical products to niche sectors of the global energy, industrial and infrastructure markets, and each has established a strong position in the markets in which it participates. With an underlying focus on generating free-cash flow, our objective is to sustain and grow the market share of our businesses through increased market penetration, development of new applications, and research and development of new and adjacent products that can be sold across our global network of sales and distribution network. We routinely explore acquisitions of related businesses that could strengthen or add to our existing product portfolios, or expand our geographic footprint and market presence. We also seek acquisition opportunities outside our current markets that would complement our existing businesses and enable us to build a stronger and more diverse company.

Business Segments***NobelClad***

Clad metal plates are typically used in the construction of heavy, corrosion resistant pressure vessels and heat exchangers. Clad metal plates consist of a thin layer of an expensive, corrosion-resistant cladder metal, such as titanium or nickel alloy, which is metallurgically welded to a less expensive structural backing metal, such as carbon steel. For heavy equipment, clad plates generally provide an economical alternative to building the equipment solely of a corrosion-resistant alloy. While a significant portion of the demand for our clad metal products is driven by maintenance and retrofit projects at existing chemical processing, petrochemical processing, oil refining, and aluminum smelting facilities, new plant construction and large plant expansion projects also account for a significant portion of total demand. These industries tend to be cyclical in nature and timing of new order inflow remains difficult to predict.

There are three major industrial clad plate manufacturing technologies: explosion welding, hot rollbonding and weld overlay. Detaclad[®], NobelClad's process-controlled explosion clad, uses explosion welding, the most versatile of the clad plate manufacturing methods. Created using a robust cold welding technology, explosion-welded clad products exhibit high bond strength and combine the corrosion resistance of the cladder material with the mechanical properties and structural strength of the lower cost backer material. The explosion welding process is suitable for joining virtually any combination of common engineered metals. This represents a competitive advantage versus the hot rollbonding and weld overlay processes, which generally can only clad compatible metals such as nickel alloys and stainless steel.

Explosion-welded clad metal is produced as flat plates or concentric cylinders, which can be further formed and fabricated into a broad range of industrial processing equipment or specialized transition joints. When fabricated properly, the two metals will not come apart, as the bond zone is generally stronger than the parent metals. The dimensional capabilities of the process are broad: cladding metal layers can range from a few thousandths of an inch to several inches in thickness and base metal thickness and lateral dimensions are primarily limited only by the capabilities of the world's metal production mills. Explosion welding is used to clad to steel a broad range of metals, including aluminum, titanium, zirconium, nickel alloys and stainless steels.

Clad Metal End Use Markets

Explosion-welded clad metal is primarily used in the construction of large industrial processing equipment that is subject to high pressures and temperatures and/or corrosive processes. Explosion-welded clad plates also can be cut into transition joints, which are used to facilitate conventional welding of dissimilar metals. The eight broad industrial sectors discussed below comprise the bulk of demand for NobelClad's products, with oil and gas and chemical and petrochemical constituting approximately two-thirds of NobelClad sales in 2017. This demand is driven by the underlying need for both new equipment and facility maintenance in these primary market sectors.

Oil and Gas: Oil and gas end use markets include both oil and gas production and petroleum refining. Oil and gas production covers a broad scope of operations related to recovering oil and/or gas for subsequent processing in refineries. Clad metal is used in separators, glycol contractors, pipe lines, heat exchangers and other related equipment. Increased oil and gas production from deep, hot, and more corrosive fields has also increased the demand for clad equipment. The primary clad metals for the oil and gas production market are stainless steel and nickel alloys clad to steel, with some use of reactive metals, such as titanium.

Petroleum refining processes frequently are corrosive and operate at high temperatures and pressures. Clad metal is extensively used in a broad range of equipment including desulfurization hydrotreaters, coke drums, distillation columns, separators and heat exchangers. Reliance upon low-quality, high sulfur crude drives additional demand for new corrosion resistant equipment. Worldwide trends in regulatory control of sulfur emissions in gas, diesel and jet fuel are also increasing the need for clad equipment. Like the upstream oil and gas sector, the clad metals are primarily stainless steel and nickel alloys.

Chemical and Petrochemical: Many common products, ranging from plastics to prescription drugs to electronic materials, are produced by chemical processes. Because the production of these items often involves corrosive agents and is conducted under high pressures or temperatures, corrosion resistant equipment is needed. One of the larger applications for clad equipment is in the manufacture of purified terephthalic acid (PTA), a precursor product for polyester, which is used in products as diverse as carpets and plastic bottles. The chemical market requires extensive use of stainless steel and nickel alloys, but also uses titanium, zirconium and tantalum.

Alternative Energy: Some alternative energy technologies involve conditions that necessitate clad metals. Solar panels predominantly incorporate high purity polysilicon. Processes for manufacturing high purity silicon utilize a broad range of highly corrosion-resistant clad alloys. Many geothermal fields are corrosive, requiring high alloy clad separators to handle the hot steam. Some ethanol technologies may require corrosion resistant metals at thicknesses where clad is an attractive alternative.

Hydrometallurgy: The processes for production of nickel, gold, and copper involve acids, high pressures, and high temperatures; and titanium-clad plates are used extensively for construction of associated leaching and peripheral equipment.

Aluminum Production: Aluminum is reduced from its oxide in large electric smelters called potlines. The electric current is carried via aluminum conductors. The electricity must be transmitted into steel components for the high temperature smelting operations. Aluminum cannot be welded to steel conventionally. Explosion-welded aluminum-steel transition joints provide an energy efficient and highly durable solution for making these connections. Modern potlines use a large number of transition joints, which are typically replaced after approximately five years in service. Although aluminum production is the major electrochemical application for NobelClad products, there are a number of other electrochemical applications including production of magnesium, chlorine and chlorate.

Shipbuilding: The combined problems of corrosion and top-side weight drive demand for our aluminum-steel transition joints, which serve as the juncture between a ship's upper and lower structures. Top-side weight is often a significant problem with tall ships, including cruise ships, naval vessels, ferries and yachts. Use of aluminum in the upper structure and steel in the lower structure provides stability. Since aluminum cannot be welded directly to steel using conventional welding processes, and since bolted joints between aluminum and steel corrode quickly in seawater, explosion-welded transition joints are a common solution. NobelClad's transition joints have been used in the construction of many well-known ships, including the Queen Elizabeth II and modern U.S. Navy aircraft carriers.

Power Generation: Fossil fuel and nuclear power generation plants require extensive use of heat exchangers, many of which require corrosion resistant alloys to handle low quality cooling water. Our clad plates are used extensively for heat exchanger tubesheets. The largest clad tubesheets are used in the final low-pressure condensers. For most coastal and brackish water-cooled plants, titanium is the metal of choice, and titanium-clad tubesheets are the low-cost solution for power plant condensers.

Industrial Refrigeration: Heat exchangers are a core component of refrigeration systems. When the cooling fluid is seawater, brackish, or even slightly polluted, corrosion-resistant metals are necessary. Metal selection can range from stainless steel to copper alloy to titanium. Explosion-welded clad metal is often the low-cost solution for making the tubesheets. Applications range from refrigeration chillers on fishing boats to massive air conditioning units for skyscrapers, airports, and deep underground mines.

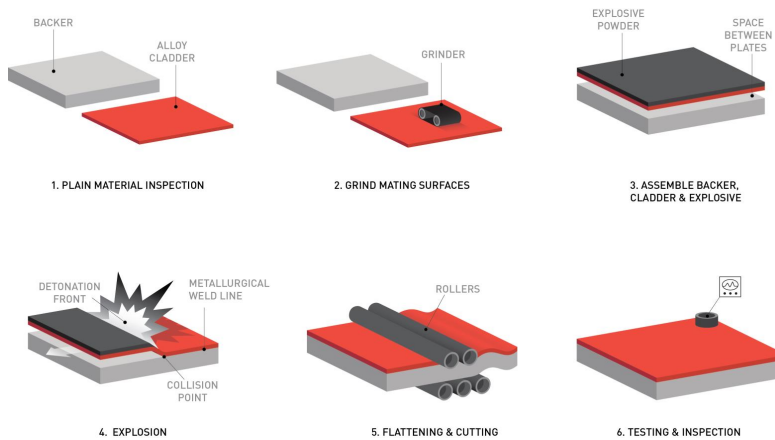
Operations

The NobelClad segment seeks to build on its leadership position in its markets. During the three years ended December 31, 2017, 2016 and 2015, the NobelClad segment represented approximately 37%, 58% and 54% of our consolidated net sales, respectively. Our manufacturing plants and their respective shooting sites in Pennsylvania, Germany and France provide the production capacity to address concurrent projects for NobelClad's global customer base.

In December 2017, DMC approved a plan to consolidate NobelClad's European production facilities, and expects to complete the process by the end of 2018. NobelClad centralized a portion of its European production facilities after its November 2014 purchase of a state-of-the-art manufacturing center in Liebenscheid, Germany. The facility now performs the majority of NobelClad's European explosion cladding, although some work is still conducted at the smaller facility in Rivesaltes, France. NobelClad plans to exit the Rivesaltes production facility in the coming year, but will maintain its sales and administrative office in France. The proposed measures remain subject to consultation with the local workers council, which will be conducted in accordance with applicable French law.

The principal product of metal cladding, regardless of the process used, is a metal plate composed of two or more dissimilar metals, usually a corrosion resistant metal (the "cladder") bonded to a steel backing plate. Prior to the explosion-welding process, the materials are inspected, the mating surfaces are ground, and the metal plates are assembled for cladding. The process involves placing a sheet of the cladder over a parallel plate of backer material and then covering the cladder with a layer of specifically formulated explosive powder. A small gap or "standoff space" is maintained between the cladder and backer using small spacers. The explosion is then initiated on one side of the cladder and travels across the surface of the cladder forcing it onto the backer. The explosion happens in approximately one-thousandth of a second. The collision conditions cause a thin layer of the mating surfaces, as well as the spacers, to be spalled away in a jet. This action removes oxides and surface contaminants immediately ahead of the collision point. The extreme pressures force the two metal components together, creating a metallurgical bond between them. The explosion welding process produces a strong, ductile, continuous metallurgical weld over the clad surface. After the explosion is completed, the resulting clad plates are flattened and cut, and then undergo testing and inspection to assure conformance with internationally accepted product specifications.

EXPLOSION-WELDING PROCESS



Explosion-welded cladding technology is a method for welding metals that cannot be joined using conventional welding processes, such as titanium-steel, aluminum-steel, and aluminum-copper. Explosion welding also can be used to weld compatible metals, such as stainless steels and nickel alloys to steel. The cladding metals are typically titanium, stainless steel, aluminum, copper alloys, nickel alloys, tantalum, and zirconium. The base metals are typically carbon steel, alloy steel, stainless steel and aluminum. Although the patents for the basic explosion-welded cladding process have expired, NobelClad has developed a proprietary knowledge of process control that distinguishes it from its competitors by maintaining high-quality and low re-work costs. The entire explosion-welding process involves significant precision in all stages, and any errors can be extremely costly as they often result in the discarding of the expensive raw material metals. NobelClad's technological expertise is a significant advantage in preventing costly waste.

NobelClad's metal products are primarily produced for custom projects and conform to requirements set forth in customers' purchase orders. Upon receipt of an order, NobelClad obtains the component materials from a variety of sources based on quality, availability and cost and then produces the order in one of its three manufacturing plants. Final products are processed to meet contract specific requirements for product configuration and quality/inspection level.

Suppliers and Raw Materials

NobelClad's operations involve a range of alloys, steels and other materials, such as stainless steel, copper alloys, nickel alloys, titanium, zirconium, tantalum, aluminum and other metals. NobelClad sources its raw materials from a number of different producers and suppliers. It holds a limited metal inventory and purchases its raw materials based on contract specifications. Under most contracts, any raw material price increases are passed on to NobelClad's customers. NobelClad closely monitors the quality of its supplies and inspects the type, dimensions, markings, and certification of all incoming metals to ensure that the materials will satisfy applicable construction codes. NobelClad also manufactures a majority of its own explosives from standard raw materials, thus achieving higher quality and lower cost.

Competition

Metal Cladding. NobelClad faces competition from two primary alternative cladding technologies: hot rollbonding and weld overlay. Usually the three processes do not compete directly, as each has its own preferential domain of application relating to metal used and thicknesses required. However, due to specific project considerations such as technical specifications, price and delivery time, explosion-welding may have the opportunity to compete successfully against these technologies. Rollbond is only produced by a few steel mills in the world. In this process, the clad metal and base metal are

bonded during the hot rolling operation in which the metal slab is converted to plate. Being a high temperature process that yields the formation of detrimental intermetallics, hot rollbond is limited to joining similar metals, such as stainless steel and nickel alloys to steel. Rollbond's niche is production of large quantities of light to medium gauge clad plates. Rollbond products are generally suitable for most pressure vessel applications but have lower bond shear strength and may have inferior corrosion resistance.

The weld overlay process, which is used by the many vessel fabricators that are often also NobelClad customers, is a slow and labor-intensive process that requires a large amount of floor space for the equipment. In weld overlay cladding, the clad metal layer is deposited on the base metal using arc-welding type processes. Weld overlay is a cost-effective technology for complicated shapes, for field service jobs, and for production of some very heavy-wall pressure vessel reactors. During overlay welding, the cladding metal and base metal are melted together at their interface. The resulting dilution of the cladding metal chemistry may compromise corrosion performance and limit use in certain applications. Weld metal shrinkage during cooling potentially causes distortion when the base layer is thin. As with rollbond, weld overlay is limited to metallurgically similar metals, primarily stainless steels and nickel alloys joined to steel. Weld overlay is typically performed in conventional metal fabrication shops.

Explosion-Welded Metal Cladding. Competition in the explosion-welded clad metal business is fragmented. NobelClad holds a strong market position in the clad metal industry. It is the leading producer of explosion-welded clad products in North America, and has a strong position in Europe against smaller competitors. NobelClad's has mixed competition in Asia ranging from competitors with competitive technology and strong brand names to other producers which are technically limited and offer minimal exports outside of their domestic markets. To remain competitive, NobelClad intends to continue developing and providing technologically advanced manufacturing services, maintaining quality levels, offering flexible delivery schedules, delivering finished products on a reliable basis and competing favorably on the basis of price.

Customer Profile

NobelClad's products are used in critical applications in a variety of industries, including upstream oil and gas, oil refining, chemical and petrochemical, hydrometallurgy, aluminum production, shipbuilding, power generation, industrial refrigeration and other similar industries. NobelClad's customers in these industries require metal products that can withstand exposure to corrosive materials, high temperatures and high pressures. NobelClad's customers can be divided into three tiers: the product end users (e.g., operators of chemical processing plants), the engineering contractors that design and construct plants for end users, and the metal fabricators that manufacture the products or equipment that utilize NobelClad's metal products. It is typically the fabricator that places the purchase order with NobelClad and pays the corresponding invoice. NobelClad has developed strong relationships over the years with the engineering contractors, process licensors, and equipment operating companies that frequently act as buying agents for fabricators.

Marketing, Sales, Distribution

NobelClad conducts its selling efforts by marketing its services to potential customers' senior management, direct sales personnel, program managers, and independent sales representatives. Prospective customers in specific industries are identified through networking in the industry, cooperative relationships with suppliers, public relations, customer references, inquiries from technical articles and seminars and trade shows. NobelClad's sales office in the United States covers the Americas and East Asia. Its sales offices in Europe cover the full European continent, Africa, the Middle East, India, Southeast Asia, and Russia. NobelClad also has sales offices in South Korea and China to address these markets and uses contract agents to cover various other countries. Contract agents typically work under multi-year agreements which are subject to sales performance targets as well as compliance with NobelClad quality and customer service expectations. Members of the global sales team may be called to work on projects located outside their usual territory. By maintaining relationships with its existing customers, developing new relationship with prospective customers, and educating all its customers as to the technical benefits of NobelClad's products, NobelClad endeavors to assist in setting standard specifications, both by our customers and the American Society of Mechanical Engineers and ASTM, to ensure that the highest quality and reliability are achieved.

NobelClad's products are generally shipped from its manufacturing locations in the United States, Germany and France. Any shipping costs or duties for which NobelClad is responsible typically will be included in the price paid by the customer. Regardless of where the sale is booked, NobelClad will produce it, capacity permitting, at the location closest to the delivery place. In the event that there is a short-term capacity issue at one facility, NobelClad can produce the order at any of its other production sites, prioritizing timing. The various production sites allow NobelClad to meet customer production needs in a timely manner. After completion of the plan to consolidate NobelClad's European production facilities, which is expected to be completed by the end of 2018, NobelClad plans to focus its European manufacturing efforts in Germany, while maintaining its sales and administrative office in France.

Research and Development

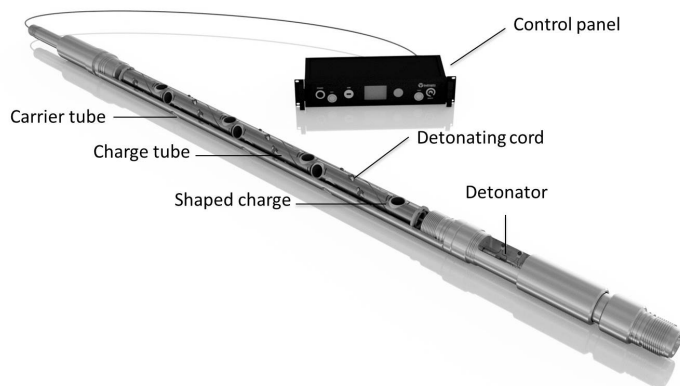
We prepare a formal research and development plan annually. It is implemented at our cladding sites and is supervised by a technical committee that reviews progress quarterly and meets once a year to establish the plan for the following 12 months. The research and development projects concern process support, new products, new applications, and special customer-paid projects.

DynaEnergetics

DynaEnergetics designs, manufactures, markets, and sells perforating systems and associated hardware, as well as seismic explosives, for the international oil and gas industry. The oil and gas industry uses perforating products to punch holes in the casing or liner of wells and create a flow path in the formation, thereby connecting the well to the surrounding reservoir. During the drilling process, steel casing and cement are inserted into the well to isolate and support the wellbore. As part of the well completion process, the perforating guns, which contain a series of specialized shaped charges, are lowered into the well to the desired area of the targeted formation. When initiated, the shaped charges shoot a plasma jet through the casing and cement and into the formation. The resulting channels in the formation allow hydrocarbons to flow into the wellbore.

DynaEnergetics designs, manufactures and sells all five primary components of a perforating system, which are: 1) carrier tubes and charge tubes, 2) shaped charges, 3) detonating cord, 4) detonators, and 5) control panels. In addition, DynaEnergetics has leveraged its broad product portfolio and detonator technology to create a unique factory-assembled, performance-assured well perforating system known as DynaStage™. The DynaStage system arrives fully assembled at the well, thereby reducing the customers' need for field assembly crews and associated infrastructure.

PRIMARY COMPONENTS OF A PERFORATING SYSTEM



The perforating products manufactured by DynaEnergetics are essential to oil and gas recovery. These products are sold to oilfield service companies around the world. DynaEnergetics also promotes its technologies and systems directly with end-user exploration and production companies. The market for perforating products, which are used during the well completion process, generally corresponds with oil and gas exploration and production (E&P) activity. Modern E&P activity has led to increasingly complex well completion operations, which in turn, have increased the demand for high quality and technically advanced perforating products.

Operations

The DynaEnergetics segment seeks to build on its products and technologies, as well as its sales, supply chain and distribution network. During the three years ended December 31, 2017, 2016 and 2015, the DynaEnergetics segment represented approximately 63%, 42% and 46% of our consolidated net sales, respectively.

DynaEnergetics has been producing detonating cord and detonators and selling these along with seismic explosives systems for decades. Since 1994, the business has placed significant emphasis on enhancing its offering by improving existing products and adding new products through research and development, as well as acquisitions. Today, DynaEnergetics offers a comprehensive portfolio of detonating cord, detonators, bi-directional boosters, shaped charges, and corresponding gun systems.

In recent years, DynaEnergetics has increased its development efforts and introduced several new products specifically designed for safe and selective perforating. Included among these products is the DynaSelect™ family of integrated switch-detonators. DynaSelect detonators require a specific electronic code for firing and are immune from induced currents and voltages, static electricity and high-frequency irradiation. These safety features substantially reduce the risk of unintentional detonation and enable concurrent perforating and hydraulic fracturing operations at drilling sites with multiple wellbores, improving operating efficiencies for customers.

Our DynaSelect products integrate our earlier Selectronic Switches with our "Intrinsically Safe" Detonator technologies in a unique one-piece system for improved well site efficiency, reliability, simplicity and service quality. The fully integrated design incorporates advanced software controls and reduces the size of the detonator and switch assembly. DynaSelect reduces by 40% the number of electrical connections required within each perforating gun versus prior and competitive selective initiation systems. This improves set-up times and significantly increases reliability. The DynaSelect detonator is controlled by our Multitronic IV and V Firing Panels. This system enables safe and reliable firing of up to 20 guns and setting a plug in a single run and incorporates a shot detection function resulting in significant time and cost savings.

Our DynaStage™ factory-assembled perforating system combines all our advanced technologies into a preassembled perforating gun that can be armed at the well site with the wireless DynaStage detonator, which incorporates all of the features of the intrinsically safe DynaSelect detonator. The DynaStage system is operated using Multitronic IV and our latest Multitronic V Firing Panel, and can be tested before going down hole using our Surface Tester, reducing the risk of lost time, mishaps, misruns and misfires due to a system fault. The Multitronic V Firing Panel is highly intuitive and allows the gun string to be safely tested and monitored throughout the pump-down operation. The Multitronic V panel introduces several new features designed to ease the use and the reliability of the system, including "shoot-on-the-fly" operation through an instant-fire capability. The patent-pending plug-n-go design of the DynaStage wireless detonator reduces the potential for errors by eliminating the need for wiring and crimping.

Our DynaSlot™ perforating system is designed for well abandonment operations. During abandonment, the wellbore is encased and permanently sealed so that layers of sedimentary rock, and in particular freshwater aquifers, are pressure isolated from each other and the wellbore. The DynaSlot perforating system facilitates this process by creating access to a full 360-degree area between the rock formations and the tubing and casing. Customers use the unique, helical perforation pattern created by DynaSlot to perform cement squeeze operations that seal off the wellbore.

DynaEnergetics develops and sells a wide range of shaped charges for use in its perforating systems. These include the family of HaloFrac™ charges, which incorporate advancements in liner materials and shaped charge geometry designed to improve hydraulic fracturing performance through lower and more consistent breakdown pressures, uniform proppant placement, uniform frac clusters and higher well productivity ratios. Another line, FracTune™, delivers uniform hole diameter in the well casing independent of shot phasing and gun positioning within the well bore. DynaEnergetics also sells the DPEX™ family of charges, which feature energetic liners. All three lines can be used with the DynaStage perforating system, as well as conventional perforating gun systems across a range of gun diameters.

DynaEnergetics Tubing Conveyed Perforating, ("TCP") systems are customized for individual customer needs and well applications. TCP enables perforating of more complex highly deviated and horizontal wells. These types of wells are increasingly being drilled by the off-shore industry. TCP tools also perforate long intervals in a single trip, which significantly improves rig efficiency. Our TCP tool range includes mechanical and hydraulic firing systems, gun releases, redundant firing heads, under-balancing devices and auxiliary components. Our tools are designed to withstand downhole temperatures of up to 260 degrees Celsius (500 degrees Fahrenheit), for safe and quick assembly at the well site, and to allow unrestricted total system length.

DynaEnergetics' manufacturing facilities are located in Germany, the United States and Russia. We completed the construction of the shaped charge manufacturing facility in Tyumen, Siberia, in 2015, and we received all the necessary permits to start production of charges in 2016. The facility was fully operational by the end of the third quarter 2016. We reopened our DynaStage assembly center in Mt. Braddock Pennsylvania in the fourth quarter of 2017. In December 2017, DynaEnergetics commenced construction of a new 74,000 square foot manufacturing, assembly and administrative space on its manufacturing campus in Blum, Texas. The facility, which is scheduled to open during the third quarter of 2018, will substantially increase DynaEnergetics' component manufacturing and DynaStage assembly capacity. During the first half of 2018, DynaEnergetics is adding a second automated DynaSelect detonator line at its facility in Troisdorf, Germany. In the second half of 2018, the business plans to add a second automated shaped-charge manufacturing line at Blum, which will more than double its shaped charge production capacity in the U.S. These new investments will significantly expanded our global capacity for shaped charge and perforating gun production and improve our delivery and customer service capabilities in our key markets.

Suppliers and Raw Materials

DynaEnergetics' product offering consists of complex components that require numerous high-end inputs. DynaEnergetics utilizes a variety of raw materials for the production of oilfield perforating and seismic products, including high-quality steel tubes, steel and copper, explosives, granulates, plastics and ancillary plastic product

components. DynaEnergetics obtains its raw materials primarily from a number of different producers in Germany, other European countries, and the U.S. but also purchases materials from other international suppliers.

Competition

DynaEnergetics faces competition from independent manufacturers of perforating products and from the industry's three largest oil and gas service companies, which produce most of their own shaped charges but also buy other perforating components and specialty products from independent suppliers such as DynaEnergetics. DynaEnergetics competes for sales primarily on customer service, product quality, reliability, safety, performance, price and, in North America, proximity of distribution centers to oilfield drilling activity.

Customer Profile

DynaEnergetics' perforating and seismic products are purchased by international and regional oilfield service companies of all sizes working in both onshore and offshore oil and gas fields. Our customers select perforating products based on their leading performance, system compatibility and ability to address a broad spectrum of factors, including pressures and temperatures in the borehole and geological characteristics of the targeted formation.

The customers for our oilfield products can be divided into five broad categories: purchasing centers of large service companies, international service companies, independent service companies, oil companies with and without their own service companies, and local resellers.

Marketing, Sales, Distribution

DynaEnergetics' worldwide marketing and sales efforts for its oilfield and seismic products are located in Troisdorf, Germany, Houston, Texas, and Tyumen, Siberia. DynaEnergetics' sales strategy focuses on direct selling, distribution through licensed distributors and independent sales representatives and educating current and potential customers about our products and technologies. Currently, DynaEnergetics sells its oilfield and seismic products through wholly-owned affiliates in Germany, the U.S., Canada, and Russia and through independent sales agents in other parts of the world. DynaEnergetics serves the Americas region through its network of sales and distributions centers in the United States and Canada.

DynaEnergetics also designs and manufactures customized perforating products for third-party customers according to their designs and requirements.

Research and Development

DynaEnergetics attaches great importance to its research and development capabilities and has devoted substantial resources to its research and development (R&D) programs. Based predominantly in Troisdorf, Germany, the R&D team works closely with sales, product management, and operations management teams to establish priorities and effectively manage individual projects. Through its ongoing involvement in oil and gas industry trade shows and conferences, DynaEnergetics has increased its profile in the oil and gas industry. In addition to its existing shaped charge test facility, which can simulate downhole, wellbore, and reservoir pressure conditions to develop and test high performance perforating charges for both oil companies and service providers, the R&D group recently commissioned a new purpose built pressure vessel which can reach 30,000 psi test pressures and be heated up to 200 degrees Celsius (392 degrees F). This enables the R&D group to support the oil and gas industry with test methods for new products which realistically simulate potentially difficult downhole conditions. An R&D plan, which focuses on new technology, products, process support and contracted projects, is prepared and reviewed at least quarterly. R&D costs are included in our cost of products sold and were \$4.3 million, \$4.0 million, and \$2.4 million for the years ended December 31, 2017, 2016 and 2015, respectively.

Corporate History and Recent Developments

The genesis of the Company was an unincorporated business called "Explosive Fabricators," which was formed in Colorado in 1965. The business was incorporated in Colorado in 1971 under the name "E. F. Industries, Inc.," which was later changed to "Explosive Fabricators, Inc." The Company became publicly traded in 1976. In 1994, it changed its name to "Dynamic Materials Corporation." The Company reincorporated in Delaware in 1997.

In 1976, the Company became a licensee of Detaclad, the explosion-welded clad process developed by DuPont in 1959. In 1996, the Company purchased the Detaclad operating business from DuPont.

In 1998, the Company acquired AMK Technical Services ("AMK"), a specialty welding business.

In 2001, the Company acquired substantially all of the stock of NobelClad Europe SA, a French company ("NobelClad France"). Early in its history, NobelClad France was a licensee of the Detaclad technology. The acquisition of NobelClad France expanded the Company's explosive metalworking operations to Europe.

In 2007, the Company acquired the German company DynaEnergetics GmbH and Co. KG ("DynaEnergetics") and certain affiliates. DynaEnergetics was comprised of two primary businesses: explosive metalworking and oilfield products. This acquisition expanded the Company's explosive metalworking operations in Europe and added a complementary oilfield products business.

Over the next several years the Company further grew the DynaEnergetics business by acquiring additional related sales and manufacturing companies in Canada and the United States and purchasing minority interests in certain Russian joint ventures.

In 2013, the Company branded its explosive metalworking operations under the single name NobelClad. The NobelClad segment is comprised of the Company's U.S. clad operations as well as the explosion metalworking assets and operations purchased in the NobelClad France and DynaEnergetics acquisitions. In 2014, the Company re-branded the oilfield products segment as DynaEnergetics, which is comprised entirely of DynaEnergetics (other than its explosion metalworking operations), its subsidiaries and sister companies.

In 2014, the Company sold AMK. Also in 2014, the Company acquired a modern manufacturing and office complex in Liebenscheid, Germany. The facility enhances NobelClad's manufacturing capabilities and serves as a state-of-the-art production and administrative resource for NobelClad's European operations.

In 2016, the Company changed its name to DMC Global Inc., to reflect that we are a diversified portfolio of technical product and process businesses serving niche markets around the world.

Employees

As of December 31, 2017, we had 536 permanent and part-time employees (293 U.S. and 243 non-U.S.), the majority of whom are engaged in manufacturing operations, with the remainder primarily in sales, marketing and administrative functions. Most of our manufacturing employees are not unionized. In addition, we use a number of temporary workers at any given time, depending on the workload. We currently believe that employee relations are good.

Insurance

Our operations expose us to potential liabilities for personal injury or death as a result of the failure of a component that has been designed, manufactured, serviced, processed, or distributed by us. We maintain liability insurance that we believe adequately protects us from potential product liability claims.

Intellectual Property

Protection of Proprietary Information. We hold a variety of intellectual property through our NobelClad business, including but not limited to proprietary information and know-how, trade secrets, and registered and unregistered trademarks. Much of our proprietary manufacturing expertise lies in the knowledge of the factors that affect the quality of the finished clad product, including the types of metals to be explosion-welded, the setting of the explosion, the composition of the explosive, and the preparation of the plates to be bonded. We have developed this specialized knowledge over our 40 years of experience in the explosive metalworking business.

We hold a variety of intellectual property through our DynaEnergetics business including but not limited to patents, patent applications, registered and unregistered trademarks, trade secrets, proprietary information and know-how. We have followed a policy of seeking patent and trademark protection in countries and regions throughout the world for products and methods that appear to have commercial significance. DynaEnergetics seeks and holds numerous patents covering various products and processes, including but not limited to perforating guns and their various components, shaped charges, packaging of explosive materials, detonating cord, and electronics. No single patent or trademark is considered to be critical to DynaEnergetics' business.

We are careful in protecting our proprietary know-how and manufacturing expertise in both NobelClad and DynaEnergetics, and we have implemented measures and procedures to ensure that the information remains confidential.

Foreign and Domestic Operations and Export Sales

All of our sales are shipped from our manufacturing facilities and distribution centers located in the United States, Germany, France, Canada, and Russia. The following chart represents our net sales based on the geographic location to where we shipped the product, regardless of the country of the actual end user. NobelClad products are usually shipped to the fabricator before being passed on to the end user.

| | (Dollars in Thousands) | | |
|----------------------|----------------------------------|------------|------------|
| | For the years ended December 31, | | |
| | 2017 | 2016 | 2015 |
| United States | \$ 116,083 | \$ 78,999 | \$ 81,634 |
| Canada | 23,377 | 16,021 | 13,000 |
| United Arab Emirates | 1,768 | 7,449 | 7,891 |
| France | 3,032 | 3,744 | 6,624 |
| South Korea | 1,173 | 1,690 | 5,709 |
| Germany | 5,397 | 5,979 | 5,182 |
| Russia | 4,504 | 3,731 | 4,937 |
| India | 2,927 | 5,066 | 4,566 |
| Egypt | 2,721 | 1,942 | 4,080 |
| Spain | 1,126 | 1,500 | 3,858 |
| Iraq | 77 | 13 | 3,758 |
| China | 3,673 | 7,012 | 2,426 |
| Italy | 1,582 | 2,577 | 2,327 |
| Hong Kong | 255 | 699 | 2,207 |
| Sweden | 2,009 | 2,124 | 1,699 |
| Rest of the world | 23,099 | 20,029 | 17,020 |
| Total | \$ 192,803 | \$ 158,575 | \$ 166,918 |

Company Information

We are subject to the informational requirements of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). We therefore file periodic reports, proxy statements and other information with the Securities Exchange Commission (the "SEC"). Such reports may be obtained by visiting the Public Reference Room of the SEC at 100 F Street, N.E., Washington, D.C. 20549, or by calling the SEC at 1-800-SEC-0330. In addition, the SEC maintains an Internet site at www.sec.gov that contains reports, proxy and information statements and other information regarding issuers that file electronically.

Our Internet address is www.dmcglobal.com. Information contained on our website does not constitute part of this Annual Report on Form 10-K. Our annual report on SEC Form 10-K, quarterly reports on Forms 10-Q, current reports on Forms 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act are available free of charge on our website as soon as reasonably practicable after we electronically file such material with or furnish it to the SEC. We also regularly post information about our Company on our website under the "Investors" tab.

ITEM 1A. Risk Factors

Risk Factors Related to our NobelClad Segment

NobelClad's business is dependent on sales to a limited number of customers in cyclical markets and our results are affected by the price of metals.

NobelClad revenues are affected both by the demand for NobelClad's explosion-welded cladding services and the base price of metal used in explosion-welded cladding operations. The explosion-welded cladding market is dependent upon sales of products for use by customers in a limited number of heavy industries, including oil and gas, chemicals and petrochemicals, alternative energy, hydrometallurgy, aluminum production, shipbuilding, rail car manufacturing, power generation, and industrial refrigeration. These industries tend to be cyclical in nature and an economic slowdown in one or all of these industries-whether due to traditional cyclicality, general economic conditions or other factors-could impact capital expenditures within that industry. In addition, metals prices affect the demand for cladded products and our margins. Higher metal prices increase demand by making it more economical for customers to use cladding on less-expensive metal than using solid metal plates. Higher metal prices also lead to higher sales (in terms of dollars rather than square meters of cladding) and generally higher margins for NobelClad. We have experienced a significant decline in the demand for clad products in recent years due in part to a low-metals price environment. If demand or metals prices do not increase or decline further, our sales would be adversely affected, which could have a material adverse effect on our business, financial condition, and results of operations.

Our backlog figures may not accurately predict future sales.

We use backlog to predict our anticipated future sales. Our year-end backlog was \$37.5 million, \$31.6 million, and \$41.8 million in 2017, 2016 and 2015, respectively. We define "backlog" at any given point in time to consist of all firm, unfulfilled purchase orders and commitments at that time. We expect to fill most items of backlog within the following 12 months. However, since orders may be rescheduled or canceled and a significant portion of our net sales is derived from a small number of customers, backlog is not necessarily indicative of future sales levels. Moreover, we cannot be sure of when during the future 12-month period we will be able to recognize revenue corresponding to our backlog nor can we be certain that revenues corresponding to our backlog will not fall into periods beyond the 12-month horizon.

There is a limited availability of sites suitable for cladding operations.

Our cladding process involves the detonation of large amounts of explosives. As a result, the sites where we perform cladding must meet certain criteria, including adequate distance from densely populated areas, specific geological characteristics, and the ability to comply with local noise and vibration abatement regulations in conducting the process. Our shooting sites located in Pennsylvania and in Dillenburg, Germany are located in mines. We plan to discontinue our Tautavel shooting site late in 2018, and move all shooting operations in Europe to Dillenburg. This will increase the demands on the Dillenburg mine. If a mine were seriously damaged, we might not be able to locate a suitable replacement site in a timely manner to continue our operations. In addition, our primary U.S. shooting site is subleased under an arrangement pursuant to which we provide certain contractual services to the sub-landlord. The efforts to identify suitable sites and obtain permits for using the sites from local government agencies can be time-consuming and may not be successful. In addition, we could experience difficulty in obtaining or renewing permits because of resistance from residents in the vicinity of proposed sites. The failure to obtain required governmental approvals or permits could limit our ability to expand our cladding business in the future, and the failure to maintain such permits or satisfy other conditions to use the sites would have a material adverse effect on our business, financial condition and results of operations.

There is no assurance that we will continue to compete successfully against other manufacturers of competitive products.

Our explosion-welded clad products compete with explosion-welded clad products made by other manufacturers in the clad metal business located throughout the world and with clad products manufactured using other technologies. Our combined North American and European operations typically supply explosion-welded clad to the worldwide market. There is one other well-known explosion-welded clad supplier worldwide - a division of Asahi-Kasei Corporation of Japan. There are also a number of smaller companies worldwide with explosion-welded clad manufacturing capability, including several companies in China that appear to be growing significantly in their domestic markets. Explosion-welded clad products also compete with those manufactured by rollbond and weld overlay cladding processes. The technical and commercial niches of each cladding process are well understood within the industry and vary from one world market location to another. We focus on reliability, product quality, on-time delivery performance, and low-cost manufacturing to minimize the potential of future competitive threats. However, there is no guarantee we will be able to maintain our competitive position.

The use of explosives subjects us to additional regulation, and any accidents or injuries could subject us to significant liabilities.

Our operations involve the detonation of large amounts of explosives. The use of explosives is an inherently dangerous activity. As a result, we are required to use specific safety precautions under U.S. Occupational Safety and Health Administration guidelines and guidelines of similar entities in Germany and France. These include precautions which must be tak

en to protect employees from exposure to sound and ground vibration or falling debris associated with the detonation of explosives. There is a risk that an accident or death could occur in one of our facilities.

Explosions, even if occurring as intended, can lead to damage to the shooting site or manufacturing facility or to equipment used at the facility or injury or death to persons at the facility. Any accident could result in significant manufacturing delays, disruption of operations or claims for damages resulting from death or injuries, which could result in decreased sales and increased expenses. To date, we have not incurred any significant delays, disruptions or claims resulting from accidents at our facilities. If an accident occurred, we might be required to suspend our operations for a period of time while an investigation is undertaken or repairs are made. Such a delay might impact our ability to meet the demand for our products.

Customers have the right to change orders until products are completed.

Customers have the right to change orders after they have been placed. If orders are changed, the extra expenses associated with the change will be passed on to the customer. However, because a change in an order may delay completion of the project, recognition of income for the project may also be delayed.

Risk Factors Related to DynaEnergetics

Demand for DynaEnergetics' products is substantially dependent on the levels of expenditures by the oil and gas industry. Decreased oil and gas prices and reduced expenditures in the oil and gas industry could have a significant adverse impact on our financial condition, results of operations and cash flows.

Demand for the majority of our products depends substantially on the level of expenditures by the oil and gas industry for the exploration, development and production of oil and natural gas reserves. These expenditures are generally dependent on the industry's view of future oil and natural gas prices and are sensitive to the industry's view of future economic growth and the resulting impact on demand for oil and natural gas. From 2014 through mid-2017, oil and gas prices declined significantly, resulting in lower expenditures by the oil and gas industry during this period. As a result, many of our customers reduced or delayed their oil and gas exploration and production spending, reducing the demand for our products and exerting downward pressure on the prices that we charged and the revenues and profits we earned during this period. This resulted in DynaEnergetics' revenues in 2016 being 36.2% less than in 2014 and in 2015 being 27.0% less than in 2014. Although we have seen increased oil and gas prices and increased exploration and production spending in 2017, resulting in increased revenues for DynaEnergetics, there is no assurance that such conditions will continue.

There can be no assurance that the demand or pricing for oil and natural gas will continue at current levels or follow historic patterns. A decline in oil and gas prices could cause reductions in cash flows for our customers, which could have significant adverse effects on the financial condition of our customers. This could result in project modifications, delays or cancellations, general business disruptions, and delays in payment of, or nonpayment of, amounts that are owed to us. These effects could have a material adverse effect on our financial condition, results of operations and cash flows.

The prices for oil and natural gas have historically been volatile and can be affected by a variety of factors, including:

- demand for hydrocarbons, which is affected by general economic and business conditions;
- the ability or willingness of the Organization of Petroleum Exporting Countries ("OPEC") to set and maintain production levels for oil;
- oil and gas production levels by non-OPEC countries;
- the level of excess production capacity;
- political and economic uncertainty and geopolitical unrest;
- the level of worldwide oil and gas exploration and production activity;
- access to potential resources;
- governmental policies and subsidies;
- the costs of exploring for, producing and delivering oil and gas;
- technological advances affecting energy consumption; and
- weather conditions.

Constraints in the supply of, prices for, and availability of transportation of raw materials can have a material adverse effect on our business and consolidated results of operations.

Raw materials essential to our business, such as explosives, steel, metal powder, and electronics are normally readily available. Shortages of raw materials or long-lead times in receiving such materials as a result of high levels of demand or loss

of suppliers during market challenges can trigger constraints in the supply chain of those raw materials, particularly where we have a relationship with a single supplier for a particular resource. An increase in military activity in certain parts of the world could impact the availability of explosives as capacity could potentially be diverted to supply military requirements. These delays and constraints could have a material adverse effect on our business and consolidated results of operations. In addition, price increases imposed by our vendors for raw materials used in our business and the inability to pass these increases through to our customers could have a material adverse effect on our business and consolidated results of operations.

Failure to adjust our manufacturing and supply chain to accurately meet customers demand could adversely affect our results of operations.

We make significant decisions, including determining the levels of business that we will seek and accept, production schedules, levels of reliance on contract manufacturing and outsourcing, internal fabrication utilization and other resource requirements, based on our estimates of customer requirements. Factors that can impact our ability to accurately estimate future customer requirements include the short-term nature of many customers' commitments, our customers' ability to reschedule, cancel and modify orders with little or no notice and without significant penalty, the accuracy of our customers' forecasts, and seasonal or cyclical trends in customers' industries.

To ensure availability of our products, particularly for our largest customers, we typically start manufacturing our relevant products based on our customers' forecasts, which are not binding. As a result, we incur inventory and manufacturing costs in advance of anticipated sales that may never materialize or which may be substantially lower than expected. If actual demand for our products is lower than forecast, we may also experience higher inventory carrying and operating costs and product obsolescence. Because certain of our sales, research and development, and internal manufacturing overhead expenses are relatively fixed, a reduction in customer demand may also decrease our gross margin and operating income.

Conversely, customers often require rapid increases in production on short notice. We may be unable to secure sufficient materials or contract manufacturing capacity to meet such increases in demand. This could damage our customer relationships, reduce revenue growth and margins, subject us to additional liabilities, harm our reputation, and prevent us from taking advantage of opportunities.

Failure to manage periods of growth or contraction may seriously harm our business.

Our industry frequently sees periods of expansion and contraction to adjust to customers' needs and market demands. We regularly contend with these issues and must carefully manage our business to meet customer and market requirements. If we fail to manage these growth and contraction decisions effectively, we may find ourselves with either excess or insufficient resources and our business and our profitability could suffer as a result.

Expansions, including the transfer of operations to other facilities or the construction of new manufacturing facilities, such as the planned new manufacturing and assembly facility and the addition of a second automated DynaSelect detonator line in Blum, Texas (together, the "Blum expansion"), include the risk of additional costs and start-up inefficiencies. If we are unable to effectively manage our expansions or related anticipated net sales are not realized, our operating results could be adversely affected. Risks of the Blum expansion project and future expansions include:

- increased costs associated with opening new facilities, including the ability to meet budget constraints on construction projects;
- difficulties in the timing of expansions, including delays in the implementation of construction and manufacturing plans;
- the inability to successfully integrate additional facilities or incremental capacity and to realize anticipated efficiencies, economies of scale or other value;
- challenges faced as a result of transitioning programs;
- additional fixed or other costs, or selling, general and administrative ("SG&A") expenses, which may not be fully absorbed by the new business;
- a reduction of our return on invested capital, including as a result of excess inventory or excess capacity at new facilities;
- diversion of management's attention from other business areas during the planning and implementation of expansions;
- strain placed on our operational, financial and other systems and resources, and
- inability to locate sufficient employees or management talent to support the expansion.

Periods of contraction or reduced net sales, or other factors affecting particular sites, create other challenges. We must determine whether facilities remain viable, whether staffing levels need to be reduced, and how to respond to changing levels

of customer demand. While maintaining excess capacity or higher levels of employment entails short-term costs, reductions in capacity or employment could impair our ability to respond to new opportunities and programs, market improvements or to maintain customer relationships. Our decisions to reduce costs and capacity can affect our short-term and long-term results and result in restructuring charges.

Demand for our products and services could be reduced by existing and future legislation or regulations.

Environmental advocacy groups and regulatory agencies in the United States and other countries have been focusing considerable attention on the emissions of carbon dioxide, methane and other greenhouse gases and their potential role in climate change. Existing or future legislation and regulations related to greenhouse gas emissions and climate change, as well as government initiatives to conserve energy or promote the use of alternative energy sources, may significantly curtail demand for and production of fossil fuels such as oil and gas in areas of the world where our customers operate, and thus adversely affect future demand for our products. This may, in turn, adversely affect our financial condition, results of operations and cash flows.

Some international, national, state and local governments and agencies have also adopted laws and regulations or are evaluating proposed legislation and regulations that are focused on the extraction of shale gas or oil using hydraulic fracturing. Hydraulic fracturing is a stimulation treatment routinely performed on oil and gas wells in low-permeability reservoirs. Specially engineered fluids are pumped at high pressure and rate into the reservoir interval to be treated, causing cracks in the target formation. Proppant, such as sand of a particular size, is mixed with the treatment fluid to keep the cracks open when the treatment is complete. Future hydraulic fracturing-related legislation or regulations could limit or ban hydraulic fracturing, or lead to operational delays and increased costs, and therefore reduce demand for our products. If such additional international, national, state or local legislation or regulations are enacted, it could adversely affect our financial condition, results of operations and cash flows.

If we are not able to design, develop, and produce commercially competitive products in a timely manner in response to changes in the market, customer requirements, competitive pressures, and technology trends, our business and consolidated results of operations and the value of our intellectual property could be materially and adversely affected.

The market for our products is characterized by continual technological developments to provide better and more reliable performance. If we are not able to design, develop, and produce commercially competitive products in a timely manner in response to changes in the market, customer requirements, competitive pressures, and technology trends, our business and consolidated results of operations and the value of our intellectual property could be materially and adversely affected. Likewise, if our proprietary technologies, equipment, facilities, or work processes become obsolete, we may no longer be competitive, and our business and consolidated results of operations could be materially and adversely affected.

The manufacturing of explosives subjects DynaEnergetics to various environmental, health and safety laws and any accidents or injuries could subject us to significant liabilities.

The use of explosives is inherently dangerous. DynaEnergetics is subject to a number of environmental, health, and safety laws and regulations covering all aspects of the business including general operating licenses, transportation domestically and internationally, storage requirements, waste disposal, manufacturing regulations, employee training and certification requirements, and labor regulations. Violation of these laws and regulations could result in significant penalties or in interruption of our business activities. DynaEnergetics' success depends on continued compliance with applicable laws and regulations. In addition, new environmental, health and safety laws and regulations could be passed that could create costly compliance issues. While DynaEnergetics endeavors to comply with all applicable laws and regulations, compliance with future laws and regulations may not be economically feasible or even possible. Even with compliance with applicable health and safety laws, it is possible that accidents may occur, potentially resulting in injury to our employees, equipment and facilities. Any accident could result in significant manufacturing delays, disruption of operations or claims for damages resulting from death or injuries, which could result in decreased sales and increased expenses.

We may not be able to continue to compete successfully against other perforating companies.

DynaEnergetics competes principally with perforating companies based in North America, South America, and Russia, which produce and market perforating services and products. DynaEnergetics also competes with oil and gas service companies that are able to satisfy a portion of their perforating needs through in-house production. To remain competitive, DynaEnergetics must continue to provide innovative products and maintain an excellent reputation for safety, quality, on-time delivery, and value. There can be no assurances that we will continue to compete successfully against these companies.

Risk Factors Related to our Businesses Generally**Our operating results fluctuate from quarter to quarter.**

We have experienced, and expect to continue to experience, fluctuations in annual and quarterly operating results caused by various factors at both NobelClad and DynaEnergetics. At NobelClad, quarterly sales and operating results depend on the volume and timing of the orders in our backlog as well as bookings during the quarter. At DynaEnergetics, the level of demand from our customers is impacted by oil and gas prices as well as a variety of other factors and can vary significantly from quarter to quarter. Significant portions of our operating expenses are fixed, and planned expenditures are based primarily on sales forecasts and product development programs. If sales do not meet our expectations in any given period, the adverse impact on operating results may be magnified by our inability to adjust operating expenses sufficiently or quickly enough to compensate for such a shortfall. Results of operations in any period should not be considered indicative of the results for any future period. See "Management's Discussion and Analysis of Financial Condition and Results of Operations." Fluctuations in operating results may also result in fluctuations in the price of our common stock.

We are exposed to potentially volatile fluctuations of the U.S. dollar (our reporting currency) against the currencies of many of our operating subsidiaries.

Many of our operating subsidiaries conduct business in Euros or other foreign currencies such as the Russian Ruble. Sales made in currencies other than U.S. dollars accounted for 28%, 28%, and 23% of total sales for the years ended 2017, 2016 and 2015, respectively. Any increase (decrease) in the value of the U.S. dollar against any foreign currency that is the functional currency of any of our operating subsidiaries will cause us to experience foreign currency translation (gains) losses with respect to amounts already invested in such foreign currencies. In addition, our company and our operating subsidiaries are exposed to foreign currency risk to the extent that we or they enter into transactions denominated in currencies other than our or their respective functional currencies. For example, DynaEnergetics KG's functional currency is Euros, but its sales often occur in U.S. dollars. Changes in exchange rates with respect to these items will result in unrealized (based upon period-end exchange rates) or realized foreign currency transaction gains and losses upon settlement of the transactions. In addition, we are exposed to foreign exchange rate fluctuations related to our operating subsidiaries' assets and liabilities and to the financial results of foreign subsidiaries and affiliates when their respective financial statements are translated into U.S. dollars for inclusion in our Consolidated Financial Statements. Cumulative translation adjustments are recorded in accumulated other comprehensive income (loss) as a separate component of equity. Our primary exposure to foreign currency risk is the Euro due to the percentage of our U.S. dollar revenue that is derived from countries where the Euro is the functional currency and the Russian Ruble due to our operations in Tyumen, Siberia. During the third quarter of 2017, we began using foreign currency forward contracts, generally with maturities of one month, to offset foreign exchange rate fluctuations on certain foreign currency denominated asset and liability account balances. These hedge transactions relate to our operating entities with significant economic exposure to transactions denominated in currencies other than their functional currency. Our primary economic exposures include the U.S. dollar to the Euro, the U.S. dollar to the Canadian dollar, the Euro to the U.S. Dollar and the Euro to the Russian Ruble. Since the underlying balance sheet account balances being hedged can fluctuate significantly throughout our monthly hedge periods, our hedging program cannot fully protect against foreign currency fluctuations.

The terms of our indebtedness contain a number of restrictive covenants, the breach of any of which could result in acceleration of payment of our credit facilities.

As of December 31, 2017, we had an outstanding balance of approximately \$18.3 million on our syndicated credit agreement. This agreement includes various covenants and restrictions and certain of these relate to the incurrence of additional indebtedness and the mortgaging, pledging or disposing of major assets. We are also required to maintain certain financial ratios on a quarterly basis. A breach of any of these covenants could impair our ability to borrow and could result in acceleration of our obligations to repay our debt, if we are unable to obtain a waiver or amendment from our lenders. As of December 31, 2017, we were in compliance with all financial covenants and other provisions of the credit agreement and our other loan agreements. Any failure to remain in compliance with any material provision or covenant of our credit agreement could result in a default, which would, absent a waiver or amendment, require immediate repayment of outstanding indebtedness under our credit facilities.

We are dependent on a relatively small number of large projects and customers for a significant portion of our net sales.

A significant portion of our net sales is derived from a relatively small number of projects and customers; therefore, the failure to complete existing contracts on a timely basis, to receive payment for such services in a timely manner, or to enter into future contracts at projected volumes and profitability levels could adversely affect our ability to meet cash requirements exclusively through operating activities. We attempt to minimize the risk of losing customers or specific contracts by

continually improving commercial execution, product quality, delivering product on time and competing aggressively on the basis of price. We expect to continue to depend upon our principal customers for a significant portion of our sales, although our principal customers may not continue to purchase products and services from us at current levels, if at all. The loss of one or more major customers or a change in their buying patterns could have a material adverse effect on our business, financial condition, and results of operations.

We are susceptible to the cyclical nature of the steel industry.

Steel plate and steel pipe are key materials used in our NobelClad and DynaEnergetics' businesses. The steel industry is very cyclical and is affected significantly by supply and demand factors, general economic conditions and other factors such as worldwide production capacity, fluctuations in steel imports/exports, tariffs and quotas. Additional tariffs, such as those recently announced as planned on steel and aluminum, will increase our raw materials costs and ultimately increase the cost of our products to our customers. For our NobelClad business, this would impact our ability to compete on international projects and will negatively impact U.S. fabricators, which are strong consumers of NobelClad products. The downturn in the U.S. economy in fiscal 2010 had an adverse effect on the U.S. steel industry and on our NobelClad business. The prolonged duration of these conditions and any future downturns in the industry, or the imposition of additional tariffs and quotas, could have a material adverse effect on our business, financial condition or results of operations.

If our customers delay paying or fail to pay a significant amount of our outstanding receivables, it could have a material adverse effect on our liquidity, consolidated results of operations, and consolidated financial condition.

We depend on a limited number of significant customers. For the year ended December 31, 2017, one customer represented approximately 10% of consolidated revenue, and the loss of one or more significant customers could have a material adverse effect on our business and our consolidated results of operations.

In most cases, we bill our customers for our services in arrears and are, therefore, subject to our customers delaying or failing to pay our invoices. In weak economic environments, we may experience increased delays and failures due to, among other reasons, a reduction in our customers' cash flow from operations and their access to the credit markets. If our customers delay paying or fail to pay us a significant amount of our outstanding receivables, it could have a material adverse effect on our liquidity, consolidated results of operations, and consolidated financial condition.

Failure to attract and retain key personnel could adversely affect our current operations.

Our continued success depends to a large extent upon the efforts and abilities of key managerial and technical employees. The loss of services of certain of these key personnel could have a material adverse effect on our business, results of operations, and financial condition. There can be no assurance that we will be able to attract and retain such individuals on acceptable terms, if at all; and the failure to do so could have a material adverse effect on our business, financial condition, and results of operations.

We are subject to extensive government regulation and failure to comply could subject us to future liabilities and could adversely affect our ability to conduct or to expand our business.

We are subject to extensive government regulation in the United States, Germany, France, Canada and Russia, including guidelines and regulations for the purchase, manufacture, handling, transport, storage and use of explosives issued by the U.S. Bureau of Alcohol, Tobacco and Firearms; the Federal Motor Carrier Safety regulations set forth by the U.S. Department of Transportation; the Safety Library Publications of the Institute of Makers of Explosive; and similar guidelines of their European counterparts. In Germany, the transport, storage and use of explosives is governed by a permit issued under the Explosives Act (Sprengstoffgesetz). In France, the manufacture and transportation of explosives is subcontracted to a third party, who is responsible for compliance with regulations established by various state and local governmental agencies concerning the handling and transportation of explosives. Our French operations could be adversely affected if the third party does not comply with these regulations. We must comply with licensing requirements and regulations for the purchase, transport, storage, manufacture, handling and use of explosives. In addition, while our shooting sites in Tautavel, France are located outdoors, our shooting sites located in Pennsylvania and in Dillenburg, Germany are located in mines, which subject us to certain regulations and oversight of governmental agencies that oversee mines.

We are also subject to extensive environmental, health and safety regulation, as described below under "Liabilities under environmental, health and safety laws could result in restrictions or prohibitions on our facilities, substantial civil or criminal liabilities, as well as the assessment of strict liability and/or joint and several liability" and above under "The use of explosives subjects us to additional regulation, and any accidents or injuries could subject us to significant liabilities."

In addition, the shipment of goods, services, and technology across international borders subjects us to extensive trade laws and regulations. Our import activities are governed by the unique customs laws and regulations in each of the countries where we operate. Moreover, many countries, including the United States, control the export and re-export of certain goods, services and technology and impose related export recordkeeping and reporting obligations. Governments may also impose economic sanctions against certain countries, persons, and entities that may restrict or prohibit transactions involving such countries, persons and entities, which may limit or prevent our conduct of business in certain jurisdictions.

The laws and regulations concerning import activity, export recordkeeping and reporting, export control, and economic sanctions are complex and constantly changing. These laws and regulations can cause delays in shipments and unscheduled operational downtime. Moreover, any failure to comply with applicable legal and regulatory trading obligations could result in criminal and civil penalties and sanctions, such as fines, imprisonment, debarment from governmental contracts, seizure of shipments and loss of import and export privileges.

Any failure to comply with current and future regulations in the countries where we operate could subject us to future liabilities. In addition, such regulations could restrict our ability to expand our facilities, construct new facilities, or compete in certain markets or could require us to incur significant expenses in order to maintain compliance. Accordingly, our business, results of operations or financial condition could be adversely affected by our non-compliance with applicable regulations, by any significant limitations on our business as a result of our inability to comply with applicable regulations, or by any requirement that we spend substantial amounts of capital to comply with such regulations.

Our operations are subject to political and economic instability and risk of government actions that could have a material adverse effect on our business, consolidated results of operations, and consolidated financial condition.

We are exposed to risks inherent in doing business in each of the countries in which we operate. Our operations are subject to various risks unique to each country that could have a material adverse effect on our business, consolidated results of operations, and consolidated financial condition. With respect to any particular country, these risks may include:

- political and economic instability, including:
 - civil unrest, acts of terrorism, force majeure, war, other armed conflict, and sanctions;
 - inflation; and
 - currency fluctuations, devaluations, and conversion restrictions; and
- governmental actions that may:
 - result in expropriation and nationalization of our assets in that country;
 - result in confiscatory taxation or other adverse tax policies;
 - limit or disrupt markets or our operations, restrict payments, or limit the movement of funds;
 - result in the deprivation of contract rights; and
 - result in the inability to obtain or retain licenses required for operation.

Liabilities under environmental, health and safety laws could result in restrictions or prohibitions on our facilities, substantial civil or criminal liabilities, as well as the assessment of strict liability and/or joint and several liability.

We are subject to extensive environmental, health and safety regulation in the countries where our manufacturing facilities are located. Any failure to comply with current and future environmental and safety regulations could subject us to significant liabilities. In particular, any failure to control the discharge of hazardous materials and wastes could subject us to significant liabilities, which could adversely affect our business, results of operations or financial condition.

We and all our activities in the United States are subject to federal, state and local environmental and safety laws and regulations, including but not limited to, noise abatement and air emissions regulations, the Comprehensive Environmental Response, Compensation and Liability Act of 1980, regulations issued and laws enforced by the labor and employment departments of the U.S. and the states in which we conduct business, the U.S. Department of Commerce, and the U.S. Environmental Protection Agency. In Germany, we and all our activities are subject to various safety and environmental regulations of the federal state which are enforced by the local authorities, including the Federal Act on Emission Control (Bundes-Immissionsschutzgesetz). The Federal Act on Emission Control permits are held by companies jointly owned by DynaEnergetics and the other companies that are located at the Troisdorf manufacturing site and are for an indefinite period of time. In France, we and all our activities are subject to state environmental and safety regulations established by various departments of the French Government, including the Ministry of Labor, the Ministry of Ecology and the Ministry of Industry, and to local environmental and safety regulations and administrative procedures established by DRIRE (Direction Régionale de l'Industrie, de la Recherche et de l'Environnement) and the Préfecture des Pyrénées Orientales. In addition, our shooting operations in France may be particularly vulnerable to noise abatement regulations because these operations are primarily co

ducted outdoors. The Dillenburg, Germany facility is operated based on a specific permit granted by the local mountain authority and must be renewed every three years.

Changes in or compliance with environmental, health and safety laws and regulations could inhibit or interrupt our operations, or require modifications to our facilities. Any actual or alleged violations of environmental, health or safety laws could result in restrictions or prohibitions on our facilities or substantial civil or criminal sanctions. Some laws and regulations impose strict liability and/or joint and several liability. In addition, under certain environmental laws, we could be held responsible for all of the costs relating to any contamination at our facilities and at third party waste disposal sites, even when such contamination was caused by a predecessor and even when the actions resulting in the contamination were lawful at the time. We could also be held liable for any and all consequences arising out of human exposure to hazardous substances or other environmental damage. Accordingly, environmental, health or safety matters may result in significant unanticipated costs or liabilities.

Our failure to comply with Foreign Corrupt Practices Act (“FCPA”) and other laws could have a negative impact on our ongoing operations.

We are subject to complex U.S. and foreign laws and regulations, such as the FCPA and the U.K. Bribery Act, and various other anti-bribery and anticorruption laws. The internal controls, policies and procedures, and employee training and compliance programs we have implemented to deter prohibited practices may not be effective in preventing employees, contractors or agents from violating or circumventing such internal policies and violating applicable laws and regulations. Any determination that we have violated or are responsible for violations of anti-bribery or anti-corruption laws could have a material adverse effect on our financial condition. Violations of international and U.S. laws and regulations may result in fines and penalties, criminal sanctions, administrative remedies, and restrictions on business conduct and could have a material adverse effect on our reputation and our business, operating results and financial condition.

Changes in or interpretation of tax law and currency/repatriation control could impact the determination of our income tax liabilities for a tax year.

We have worldwide operations. Consequently, we are subject to the jurisdiction of a significant number of taxing authorities. The income earned in these various jurisdictions is taxed on differing bases, including net income actually earned, net income deemed earned, and revenue-based tax withholding. The final determination of our income tax liabilities involves the interpretation of local tax laws, tax treaties, and related authorities in each jurisdiction, as well as the use of estimates and assumptions regarding the scope of future operations and results achieved and the timing and nature of income earned and expenditures incurred. Changes in the operating environment, including changes in or interpretation of tax law and currency/repatriation controls, could impact the determination of our income tax liabilities for a tax year.

The enactment of legislation implementing changes in taxation of international business activities, the adoption of other corporate tax reform policies, or changes in tax legislation or policies could materially impact our financial position and results of operations.

Corporate tax reform, base-erosion efforts and tax transparency continue to be high priorities in many tax jurisdictions where we have business operations. As a result, policies regarding corporate income and other taxes in numerous jurisdictions are under heightened scrutiny and tax reform legislation is being proposed or enacted in a number of jurisdictions. For example, the 2017 Tax Reform Act, among other things, reduced the U.S. corporate income tax rate, and imposed base-erosion prevention measures on non-U.S. earnings of U.S. entities as well as a one-time mandatory deemed repatriation tax on accumulated non-U.S. earnings of U.S. entities. The 2017 Tax Reform Act will affect the tax position reflected on our Consolidated Balance Sheets and our obligations for cash taxes of our U.S. entities and will have a corresponding impact on our consolidated financial results starting in the first quarter of our fiscal year 2018.

In addition, many countries are beginning to implement legislation and other guidance to align their international tax rules with the Organisation for Economic Co-operation’s Base Erosion and Profit Shifting recommendations and action plan that aim to standardize and modernize global corporate tax policy, including changes to cross-border tax, transfer-pricing documentation rules, and nexus-based tax incentive practices. As a result of the heightened scrutiny of corporate taxation policies, prior decisions by tax authorities regarding treatments and positions of corporate income taxes could be subject to enforcement activities, and legislative investigation and inquiry, which could also result in changes in tax policies or prior tax rulings. Any such changes in policies or rulings may also result in the taxes we previously paid being subject to change.

Due to the large scale of our international business activities any substantial changes in international corporate tax policies, enforcement activities or legislative initiatives may materially and adversely affect our business, the amount of taxes we are required to pay and our financial condition and results of operations generally.

Work stoppages and other labor relations matters may make it substantially more difficult or expensive for us to produce our products, which could result in decreased sales or increased costs, either of which would negatively impact our financial condition and results of operations.

We are subject to the risk of work stoppages and other labor relations matters, particularly in Germany and France, where some of our employees are unionized. In the fourth quarter of 2014, we experienced a total of 11 days work stoppage at our facility in Rivesaltes, France related to the consolidation program of NobelClad's European explosion welding operations. We could experience additional strikes or work stoppages in the future as a result of our planned closure of manufacturing operations in Rivesaltes, France during 2018. The employees at our U.S. manufacturing facilities are not unionized. Any prolonged work stoppage or strike at any one of our principal facilities could have a negative impact on our business, financial condition or results of operations.

We are subject to litigation and may be subject to additional litigation in the future.

We are currently, and may in the future become, subject to litigation, arbitration or other legal proceedings with other parties. Managing or defending such legal proceedings may result in substantial legal fees, expenses and costs and diversion of management resources. If decided adversely to DMC, these legal proceedings, or others that could be brought against us in the future, could have a material adverse effect on our financial position or prospects. For a more detailed discussion of pending litigation, see Note 8 to our Consolidated Financial Statements.

In the event of a dispute arising at our foreign operations, we may be subject to the exclusive jurisdiction of foreign courts or arbitral panels, or may not be successful in subjecting foreign persons to the jurisdiction of courts or arbitral panels in the United States. Our inability to enforce our rights and the enforcement of rights on a prejudicial basis by foreign courts or arbitral panels could have an adverse effect on our results of operations and financial position.

Our failure to protect our proprietary information and any successful intellectual property challenges or infringement proceedings against us could materially and adversely affect our competitive position.

We rely on a variety of intellectual property rights that we use in our products and services. We may not be able to successfully preserve these intellectual property rights in the future, and these rights could be invalidated, circumvented, or challenged. In addition, the laws of some foreign countries in which our products and services may be sold do not protect intellectual property rights to the same extent as the laws of the United States. Our failure to protect our proprietary information and any successful intellectual property challenges or infringement proceedings against us could materially and adversely affect our competitive position. Our competitors may be able to develop technology independently that is similar to ours without infringing on our patents or gaining access to our trade secrets, which could adversely affect our financial condition, results of operations and cash flows.

We may be subject to litigation if another party claims that we have infringed upon its intellectual property rights.

The tools, techniques, methodologies, programs and components we use to provide our services may infringe upon the intellectual property rights of others. We have an active freedom to operate review process for our technology, but there is no assurance that future infringement claims will not be asserted. Infringement claims, such as those raised in the ongoing GEODynamics litigation, generally result in significant legal and other costs and may distract management from running our core business even if we are ultimately successful. In the event of any adverse ruling in any intellectual property litigation, we could be required to pay substantial damages, cease the manufacturing, use and sale of infringing products, discontinue the use of certain processes or obtain a license from the third party claiming infringement with royalty payment obligations by us. We also have certain indemnification obligations to customers with respect to the infringement of third party intellectual property rights by our products, which may increase our costs.

A failure in our information technology systems or those of third parties, including those caused by security breaches, cyber-attacks or data protection failures, could disrupt our business, damage our reputation and causes losses.

We are dependent upon information technology systems in the conduct of our operations. Our information technology systems are subject to disruption, damage or failure from a variety of sources, including, without limitation, computer viruses, security breaches, cyber-attacks, natural disasters and defects in design. Cybersecurity incidents, in particular, are evolving and

include, but are not limited to, malicious software, attempts to gain unauthorized access to data and other electronic security breaches that could lead to disruptions in systems, unauthorized release of confidential or otherwise protected information and the corruption of data. Various measures have been implemented to manage our risks related to information technology systems and network disruptions. However, given the unpredictability of the timing, nature and scope of information technology disruptions, we could potentially be subject to production downtimes, operational delays, the compromising of confidential or otherwise protected information, destruction or corruption of data, security breaches, other manipulation or improper use of our systems and networks or financial losses from remedial actions, any of which could have a material adverse effect on our cash flows, competitive position, financial condition or results of operations.

We outsource certain technology and business process functions to third parties and may increasingly do so in the future. If we do not effectively develop, implement and monitor our outsourcing strategy, third party providers do not perform as anticipated or we experience technological or other problems with a transition, we may not realize productivity improvements or cost efficiencies and may experience operational difficulties, increased costs and loss of business. Our outsourcing of certain technology and business processes functions to third parties may expose us to enhanced risks related to data security, which could result in monetary and reputational damages. In addition, our ability to receive services from third party providers may be impacted by cultural differences, political instability, unanticipated regulatory requirements or policies. As a result, our ability to conduct our business may be adversely affected.

The regulatory environment surrounding information security and privacy is increasingly demanding. We are subject to numerous U.S. federal and state laws and non-U.S. laws and regulations governing the protection of personal and confidential information of our customers and employees. In particular, the European Union ("E.U.") has adopted the General Data Protection Regulation, or GDPR, which is scheduled to go into effect in May 2018 and contains numerous requirements that must be complied with when handling the personal data of E.U. based data subjects. We will be subject to the GDPR with respect to our E.U. operations and employees. These laws and regulations are increasing in complexity and number, change frequently and sometimes conflict. In particular, as the E.U. states reframe their national legislation to prepare for and harmonize with the GDPR, we will need to monitor compliance with all relevant E.U. member states' laws and regulations, including where permitted derogations from the GDPR are introduced.

The introduction of the GDPR, and any resultant changes in E.U. member states' national laws and regulations, may increase our compliance obligations and may necessitate the review and implementation of policies and processes relating to our collection and use of data. This increase in compliance obligations could also lead to an increase in compliance costs which may have an adverse impact on our business, financial condition or results of operations. If any person, including any of our employees or those with whom we share such information, negligently disregards or intentionally breaches our established controls with respect to our client or employee data, or otherwise mismanages or misappropriates that data, we could be subject to significant monetary damages, regulatory enforcement actions, fines and/or criminal prosecution in one or more jurisdictions. For example, under the GDPR there are significant new punishments for noncompliance which could result in a penalty of up to the greater of €20 million or 4% of a firm's global annual revenue. In addition, a data breach could result in negative publicity which could damage our reputation and have an adverse effect on our business, financial condition or results of operations.

To the extent that we seek to expand our business through acquisitions, we may experience issues in executing acquisitions or integrating acquired operations.

From time to time, we examine opportunities to make selective acquisitions in order to increase shareholder return by increasing our total available markets, expanding our existing operations and, potentially, generating synergies. The success of any acquisition depends on a number of factors, including, but not limited to:

- identifying suitable candidates for acquisition and negotiating acceptable terms;
- obtaining approval from regulatory authorities and potentially DMC's shareholders;
- maintaining our financial and strategic focus and avoiding distraction of management during the process of integrating the acquired business;
- implementing our standards, controls, procedures and policies at the acquired business and addressing any pre-existing liabilities or claims involving the acquired business; and
- to the extent the acquired operations are in a country in which we have not operated historically, understanding the regulations and challenges of operating in that new jurisdiction.

There can be no assurance that we will be able to conclude any acquisitions successfully or that any acquisition will achieve the anticipated synergies or other positive results. Any material problems that we encounter in connection with such an acquisition could have a material adverse effect on our business, results of operations and financial position.

If we fail to establish and maintain adequate internal controls over financial reporting, we may not be able to report our financial results in a timely and reliable manner, which could harm our business and impact the value of our securities.

We depend on our ability to produce accurate and timely financial statements in order to run our business. If we fail to do so, our business could be negatively affected and our independent registered public accounting firm may be unable to attest to the fair presentation of our Consolidated Financial Statements in accordance with U.S. generally accepted accounting principles ("GAAP") and the effectiveness of our internal control over financial reporting, as required by Section 404 of the Sarbanes-Oxley Act. Effective internal controls are necessary for us to provide reliable financial reports and to effectively prevent fraud. If we cannot provide reliable financial reports and effectively prevent fraud, our reputation and operating results could be harmed. Even effective internal controls have inherent limitations including the possibility of human error, the circumvention or overriding of controls, or fraud. Therefore, even effective internal controls can provide only reasonable assurance with respect to the preparation and fair presentation of financial statements. In addition, projections of any evaluation of effectiveness of internal control over financial reporting in future periods are subject to the risk that the control may become inadequate because of changes in conditions or a deterioration in the degree of compliance with the policies or procedures.

If we fail to maintain adequate internal controls, including any failure to implement new or improved controls, or if we experience difficulties in their execution, we could fail to meet our reporting obligations, and there could be a material adverse effect on our business and financial results. In the event that our current control practices deteriorate, we may be unable to accurately report our financial results or prevent fraud, and investor confidence and the market price of our stock may be adversely affected.

Risk Factors Related to Our Common Stock

The price of our common stock may be volatile, which may make it difficult for you to resell the common stock when you want or at prices you find attractive.

The market price and volume of our common stock may be subject to significant fluctuations due to general stock market conditions and/or a change in sentiment in the market regarding our operations, business prospects or liquidity. Among the factors that could affect the price of our common stock are:

- changes in the oil and gas, industrial, or infrastructure markets;
- operating and financial performance that vary from the expectations of management, securities analysts and investors;
- developments in our business or in our business sectors generally;
- regulatory changes affecting our industry generally or our business and operations;
- the operating and stock price performance of companies that investors consider to be comparable to us;
- announcements of strategic developments, acquisitions and other material events by us or our competitors;
- our ability to integrate and operate the companies and the businesses that we acquire; and
- changes in global financial markets and global economies and general market conditions, such as interest or foreign exchange rates, stock, commodity, credit or asset valuations or volatility.

The stock markets in general have experienced extreme volatility that has at times been unrelated to the operating performance of particular companies. These broad market fluctuations may adversely affect the trading price of our common stock.

Holders of our common stock may not receive dividends.

Holders of our common stock are entitled to receive only such dividends as our Board of Directors may declare out of funds legally available for such payments. We are incorporated in Delaware and governed by the Delaware General Corporation Law. Delaware law allows a corporation to pay dividends only out of surplus, as determined under Delaware law or, if there is no surplus, out of net profits for the fiscal year in which the dividend was declared and for the preceding fiscal year. Under Delaware law, however, we cannot pay dividends out of net profits if, after we pay the dividend, our capital would be impaired. Our ability to pay dividends will be subject to our future earnings, capital requirements and financial condition, as well as our compliance with covenants and financial ratios related to existing or future indebtedness. Although we have historically declared cash dividends on our common stock, we are not required to do so and our Board of Directors may modify the dividend policy or reduce, defer or eliminate our common stock dividend in the future.

ITEM 1B. Unresolved Staff Comments

None.

ITEM 2. Properties**Corporate Headquarters**

Our corporate headquarters are located in Boulder, Colorado. The term of the lease for the office space is through November 30, 2022.

NobelClad

We own our principal domestic manufacturing site, which is located in Mount Braddock, Pennsylvania. We currently lease our primary domestic shooting site, which is located in Dunbar, Pennsylvania, and we also have license and risk allocation agreements relating to the use of a secondary shooting site, Coolspring, that is located within a few miles of the Mount Braddock facility. The shooting site in Dunbar and the nearby secondary shooting site support our Mount Braddock facility. The lease for the Dunbar property will expire on December 15, 2020, but we have options to renew the lease which extend through December 15, 2029. The license and risk allocation agreements will expire on December 31, 2018, and we have provided notice of the intent to renew these agreements through December 31, 2028.

NobelClad owns a manufacturing site in Liebenscheid, Germany as well as a mine used as a shooting site in Dillenburg, Germany. We lease buildings and land around the mine to ensure access to the shooting site. The leases associated with the Dillenburg shooting site expire August 31, 2021. NobelClad owns the land and the buildings housing its operations in Rivesaltes, France.

DynaEnergetics

DynaEnergetics leases a manufacturing site and sales office in Troisdorf, Germany. The Troisdorf manufacturing site lease expires December 31, 2020. The sales office lease expires December 31, 2020. In the U.S., DynaEnergetics owns manufacturing and assembly sites in Texas and assembly operations in Pennsylvania and leases storage bunkers and office and warehouse space in various cities throughout Texas, Oklahoma, and Louisiana. DynaEnergetics also leases office and warehouse space and bunkers for storage of its explosives in various cities throughout Alberta, Canada. We also lease office space in Moscow, Russia. DynaEnergetics acquired 100% ownership of the land for its manufacturing site and sales office site in Tyumen, Siberia, which it previously leased.

The tables below summarize our properties by segment, including their location, type, size, whether owned or leased and expiration terms, if applicable.

Corporate Headquarters

| Location | Property Type | Property Size | Owned/Leased | Expiration Date of Lease (if applicable) |
|-------------------|----------------------------|----------------|--------------|---|
| Boulder, Colorado | Corporate and Sales Office | 14,630 sq. ft. | Leased | November 30, 2022 |

NobelClad

| Location | Property Type | Property Size | Owned/Leased | Expiration Date of Lease (if applicable) |
|--------------------------------|---|---|---------------------------------|---|
| Mt. Braddock, Pennsylvania (a) | Clad plate manufacturing and administration office | Land: 14 acres Buildings: 101,300 sq. ft. | Owned | |
| Dunbar, Pennsylvania | Clad plate shooting site | Land: 322 acres Buildings: 15,960 sq. ft. | Leased | December 15, 2020, with renewal options through December 15, 2029 |
| Cool Spring, Pennsylvania | Clad plate shooting site | 1,200,000 sq. ft. | Leased | December 31, 2018, with renewal options through December 31, 2028 |
| Rivesaltes, France | Clad plate manufacturing, sales and administration office | Land: 6.6 acres Buildings: 49,643 sq. ft. | Owned | |
| Tautavel, France (b) | Clad shooting site | 116 acres | 109 acres owned, 7 acres leased | December 31, 2021 with renewal options |
| Dillenburg, Germany | Clad plate shooting site | 11.4 acres | Owned | |
| | | 31,345 sq. ft. | Leased | August 31, 2021 |
| Würgendorf, Germany (b) | Manufacturing | Land: 24.6 acres | Owned | |
| | | Storehouse 174 and 265: 2,756 sq. ft. | Leased | December 31, 2020 with renewal options through December 31, 2025 |
| | | Building: 34,251 sq. ft. | Owned | |
| Liebenseid, Germany | Manufacturing | Land: 10.47 acres Buildings: 125,394 sq. ft. | Owned | |

DynaEnergetics

| Location | Property Type | Property Size | Owned/Leased | Expiration Date of Lease (if applicable) |
|-------------------------|---|---|--------------|--|
| Troisdorf, Germany | Manufacturing and administration office | Manufacturing: 263,201 sq. ft. Office: 2,033 sq. ft. | Leased | December 31, 2020, with renewal options for 5 years |
| Troisdorf, Germany | Office, Sieglar Strasse | 9,203 sq. ft. | Leased | February 28, 2019 with yearly renewal options |
| Liebenscheid, Germany | Manufacturing and office | 91, 493 sq. ft. | Owned | |
| Edmonton, Alberta (c) | Sales office and warehouse | 24,000 sq. ft. | Leased | January 31, 2019 |
| Grande Prairie, Alberta | Sales office and warehouse | 3,504 sq. ft. | Leased | December 31, 2019 |
| Grande Prairie, Alberta | Storage magazines | 144 sq. ft. | Leased | Month to month agreement |
| Red Deer, Alberta (d) | Sales office and warehouse | 12,500 sq. ft. | Leased | March 30, 2018 |
| Red Deer, Alberta | Storage magazines | 1,000 sq. ft. | Leased | Lease is continuous until either party gives 120 days notice |
| Bonnyville, Alberta (c) | Sales office and warehouse | 5,355 sq. ft. | Leased | April 30, 2019 |
| Bonnyville, Alberta | Storage magazines | 95 sq. ft. | Leased | Month to month agreement |
| Andrews, Texas | Office and warehouse | 4,000 sq. ft. | Leased | Month to month agreement |
| Andrews, Texas | Land for magazines | 600 sq. ft. | Leased | Month to month agreement |
| Houston, Texas | Office | 4,572 sq. ft. | Leased | April 30, 2023 |
| Blum, Texas | Office, warehouse, and manufacturing | 16,800 sq. ft. | Owned | |
| Blum, Texas | Land for magazines | 206.3 acres | Owned | |
| Victoria, Texas | Office and warehouse | 4,000 sq. ft. | Leased | Month to month agreement |
| Victoria, Texas | Storage magazine | 8,000 sq. ft. | Leased | Month to month agreement |
| Whitney, Texas | Office, warehouse, and manufacturing | 36,000 sq. ft. | Owned | |

| Location | Property Type | Property Size | Owned/Leased | Expiration Date of Lease (if applicable) |
|---|----------------------|----------------------------------|--------------|---|
| Lafayette, Louisiana | Office and warehouse | 6,800 sq. ft. | Leased | Month to month agreement |
| Beaux Bridge, Louisiana | Storage magazine | 600 sq. ft. | Leased | Month to month agreement |
| Dunbar, Pennsylvania | Storage magazines | 400 sq. ft. | Owned | |
| Mt. Braddock, Pennsylvania | Office and warehouse | 661 sq. ft. | Owned | |
| Oklahoma City, OK | Office and Warehouse | 5900 sq ft. | Leased | May 31,2018 |
| Oklahoma City, OK | Storage Magazines | 24 sq ft. | Leased | May 31,2018 |
| Russia, Nizhnetavdinskiy District | Land | 59.7 acres | Owned | |
| | | 1.6 acres | Owned | |
| Russia, Nizhnetavdinskiy District | Office | 9,860 sq. ft. | Owned | |
| Russia, Nizhnetavdinskiy District | Manufacturing | 58,216 sq. ft. | Owned | |
| Noyabrsk, Russia | Warehouse | 3,229 sq. ft. | Leased | December 31, 2018 |
| Urengoy, Russia | Warehouse | 900 sq. ft. | Leased | December 31, 2018 |
| Nizhnevartovsk, Russia | Warehouse | 900 sq. ft. | Leased | December 31, 2018 |
| Kogalym, Russia | Warehouse | 800 sq. ft. | Leased | December 31, 2018 |
| Sheremetyevo, Russia (Mezdunarodnoye Shosse 9) | Warehouse | Any shipped quantity of goods | Leased | Not limited |
| Aktobe, Kazakhstan | Sales Office | 548 sq. ft. | Owned | |
| Aktobe, Kazakhstan | Land (sales office) | 0.09 acres | Owned | |

(a) The Mt. Braddock, Pennsylvania location is also used as a manufacturing and distribution center for our DynaEnergetics business segment.

(b) In connection with the purchase of the manufacturing facility in Liebenscheid, Germany, NobelClad ceased use of the manufacturing facility in Würgendorf, Germany in the first quarter of 2015. Though NobelClad ceased use of the leased property in Tautevel, France in the first quarter of 2015, the lease agreement remained in effect in order to have access to a redundant shooting site.

(c) The Edmonton, Alberta sales office and warehouse and a portion of the Bonnyville, Alberta sales office and warehouse have been subleased for the duration of their remaining leases.

(d) The Red Deer, Alberta sales office has been vacant since December 31, 2016.

ITEM 3. Legal Proceedings

Anti-dumping and Countervailing Duties

In June 2015, U.S. Customs and Border Protection ("U.S. Customs") sent us a Notice of Action that proposed to classify certain of our imports as subject to anti-dumping duties pursuant to a 2010 anti-dumping duty ("AD") order on Oil Country Tubular Goods ("OCTG") from China. A companion countervailing duty ("CVD") order on the same product is in effect as well. The Notice of Action covered one entry of certain raw material steel mechanical tubing made in China and imported into the U.S. from Canada by our DynaEnergetics segment during 2015 for use in manufacturing perforating guns.

In July 2015, we sent a response to U.S. Customs outlining the reasons our mechanical tubing imports do not fall within the scope of the AD order on OCTG from China and should not be subject to anti-dumping duties. U.S. Customs proposed to take similar action with respect to other entries of this product and requested an approximately \$1,100 cash deposit or bond for AD/CVD duties.

In August 2015, we posted the bond of approximately \$1,100 to U.S. Customs. Subsequently, U.S. Customs declined to conclude on the Company's assertion that the mechanical tubing the Company has been importing is not within the scope of the AD order on OCTG from China. As a result, on September 25, 2015 the Company filed a request for a scope ruling with the U.S. Department of Commerce ("Commerce Department").

On February 15, 2016, the Company received the Commerce Department's scope ruling, which determined certain imports, primarily used for gun carrier tubing, are included in the scope of the AD/CVD orders on OCTG from China and thus are subject to AD/CVD duties.

On March 11, 2016, the Company filed an appeal with the U.S. Court of International Trade ("CIT") related to the Commerce Department's scope ruling. On February 7, 2017, the CIT remanded the scope ruling to the Commerce Department to reconsider its determination. The Commerce Department filed its remand determination with the CIT on June 7, 2017 continuing to find that the Company's imports at issue are within the scope of the AD/CVD orders on OCTG from China. This determination is subject to the CIT's review in the ongoing appeal, which is continuing.

On December 27, 2016, we received notice from U.S. Customs that it may pursue penalties against us related to the AD/CVD issue and demanding tender of alleged loss of AD/CVD duties in an amount of \$3,049, which was covered by our reserve. We filed a response to the notice on February 6, 2017 asserting our position that any decision to pursue penalties would be premature in light of the status of the CIT appeal and that penalties would not be appropriate under the applicable legal standards. On February 16, 2017, we received notice that U.S. Customs was seeking penalties in the amount of \$14,783. U.S. Customs also reasserted its demand for tender of alleged loss of AD/CVD duties in the amount of \$3,049. We tendered \$3,049 in AD amounts ("Tendered Amounts") on March 6, 2017 into a suspense account pending ultimate resolution of the AD/CVD case. We believe that this penalty assessment is premature and patently unreasonable in the face of the ongoing CIT appeal and that penalties are not appropriate under applicable legal standards. Further, even if penalties are found to be justified, we believe the amount of penalties asserted by U.S. Customs is unreasonable and subject to challenge on various grounds. We submitted a petition for relief and mitigation of penalties on May 17, 2017 asserting these and other points and seeking a stay of the penalty proceedings pending ultimate resolution of the CIT appeal and any further appeals. We are awaiting a response from U.S. Customs and U.S. Customs Headquarters on this petition.

For the year ended December 31, 2017, the Company recorded \$108 of interest on its reserve for AD/CVD duties, bringing the total reserved amount related to AD/CVD duties as of December 31, 2017 to \$3,609. The Tendered Amounts were applied to reduce the reserve. The Company will continue to incur legal defense costs and could also be subject to additional interest and penalties. Accruals for the potential penalties discussed above are not reflected in our financial statements as of December 31, 2017 as we do not believe they are probable at this time.

Patent and Trademark Infringement

On September 22, 2015, GEODynamics, Inc., a US-based oil and gas perforating equipment manufacturer based in Fort Worth, TX, filed a patent and trademark infringement action against DynaEnergetics US, Inc., ("DynaEnergetics"), a wholly owned subsidiary of DMC, in the United States District Court for the Eastern District of Texas ("District Court") regarding alleged infringement of US Patent No. 9,080,431 granted on July 14, 2015 (the "431 patent") and a related US trademark for REACTIVE, alleging that DynaEnergetics' US sales of DPX® shaped charges infringe the 431 patent and the trademark. The case went to trial in late March 2017, and on March 30, 2017, the jury found in favor of DynaEnergetics on all counts. A bench trial on related matters, including the trademark infringement action occurred on April 20, 2017, and the Court ordered cancellation of GEODynamics' REACTIVE trademark. In December 2017, the Court ordered GEODynamics to reimburse DynaEnergetics for certain of its attorney's fees incurred in connection with the trademark action.

On July 1, 2016, GEODynamics filed a second patent infringement action against DynaEnergetics in District Court alleging infringement of US Patent No. 8,544,563 (the "563 patent"), also based on DynaEnergetics' US sales of DPEX® shaped charges. DynaEnergetics denies validity and infringement of the 563 patent and has vigorously defended itself against this lawsuit. As part of that defense, on September 20, 2016, DynaEnergetics filed an Inter Parties Review (IPR) against the 563 patent at the U.S. Patent Trial and Appeal Board ("PTAB"), requesting invalidation of the 563 patent. On March 17, 2017, DynaEnergetics' IPR request was instituted by the PTAB, and on March 1, 2018, PTAB issued its decision in favor of DynaEnergetics, invalidating all challenged claims of the 563 patent. Trial on the 563 patent remains stayed at this time, and DynaEnergetics plans to file for dismissal of the District Court case at the appropriate time.

On April 28, 2017, GEODynamics filed a third patent infringement action against DynaEnergetics in District Court alleging infringement of U.S. Patent No. 8,220,394 (the "394 patent"), based on DynaEnergetics' sales of its DPEX and HaloFrac® shaped charges. DynaEnergetics denies validity and infringement of the 394 patent and plans to vigorously defend against this lawsuit. On August 28, 2017, DynaEnergetics filed an IPR against the 394 patent at the PTAB, requesting invalidation of the 394 patent. PTAB's decision on whether to institute the IPR is expected in mid-March 2018.

On August 21, 2017, GEODynamics filed a patent infringement action against DynaEnergetics GmbH & Co. KG and DynaEnergetics Beteiligungs GmbH, both wholly owned subsidiaries of DMC (collectively, "DynaEnergetics EU"), in the Regional Court of Düsseldorf, Germany, alleging infringement of the German part DE 60 2004 033 297 of European patent EP 1 671 013 B1 granted on June 29, 2011, a patent related to the 394 patent (the "EP 013 patent"). This action is based on the manufacturing, sale and marketing of DPEX® shaped charges in Germany. DynaEnergetics EU denies validity and infringement of the EP 013 patent and plans to vigorously defend against this lawsuit. DynaEnergetics EU filed its defense at the Regional Court of Düsseldorf and a nullity action against EP 013 at the German Federal Patent Court on February 14, 2018. A trial in the infringement proceedings is not yet scheduled but expected in the fourth quarter of 2018, and a trial in the nullity action is not expected before late 2019.

On September 27, 2017, DynaEnergetics GmbH & Co. KG filed a revocation action in the Patents Court, Shorter Trials Scheme in the UK against GEODynamics, asserting that the EP 013 patent, as maintained in the UK, is invalid. GEODynamics filed its defense and a counterclaim alleging infringement of the EP 013 patent in November 2017 based on sales and marketing of DPEX® shaped charges in the UK. DynaEnergetics denies validity and infringement of the EP 013 patent and plans to vigorously challenge the EP 013 patent and defend against this lawsuit. Trial is currently expected to occur in October 2018.

We do not believe that the 563 patent, the 394 patent, the EP 013 patent or infringement claims based on the patents are valid, and we do not believe it is probable that we will incur a material loss on the 563 matter, the 394 matter or the EP 013 matter. However, if it is determined that the patents are valid and that DynaEnergetics or DynaEnergetics EU, as applicable, has infringed them, it is reasonably possible that our financial statements could be materially affected. We are not able to provide a reasonable estimate of the range of loss, and we have not accrued for any such losses. Such an evaluation includes, among other things, a determination of the total number of infringing sales in the United States or infringing products manufactured in Germany, as applicable, what a reasonable royalty, if any, might be under the circumstances; or, alternatively, the scope of damages and the relevant period for which damages would apply, if any.

ITEM 4. Mine Safety Disclosures

Our Coolspring property is subject to regulation by the Federal Mine Safety and Health Administration ("MSHA") under the Federal Mine Safety and Health Act of 1977 (the "Mine Act"). Pursuant to Section 1503(a) of the Dodd-Frank Wall Street Reform and Consumer Protection Act (The "Dodd-Frank Act"), issuers that are operators, or that have a subsidiary that is an operator, of a coal or other mine in the United States are required to disclose in their periodic reports filed with the SEC information regarding specified health and safety violations, orders and citations, related assessments and legal actions, and mining-related fatalities. During the year ended December 31, 2017, we had no such specified health and safety violations, orders or citations, related assessments or legal actions, mining-related fatalities, or similar events in relation to our United States operations requiring disclosure pursuant to Section 1503(a) of the Dodd-Frank Act.

PART II**ITEM 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities**

Our common stock is publicly traded on The Nasdaq Global Select Market ("Nasdaq") under the symbol "BOOM." The following table sets forth quarterly high and low sales prices for the common stock during our last two fiscal years, as reported by Nasdaq.

| <u>2017</u> | | <u>High</u> | | <u>Low</u> |
|----------------|----|-------------|----|------------|
| First Quarter | \$ | 17.00 | \$ | 11.75 |
| Second Quarter | \$ | 15.55 | \$ | 11.60 |
| Third Quarter | \$ | 18.45 | \$ | 12.43 |
| Fourth Quarter | \$ | 26.15 | \$ | 16.30 |

| <u>2016</u> | | <u>High</u> | | <u>Low</u> |
|----------------|----|-------------|----|------------|
| First Quarter | \$ | 7.23 | \$ | 4.84 |
| Second Quarter | \$ | 11.62 | \$ | 5.98 |
| Third Quarter | \$ | 12.38 | \$ | 9.20 |
| Fourth Quarter | \$ | 17.19 | \$ | 9.80 |

As of March 7, 2018, there were 252 holders of record of our common stock (does not include beneficial holders of shares held in "street name").

Dividend Policy

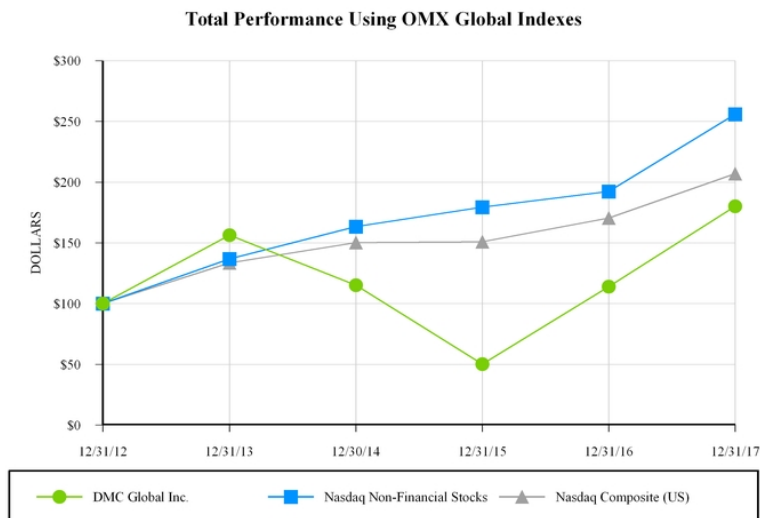
We declared and paid quarterly dividends aggregating \$0.08 per share in 2017 and \$0.08 per share in 2016. We may pay quarterly dividends subject to capital availability and periodic determinations that cash dividends are in the best interests of our stockholders, but we cannot assure you that such payments will continue. Future dividends may be affected by, among other items, our views on potential future capital requirements, future business prospects, debt covenant compliance considerations, changes in income tax laws, and any other factors that our Board of Directors deems relevant. Any determination to pay cash dividends will be at the discretion of the Board of Directors.

Equity Compensation Plan

Refer to "Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters" for information regarding securities authorized for issuance under our equity compensation plans, which is incorporated in this Item by this reference.

Stock Performance Graph

The following graph compares the performance of our common stock with the Nasdaq Non-Financial Stocks Index and the Nasdaq Composite (U.S.) Index. The comparison of total return (change in year-end stock price plus reinvested dividends) for each of the years assumes that \$100 was invested on December 31, 2012, in each of the Company, the Nasdaq Non-Financial Stocks Index and the Nasdaq Composite (U.S.) Index with investment weighted on the basis of market capitalization. The comparisons in the graph below are based upon historical data and are not indicative of, or intended to forecast, future performance of our common stock.



| Total Return Analysis | 12/31/12 | 12/31/13 | 12/30/14 | 12/31/15 | 12/31/16 | 12/31/17 |
|-----------------------------|----------|----------|-----------|-----------|-----------|-----------|
| DMC Global Inc. | \$100 | \$156.40 | \$115.252 | \$50.2878 | \$114.029 | \$180.216 |
| Nasdaq Non-Financial Stocks | \$100 | \$136.92 | \$163.48 | \$179.42 | \$192.48 | \$255.98 |
| Nasdaq Composite (U.S.) | \$100 | \$133.48 | \$150.12 | \$150.84 | \$170.46 | \$206.91 |

ITEM 6. Selected Financial Data

The following selected financial data should be read in conjunction with the Consolidated Financial Statements, including the related Notes, and "Management's Discussion and Analysis of Financial Condition and Results of Operations." In October 2014, we completed the sale of AMK; years 2014 and 2013 reflect the classification of AMK into discontinued operations.

(Dollars in Thousands, Except Per Share Data)

| Statement of Operations | Year Ended December 31, | | | | |
|---|-------------------------|------------|-------------|------------|------------|
| | 2017 | 2016 | 2015 | 2014 | 2013 |
| Net sales | \$ 192,803 | \$ 158,575 | \$ 166,918 | \$ 202,561 | \$ 202,060 |
| Gross profit | 59,391 | 38,680 | 35,624 | 61,419 | 58,134 |
| Costs and expenses | 49,784 | 42,752 | 43,776 | 47,973 | 47,156 |
| Restructuring expenses | 4,283 | 1,202 | 4,063 | 6,781 | — |
| Goodwill impairment | 17,584 | — | 11,464 | — | — |
| Income (loss) from operations | (12,260) | (5,274) | (23,679) | 6,665 | 10,978 |
| Other expense, net | (3,024) | (434) | (2,410) | (826) | (1,169) |
| Income (loss) before income taxes, discontinued operations and non-controlling interest | (15,284) | (5,708) | (26,089) | 5,839 | 9,809 |
| Income tax provision (benefit) | 3,569 | 797 | (2,118) | 3,913 | 3,736 |
| Income (loss) from continuing operations | (18,853) | (6,505) | (23,971) | 1,926 | 6,073 |
| Income from discontinued operations | — | — | — | 641 | 478 |
| Net income attributable to non-controlling interest | — | — | — | — | 92 |
| Net income (loss) attributable to DMC Global Inc. | \$ (18,853) | \$ (6,505) | \$ (23,971) | \$ 2,567 | \$ 6,459 |
| Net income (loss) per share attributable to DMC Global Inc. - Basic: | | | | | |
| Continuing operations | \$ (1.31) | \$ (0.46) | \$ (1.72) | \$ 0.13 | \$ 0.44 |
| Discontinued operations | \$ — | \$ — | \$ — | \$ 0.05 | \$ 0.03 |
| Net income (loss) | \$ (1.31) | \$ (0.46) | \$ (1.72) | \$ 0.18 | \$ 0.47 |
| Net income (loss) per share attributable to DMC Global Inc. - Diluted: | | | | | |
| Continuing operations | \$ (1.31) | \$ (0.46) | \$ (1.72) | \$ 0.13 | \$ 0.44 |
| Discontinued operations | \$ — | \$ — | \$ — | \$ 0.05 | \$ 0.03 |
| Net income (loss) | \$ (1.31) | \$ (0.46) | \$ (1.72) | \$ 0.18 | \$ 0.47 |
| Dividends Declared per Common Share | \$ 0.08 | \$ 0.08 | \$ 0.14 | \$ 0.16 | \$ 0.16 |
| Financial Position | | | | | |
| Total assets | \$ 173,083 | \$ 162,555 | \$ 219,329 | \$ 219,329 | \$ 240,545 |
| Lines of credit | \$ 17,984 | \$ 15,732 | \$ 22,782 | \$ 22,782 | \$ 26,400 |

ITEM 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

The following discussion should be read in conjunction with our historical Consolidated Financial Statements and notes, as well as the selected historical consolidated financial data included elsewhere in this annual report.

Unless stated otherwise, all dollar figures in this report are presented in thousands (000s). N/M indicates that the change in dollars or percentage was not meaningful.

OverviewGeneral

DMC operates a diversified family of technical product and process businesses serving the energy, industrial and infrastructure markets. Our businesses operate through a global network of manufacturing, distribution and sales facilities. Our business is organized into two segments: NobelClad and DynaEnergetics.

Our diversified segments each provide a suite of unique technical products to niche sectors of the global energy, industrial and infrastructure markets, and each has established a strong or leading position in the markets in which it participates. With an underlying focus on generating free cash flow, our objective is to sustain and grow the market share of our businesses through increased market penetration, development of new applications, and research and development of new and adjacent products that can be sold across our global network of sales and distribution facilities. We routinely explore acquisitions of related businesses that could strengthen or add to our existing product portfolios, or expand our geographic footprint and market presence. We also seek acquisition opportunities outside our current markets that would complement our existing businesses and enable us to build a stronger and more diverse company.

NobelClad

NobelClad is a global leader in the production of explosion-welded clad metal plates for use in the construction of corrosion resistant industrial processing equipment and specialized transition joints. While a significant portion of the demand for our clad metal products is driven by maintenance and retrofit projects at existing chemical processing, petrochemical processing, oil refining, and aluminum smelting facilities, new plant construction and large plant expansion projects also account for a significant portion of total demand. These industries tend to be cyclical in nature and timing of new order inflow remains difficult to predict. We use backlog as a primary means to measure the immediate outlook for our NobelClad business. We define "backlog" at any given point in time as all firm, unfulfilled purchase orders and commitments at that time. Most firm purchase orders and commitments are realized, and we expect to fill most backlog orders within the following 12 months. NobelClad's backlog increased to \$37,529 at December 31, 2017 from \$31,634 at December 31, 2016.

DynaEnergetics

DynaEnergetics designs, manufactures and distributes products utilized by the global oil and gas industry principally for the perforation of oil and gas wells. These products are sold to oilfield service companies in the U.S., Europe, Canada, South America, Africa, the Middle East, Russia, and Asia. DynaEnergetics also sells directly to end-users. The market for perforating products, which are used during the well completion process, generally corresponds with oil and gas exploration and production activity. Exploration activity over the last several years has led to increasingly complex well completion operations, which in turn, has increased the demand for high quality and technically advanced perforating products.

Cost of products sold for DynaEnergetics includes the cost of metals, explosives and other raw materials used to manufacture shaped charges, detonating products and perforating guns as well as employee compensation and benefits, depreciation of manufacturing facilities and equipment, manufacturing supplies and other manufacturing overhead expenses.

Factors Affecting Results

The following items impacted the comparability of the company's results for the years ended December 31, 2017 and 2016:

- DynaEnergetics' sales of \$121,253 in 2017 increased 80% compared with 2016 driven by a recovery in the North American unconventional well-completions sector and reflected increased well-stage counts; higher completion intensity and longer laterals; and increased market penetration of DynaEnergetics' perforating products and systems, including the DynaSelect detonator and the DynaStage system.

- NobelClad's sales of \$71,550 in 2017 decreased 22% compared with 2016 as weak capital spending in NobelClad's industrial infrastructure and energy markets resulted in a decline in core repair and maintenance work and the absence of large projects.
- Consolidated gross profit of 31% in 2017 increased from 25% in 2016. The improvement primarily related to a higher proportion of DynaEnergetics sales relative to NobelClad sales, combined with higher average selling prices as well as improved product mix in DynaEnergetics.
- Restructuring expenses of \$4,283 in 2017 were related to the planned closure of NobelClad's manufacturing operations in France and the closure of DynaEnergetics' sales and distribution facility in Kazakhstan. Restructuring expenses of \$1,202 in 2016 primarily related to severance for headcount reductions and lease termination costs at DynaEnergetics.
- A goodwill impairment charge of \$17,584 related to the NobelClad reporting unit was recorded in the third quarter of 2017 to reflect the decline in activity levels in NobelClad's primary end markets during the second half of the year.
- Consolidated selling, general, and administrative expenses were \$45,724 in 2017 compared with \$38,741 in 2016. The increase primarily was due to higher patent litigation expenses at DynaEnergetics and increased salaries and wages from headcount additions and higher variable incentive compensation expense.
- Net debt of \$9,001 (comprised of \$17,984 indebtedness net of \$8,983 in cash) decreased 3% from December 31, 2016. Net debt, a non-GAAP measure, is calculated as amounts borrowed under lines of credit less cash and cash equivalents.

Business Outlook

- To address the accelerating demand for its perforating systems, in December 2017, DynaEnergetics commenced construction of a new 74,000 square foot manufacturing, assembly and administrative space on its manufacturing campus in Blum, Texas. The facility, which is scheduled to open during the third quarter of 2018, will substantially increase DynaEnergetics' component manufacturing and DynaStage assembly capacity. During the first half of 2018, DynaEnergetics plans to add a second automated DynaSelect detonator line at its facility in Troisdorf, Germany. In the second half of 2018, the business plans to add a second automated shaped-charge manufacturing line at Blum, which will more than double its shaped charge production capacity in the U.S.
- In January 2018, DynaEnergetics announced the implementation of a global price increase applicable to all products. The increase varies by product line and generally ranges from 5% to 8%. Well completion activity is accelerating across DynaEnergetics' global markets, and as customers work to keep pace with the recovery, the business' advanced products and systems are enabling improved efficiencies, greater reliability and lower operating costs.
- The recent decline in NobelClad's core repair and maintenance orders from the downstream energy industry has continued in the first quarter of 2018. Despite that, fabricator customers expect improved demand for long-delayed repair, maintenance and upgrade work. It appears higher energy prices and renewed enthusiasm for domestic infrastructure spending may pull forward a number of these projects, which we believe will lead to a recovery in bookings activity during 2018. In October 2017, NobelClad received a \$7.4 million purchase order related to a petrochemical project in Asia, which is reflected in NobelClad's year-end backlog, and is expected to be shipped in the first half of 2018. The order is the largest booked by NobelClad in more than four years.

Use of Non-GAAP Financial Measures

Adjusted EBITDA is a non-GAAP (generally accepted accounting principles) measure that we believe provides an important indicator of our ongoing operating performance and that we use in operational and financial decision-making. We define EBITDA as net income or loss plus or minus net interest, taxes, depreciation and amortization. Adjusted EBITDA excludes from EBITDA stock-based compensation, restructuring and impairment charges and, when appropriate, other items that management does not utilize in assessing DMC's operating performance (as further described in the tables below). As a result, internal management reports used during monthly operating reviews feature Adjusted EBITDA and certain management incentive awards are based, in part, on the amount of Adjusted EBITDA achieved during the year.

Net Debt is a non-GAAP measure we use to supplement information in our Consolidated Financial Statements. We define net debt as lines of credit less cash and cash equivalents. In addition to conventional measures prepared in accordance with GAAP, the Company uses this information to evaluate its performance, and we believe that certain investors may do the same.

The presence of non-GAAP financial measures in this report is not intended to suggest that such measures be considered in isolation or as a substitute for, or as superior to, DMC's GAAP information, and investors are cautioned that the non-GAAP

financial measures are limited in their usefulness. Because not all companies use identical calculations, DMC's presentation of non-GAAP financial measures may not be comparable to other similarly titled measures of other companies.

Forward-Looking Statements

This annual report and the documents incorporated by reference into it contain certain forward-looking statements within the safe harbor provisions of the Private Securities Litigations Reform Act of 1995. Words such as "anticipates," "expects," "intends," "plans," "believes," "seeks," "estimates," "may," "will," "continue," "project," "forecast," and similar expressions, as well as statements in the future tense, identify forward-looking statements. Such statements include projections, guidance and other statements regarding our future expected financial position and operating results, our growth and business strategy, our expectations regarding the oil and gas industry, the timing and costs of our Blum, Texas and other expansion plans, our plans to consolidate NobelClad's European production facilities, including the timing and costs involved in closing manufacturing operations in France, our expectations regarding NobelClad's sales, bookings, and backlog in 2018, impacts of the Tax Cuts and Jobs Act, our financing plans, our future liquidity position and factors impacting such position, and the outcome of the pending GEODynamics and anti-dumping matters.

These forward-looking statements are not guarantees of our future performance and are subject to risks and uncertainties that could cause actual results to differ materially from the results contemplated by the forward-looking statements. These risks and uncertainties include those relating to:

- Changes in global economic conditions;
- The ability to obtain new contracts at attractive prices;
- The size and timing of customer orders and shipments;
- Product pricing and margins;
- Our ability to realize sales from our backlog and our ability to adjust our manufacturing and supply chain;
- Fluctuations in customer demand;
- Our ability to manage periods of growth and contraction effectively;
- General economic conditions, both domestic and foreign, impacting our business and the business of the end-market users we serve;
- Competitive factors;
- The timely completion of contracts;
- The timing and size of expenditures;
- The timely receipt of government approvals and permits;
- The price and availability of metal and other raw material;
- The adequacy of local labor supplies at our facilities;
- Current or future limits on manufacturing capacity at our various operations;
- Our ability to successfully integrate acquired businesses;
- The ability to remain an innovative leader in our fields of business;
- The impacts of pending or future litigation or regulatory matters;
- The application of governmental regulation and oversight of our operations and products and the industries in which our customers operate;
- The availability and cost of funds; and
- Fluctuations in foreign currencies.

The effects of these factors are difficult to predict. New factors emerge from time to time and we cannot assess the potential impact of any such factor on our business or the extent to which any factor, or combination of factors, may cause results to differ materially from those contained in any forward-looking statement. All forward-looking statements speak only as of the date of this annual report, and we do not undertake any obligation to update any forward-looking statement to reflect events or circumstances after the date of such statement or to reflect the occurrence of unanticipated events. In addition, see "Risk Factors" for a discussion of these and other factors that could materially affect our results of operations and financial condition.

Consolidated Results of Operations

Year ended December 31, 2017 compared to Year Ended December 31, 2016

| | 2017 | 2016 | \$ change | % change |
|---|------------|------------|-----------|----------|
| Net sales | \$ 192,803 | \$ 158,575 | \$ 34,228 | 22 % |
| Gross profit | 59,391 | 38,680 | 20,711 | 54 % |
| Gross profit percentage | 30.8% | 24.4% | | |
| COSTS AND EXPENSES: | | | | |
| General and administrative expenses | 27,135 | 22,115 | 5,020 | 23 % |
| % of net sales | 14.1% | 13.9% | | |
| Selling and distribution expenses | 18,589 | 16,626 | 1,963 | 12 % |
| % of net sales | 9.6% | 10.5% | | |
| Amortization of purchased intangible assets | 4,060 | 4,011 | 49 | 1 % |
| % of net sales | 2.1% | 2.5% | | |
| Restructuring expenses | 4,283 | 1,202 | 3,081 | 256 % |
| Goodwill impairment charge | 17,584 | — | 17,584 | |
| Operating loss | (12,260) | (5,274) | (6,986) | (132)% |
| Other income (expense), net | (1,376) | 633 | (2,009) | (317)% |
| Interest expense, net | (1,648) | (1,067) | (581) | (54)% |
| Income tax provision | 3,569 | 797 | 2,772 | 348 % |
| Net loss | (18,853) | (6,505) | (12,348) | (190)% |
| Adjusted EBITDA | \$ 23,148 | \$ 9,021 | \$ 14,127 | 157 % |

Net sales increased compared with 2016 due to an 80% increase in DynaEnergetics' net sales driven by a recovery in the North American unconventional well-completions sector and reflected increased well-stage counts; higher completion intensity and longer laterals; and increased market penetration of DynaEnergetics' perforating products and systems. The increase in DynaEnergetics' net sales partially was offset by a 22% decline in NobelClad's net sales as weak capital spending in NobelClad's industrial infrastructure and energy markets resulted in a decline in core repair and maintenance work and the absence of large projects.

Gross profit percentage increased compared with 2016 primarily due to higher average selling prices and improved product mix in DynaEnergetics and better project mix in NobelClad.

General and administrative expenses increased compared with 2016 primarily due to higher outside legal expenses related to patent infringement defense costs in DynaEnergetics, higher salaries and wages from headcount additions and increased variable incentive compensation, and higher stock-based compensation expense.

Selling and distribution expenses increased compared with 2016 principally due to higher salaries and benefits and increased outside professional services partially offset by a reduction in bad debt expense.

Restructuring expenses in 2017 related to the announced closures of NobelClad's manufacturing facility in France and DynaEnergetics' sales and distribution operations in Kazakhstan. In 2016, restructuring expenses related to severance for headcount reductions at DynaEnergetics' Troisdorf, Germany and Austin, Texas locations, lease termination costs to exit administrative offices in Austin, Texas, costs related to the relocation of perforating gun manufacturing operations in Germany, and the accelerated vesting of stock awards in connection with the elimination of certain positions.

Goodwill impairment charge was recorded in 2017 to fully impair NobelClad's goodwill balance. See "Critical Accounting Policies and Estimates" for further discussion.

Operating loss increased compared with 2016 due to the goodwill impairment charge and restructuring expenses combined with higher corporate unallocated and stock-based compensation expenses. The one-time impairment and restructuring charges and increased operating expenses partially were offset by increased sales volume, higher average selling

prices, and favorable product mix in DynaEnergetics. Corporate unallocated and stock-based compensation expenses are not allocated to our business segments.

Other income (expense), net in 2017 primarily was made up of realized and unrealized foreign currency losses. In 2016, other income (expense), net principally consisted of realized and unrealized foreign currency gains. Our subsidiaries frequently enter into inter-company and third party transactions that are denominated in currencies other than their functional currency. Changes in exchange rates with respect to these transactions will result in unrealized gains or losses if unsettled at the end of the reporting period or realized gains or losses at settlement of the transaction. During the third quarter of 2017, we began using foreign currency forward contracts, generally with maturities of one month, to offset foreign exchange rate fluctuations on certain foreign currency denominated asset and liability positions. None of these contracts are designated as accounting hedges, and all changes in the fair value of the forward contracts are recognized immediately in "Other income (expense), net" within our Consolidated Statements of Operations.

Interest income (expense), net increased compared with last year primarily due to expensing \$261 of deferred debt issuance costs in conjunction with amending our credit facility in March 2017 combined with higher interest rates on a higher average outstanding line of credit balance.

Income tax provision of \$3,569 for 2017 compared with an income tax provision of \$797 for 2016. The current-year income tax provision included \$946 of which was a transition tax related to the recently enacted Tax Cuts and Jobs Act ("TCJA"). The transition tax is a tax on previously untaxed accumulated and current earnings and profits ("E&P") of certain of our foreign subsidiaries. To determine the amount of the transition tax, we must determine, among other things, the amount of post-1986 E&P of the relevant subsidiaries, as well as the amount of non-U.S. income taxes paid on such earnings. We made a reasonable estimate of the transition tax and recorded a provisional transition tax obligation of \$946, of which \$871 is recorded in other long-term liabilities in our Consolidated Balance Sheets. However, we continue to gather additional information to compute more precisely the post-1986 E&P and related non-U.S. income taxes paid. The TCJA's transition tax is payable over eight years beginning in 2018. Upon completion of the analysis of post-1986 E&P and related non-U.S. income taxes paid, revisions to our transition tax obligation, if necessary, will be recorded in the 2018 tax provision. Additionally, we currently are unable to recognize tax benefits associated with losses incurred in certain jurisdictions due to valuation allowances recorded against deferred tax assets in those jurisdictions.

Net loss in 2017 primarily was a result of the non-cash goodwill impairment charge and restructuring expenses and the other factors discussed above. Net loss in 2017 was \$18,853, or \$1.31 per diluted share, compared with a net loss of \$6,505, or \$0.46 per diluted share in 2016.

Adjusted EBITDA increased compared with 2016 primarily due to the factors discussed above. See "Overview" above for the explanation of the use of Adjusted EBITDA. The following is a reconciliation of the most directly comparable GAAP measure to Adjusted EBITDA.

| | 2017 | 2016 |
|---|--------------------|-------------------|
| Net loss | \$ (18,853) | \$ (6,505) |
| Interest expense | 1,651 | 1,070 |
| Interest income | (3) | (3) |
| Provision for income taxes | 3,569 | 797 |
| Depreciation | 6,506 | 6,756 |
| Amortization of purchased intangible assets | 4,060 | 4,011 |
| EBITDA | (3,070) | 6,126 |
| Restructuring expenses | 4,283 | 1,202 |
| Goodwill impairment charge | 17,584 | — |
| Stock-based compensation | 2,975 | 2,326 |
| Other (income) expense, net | 1,376 | (633) |
| Adjusted EBITDA | \$ 23,148 | \$ 9,021 |

Year ended December 31, 2016 compared to Year Ended December 31, 2015

| | 2016 | 2015 | \$ change | % change |
|---|------------|------------|------------|----------|
| Net sales | \$ 158,575 | \$ 166,918 | \$ (8,343) | (5)% |
| Gross profit | 38,680 | 35,624 | 3,056 | 9 % |
| Gross profit percentage | 24.4% | 21.3% | | |
| COSTS AND EXPENSES: | | | | |
| General and administrative expenses | 22,115 | 20,998 | 1,117 | 5 % |
| % of net sales | 13.9% | 12.6% | | |
| Selling and distribution expenses | 16,626 | 18,745 | (2,119) | (11)% |
| % of net sales | 10.5% | 11.2% | | |
| Amortization of purchased intangible assets | 4,011 | 4,033 | (22) | (1)% |
| % of net sales | 2.5% | 2.4% | | |
| Restructuring expenses | 1,202 | 4,063 | (2,861) | (70)% |
| Goodwill impairment charge | — | 11,464 | (11,464) | (100)% |
| Operating income (loss) | (5,274) | (23,679) | 18,405 | 78 % |
| Other income (expense), net | 633 | (669) | 1,302 | 195 % |
| Interest income (expense), net | (1,067) | (1,741) | 674 | 39 % |
| Income tax provision | 797 | (2,118) | 2,915 | 138 % |
| Net income (loss) | (6,505) | (23,971) | 17,466 | 73 % |
| Adjusted EBITDA | \$ 9,021 | \$ 13,080 | \$ (4,059) | (31)% |

Net sales decreased compared with 2015 due to a 13% decrease in DynaEnergetics, which partially was offset by a 1% increase in NobelClad. The decline in DynaEnergetics was due to declining activity levels in the oil and gas well-completions sector and lower average selling prices. The increase in NobelClad primarily related to a large project for the semiconductor capital equipment industry that shipped in the second quarter of 2016.

Gross profit increased compared with 2015 primarily due to the impact of a \$6,205 accrual recorded in 2015 for anti-dumping and countervailing duties resulting from an unfavorable scope ruling from the Department of Commerce on prior imports of metals primarily used by DynaEnergetics for gun carrier tubing. Gross profit and gross profit percentage in 2016 were adversely affected by lower average selling prices in DynaEnergetics, a lower proportion of sales in DynaEnergetics relative to NobelClad, and the impact of higher research and development expenses in DynaEnergetics.

General and administrative expenses increased compared with 2015 primarily due to higher outside legal expenses in DynaEnergetics due to patent infringement and anti-dumping litigation.

Selling and distribution expenses decreased compared with 2015 principally due to lower salaries and benefits, a reduction in bad debt expense, and lower outside sales agent commissions in DynaEnergetics driven by sales volume in territories in which we do not have an internal sales team.

Restructuring expenses in 2016 related to severance for headcount reductions at DynaEnergetics' locations in Troisdorf, Germany and Austin, Texas, lease termination costs to exit administrative offices in Austin, Texas, costs related to relocation of perforating gun manufacturing operations in Germany, and the accelerated vesting of stock awards in connection with the elimination of certain positions. In 2015, restructuring expenses at NobelClad related to shifting of the majority of clad metal plate production from facilities in both Rivesaltes, France and Würgendorf, Germany to the new manufacturing facility in Liebenscheid, Germany. DynaEnergetics restructuring expenses related to the consolidation of perforating gun manufacturing centers, the closure of distribution centers, and the reduction of the administrative workforce at the corporate offices in Troisdorf, Germany. Corporate restructuring expenses relate to the elimination of certain positions in our corporate office and the severance and expense related to the acceleration of unvested stock awards.

Goodwill impairment charge in 2015 was to fully write off goodwill related to the DynaEnergetics segment. See "Critical Accounting Policies and Estimates" for further discussion.

Operating loss decreased compared with 2015 due to the goodwill impairment at DynaEnergetics combined with the accrual for anti-dumping and countervailing duties in 2015.

Other income (expense), net in 2016 principally consisted of realized and unrealized foreign currency gains. In 2015, other income (expense), net principally consisted of realized and unrealized foreign currency losses. Our subsidiaries frequently enter into inter-company and third party transactions that are denominated in currencies other than their functional currency. Changes in exchange rates with respect to these transactions will result in unrealized gains or losses if unsettled at the end of the reporting period or realized gains or losses at settlement of the transaction.

Interest income (expense), net decreased compared with 2015 primarily due to writing off \$508 of deferred debt issuance costs in December 2015 after entering into a credit facility amendment. Interest expense on our lines of credit was lower in 2016 from lower interest on a smaller average outstanding balance, partially offset by higher interest on the accrued anti-dumping and countervailing duties in DynaEnergetics.

Income tax provision of \$797 for 2016 compared to an income tax benefit of \$2,118 for 2015. We were unable to recognize tax benefits associated with losses incurred in certain jurisdictions due to valuation allowances recorded against deferred tax assets in those jurisdictions.

Net loss in 2016 was \$6,505, or \$0.46 per diluted share, compared with a net loss of \$23,971, or \$1.72 per diluted share, in 2015.

Adjusted EBITDA decreased compared with 2015 primarily due to the factors discussed above. See "Overview" above for the explanation of the use of Adjusted EBITDA. The following is a reconciliation of the most directly comparable GAAP measure to Adjusted EBITDA.

| | 2016 | 2015 |
|---|-------------------|--------------------|
| Net income | \$ (6,505) | \$ (23,971) |
| Interest expense | 1,070 | 1,745 |
| Interest income | (3) | (4) |
| Provision (benefit) for income taxes | 797 | (2,118) |
| Depreciation | 6,756 | 6,244 |
| Amortization of purchased intangible assets | 4,011 | 4,033 |
| EBITDA | 6,126 | (14,071) |
| Restructuring charges | 1,202 | 4,063 |
| Goodwill impairment charge | — | 11,464 |
| Accrued anti-dumping duties | — | 6,205 |
| DynaEnergetics inventory reserves | — | 1,924 |
| Stock-based compensation | 2,326 | 2,826 |
| Other (income) expense, net | (633) | 669 |
| Adjusted EBITDA | \$ 9,021 | \$ 13,080 |

Business Segment Financial Information

We primarily evaluate performance and allocate resources based on segment revenues, operating income and Adjusted EBITDA as well as projected future performance. Segment operating income (loss) is defined as revenues less expenses identifiable to the segment. DMC operating income (loss) and Adjusted EBITDA include unallocated corporate expenses and stock-based compensation expense, which are not allocated to our business segments. Segment operating income will reconcile to consolidated income (loss) before income taxes by deducting unallocated corporate expenses, including stock-based compensation, net other expense, net interest expense, and income tax provision (benefit).

For the years ended December 31, 2017, 2016 and 2015, the net sales, segment operating income or loss, and Adjusted EBITDA for each segment was as follows:

| | December 31, 2017 | | |
|-------------------------|-------------------|----------------|-----------------|
| | NobelClad | DynaEnergetics | DMC Global Inc. |
| Net Sales | \$ 71,550 | \$ 121,253 | \$ 192,803 |
| % of Consolidated | 37% | 63% | |
| Operating Income (Loss) | (17,360) | 15,470 | (12,260) |
| Adjusted EBITDA | 7,736 | 22,807 | 23,148 |

| | December 31, 2016 | | |
|-------------------------|-------------------|----------------|-----------------|
| | NobelClad | DynaEnergetics | DMC Global Inc. |
| Net Sales | \$ 91,285 | \$ 67,290 | \$ 158,575 |
| % of Consolidated | 58% | 42% | |
| Operating Income (Loss) | 8,878 | (5,380) | (5,274) |
| Adjusted EBITDA | 12,877 | 2,516 | 9,021 |

| | December 31, 2015 | | |
|-------------------------|-------------------|----------------|-----------------|
| | NobelClad | DynaEnergetics | DMC Global Inc. |
| Net Sales | \$ 89,980 | \$ 76,938 | \$ 166,918 |
| % of Consolidated | 54% | 46% | |
| Operating Income (Loss) | 5,819 | (19,245) | (23,679) |
| Adjusted EBITDA | 10,727 | 8,127 | 13,080 |

NobelClad

Year ended December 31, 2017 compared to Year Ended December 31, 2016

| | 2017 | 2016 | \$ change | % change |
|---|-----------|-----------|-------------|----------|
| Net sales | \$ 71,550 | \$ 91,285 | \$ (19,735) | -22 % |
| Gross profit | 15,644 | 19,103 | (3,459) | -18 % |
| Gross profit percentage | 21.9% | 20.9% | | |
| COSTS AND EXPENSES: | | | | |
| General and administrative expenses | 4,031 | 4,024 | 7 | — % |
| Selling and distribution expenses | 7,178 | 5,823 | 1,355 | 23 % |
| Amortization of purchased intangible assets | 386 | 378 | 8 | 2 % |
| Restructuring expenses | 3,825 | — | 3,825 | N/M |
| Goodwill impairment charge | 17,584 | — | 17,584 | N/M |
| Operating income (loss) | (17,360) | 8,878 | (26,238) | -296 % |
| Adjusted EBITDA | \$ 7,736 | \$ 12,877 | \$ (5,141) | -40 % |

Net sales decreased compared with 2016 due to a decline in core repair and maintenance orders from the downstream energy industry and absence of large-project bookings in 2017. Additionally, during the second quarter of 2016, NobelClad shipped a large project related to specialized explosion clad plates used in the fabrication of equipment for a semiconductor material production facility in East Asia.

Gross profit percentage increased compared with 2016 primarily due to better margins on the mix of projects in the current year.

Selling and distribution expenses increased compared with 2016 primarily from higher salaries and benefits due to increased investment in business growth resources and higher outside services expenses.

Restructuring expense related to the announced closure of NobelClad's manufacturing facility in France.

Goodwill impairment charge related to fully impairing NobelClad's goodwill balance.

Operating loss was primarily due to the goodwill impairment charge and the restructuring expenses combined with lower project volume and higher selling and distribution expenses.

Adjusted EBITDA declined due to the factors discussed above. See "Overview" above for the explanation of the use of Adjusted EBITDA. The following is a reconciliation of the most directly comparable GAAP measure to Adjusted EBITDA.

| | 2017 | 2016 |
|---------------------------------------|-------------|-----------|
| Operating (loss) income | \$ (17,360) | \$ 8,878 |
| Adjustments: | | |
| Restructuring expenses | 3,825 | — |
| Goodwill impairment charge | 17,584 | — |
| Depreciation | 3,301 | 3,621 |
| Amortization of purchased intangibles | 386 | 378 |
| Adjusted EBITDA | \$ 7,736 | \$ 12,877 |

Year ended December 31, 2016 compared to Year Ended December 31, 2015

| | 2016 | 2015 | \$ change | % change |
|---|-----------|-----------|-----------|----------|
| Net sales | \$ 91,285 | \$ 89,980 | \$ 1,305 | 1 % |
| Gross profit | 19,103 | 17,206 | 1,897 | 11 % |
| Gross profit percentage | 20.9% | 19.1% | | |
| COSTS AND EXPENSES: | | | | |
| General and administrative expenses | 4,024 | 4,539 | (515) | -11 % |
| Selling and distribution expenses | 5,823 | 5,719 | 104 | 2 % |
| Amortization of purchased intangible assets | 378 | 379 | (1) | — % |
| Restructuring expenses | — | 750 | (750) | -100 % |
| Operating income | 8,878 | 5,819 | 3,059 | 53 % |
| Adjusted EBITDA | \$ 12,877 | \$ 10,727 | \$ 2,150 | 20 % |

Net sales increased compared with 2015 primarily due to timing differences with respect to when orders entered our backlog and the subsequent shipment of these orders. During the second quarter of 2016, NobelClad shipped a large project related to specialized explosion clad plates to be used in the fabrication of equipment for a semiconductor material production facility in East Asia.

Gross profit percentage increased compared with 2015 primarily due to improved margins on NobelClad's mix of projects during 2016. Gross profit also benefited from lower manufacturing overhead expenses from the consolidation of European manufacturing facilities.

General and administrative expenses declined compared with 2015 primarily due to lower salaries and wages and outside service costs.

Selling and distribution expenses increased compared with 2015 principally due to higher salaries and wages partially offset by a reduction of bad debt expense.

Restructuring expenses in 2015 related to shifting the majority of clad metal plate production from facilities in both Rivesaltes, France and Würgendorf, Germany to the new manufacturing facility in Liebenscheid, Germany.

Operating income increased compared with 2015 primarily due to higher gross profit from favorable project mix, lower general and administrative expenses and no restructuring charges in 2016.

Adjusted EBITDA increased due to the factors discussed above. See "Overview" above for the explanation of the use of Adjusted EBITDA. The following is a reconciliation of the most directly comparable GAAP measure to Adjusted EBITDA.

| | 2016 | 2015 |
|---------------------------------------|-----------|-----------|
| Operating income | \$ 8,878 | \$ 5,819 |
| Adjustments: | | |
| Restructuring expenses | — | 750 |
| Depreciation | 3,621 | 3,779 |
| Amortization of purchased intangibles | 378 | 379 |
| Adjusted EBITDA | \$ 12,877 | \$ 10,727 |

DynaEnergetics

Year ended December 31, 2017 compared to Year Ended December 31, 2016

| | 2017 | 2016 | \$ change | % change |
|---|------------|-----------|-----------|----------|
| Net sales | \$ 121,253 | \$ 67,290 | \$ 53,963 | 80 % |
| Gross profit | 44,029 | 19,811 | 24,218 | 122 % |
| Gross profit percentage | 36.3% | 29.4% | | |
| COSTS AND EXPENSES: | | | | |
| General and administrative expenses | 13,373 | 9,964 | 3,409 | 34% |
| Selling and distribution expenses | 11,054 | 10,467 | 587 | 6 % |
| Amortization of purchased intangible assets | 3,674 | 3,633 | 41 | 1 % |
| Restructuring expenses | 458 | 1,128 | (670) | (59)% |
| Operating income (loss) | 15,470 | (5,381) | 20,851 | 387 % |
| Adjusted EBITDA | \$ 22,807 | \$ 2,515 | \$ 20,292 | 807 % |

Net sales increased compared with 2016 primarily due to a recovery in North America's onshore unconventional drilling and completion market and increased market penetration of DynaEnergetics' initiating systems and DynaStage perforating system.

Gross profit percentage increased compared with 2016 primarily due to higher average selling prices, improved product mix and the favorable impact of higher volume on fixed overhead expenses.

General and administrative expenses increased compared with 2016 primarily due to higher outside legal expenses related to patent infringement defense costs and higher salaries and wages from headcount additions and variable incentive compensation expense.

Selling and distribution expenses increased compared with 2016 primarily due to higher salaries and wages and higher outside service costs, partially offset by lower bad debt expense.

Restructuring expense in 2017 related to the closure of operations in Kazakhstan. Restructuring activity in 2016 related to severance for headcount reductions in Troisdorf, Germany and Austin, Texas and the accelerated vesting of stock awards in connection with the elimination of certain positions.

Operating income was \$15,470 in 2017 compared to an operating loss of \$5,380 in 2016 due to higher unit volume, favorable product mix and higher average selling prices, partially offset by increased general and administrative expenses.

Adjusted EBITDA increased compared with 2016 primarily due to the factors discussed above. See "Overview" above for the explanation of the use of Adjusted EBITDA. The following is a reconciliation of the most directly comparable GAAP measure to Adjusted EBITDA.

| | 2017 | 2016 |
|---------------------------------------|-----------|------------|
| Operating income (loss) | \$ 15,470 | \$ (5,381) |
| Adjustments: | | |
| Restructuring expenses | 458 | 1,128 |
| Depreciation | 3,205 | 3,135 |
| Amortization of purchased intangibles | 3,674 | 3,633 |
| Adjusted EBITDA | \$ 22,807 | \$ 2,515 |

Year ended December 31, 2016 compared to Year Ended December 31, 2015

| | 2016 | 2015 | \$ change | % change |
|---|-----------|-----------|------------|----------|
| Net sales | \$ 67,290 | \$ 76,938 | \$ (9,648) | (13)% |
| Gross profit | 19,811 | 18,662 | 1,149 | 6 % |
| Gross profit percentage | 29.4% | 24.3% | | |
| COSTS AND EXPENSES: | | | | |
| General and administrative expenses | 9,964 | 8,423 | 1,541 | 18 % |
| Selling and distribution expenses | 10,467 | 12,706 | (2,239) | (18)% |
| Amortization of purchased intangible assets | 3,633 | 3,654 | (21) | (1)% |
| Restructuring expenses | 1,128 | 1,660 | (532) | (32)% |
| Goodwill impairment charge | — | 11,464 | (11,464) | (100)% |
| Operating loss | (5,381) | (19,245) | 13,864 | 72 % |
| Adjusted EBITDA | \$ 2,515 | \$ 8,127 | \$ (5,612) | (69)% |

Net sales decreased compared with 2015 due to lower volume and average selling prices resulting from the lower demand for well completions in the oil and gas sector.

Gross profit percentage increased compared with 2015 primarily due to the impact of a \$6,205 accrual recorded in 2015 for anti-dumping and countervailing duties and favorable product mix in 2016 partially offset by lower average selling prices and higher research and development expenses.

General and administrative expenses increased compared with 2015 due to ongoing patent infringement and anti-dumping litigation costs and higher incentive compensation costs.

Selling and distribution expenses decreased compared with 2015 principally due to lower outside sales agents commission expense driven by sales volume in territories in which we do not have an internal sales force, lower bad debt expense, and lower salaries and wages including the impact of closing distribution centers in 2015.

Restructuring expense in 2016 related to severance for headcount reductions in Troisdorf, Germany and Austin, Texas and lease termination costs in Austin. Restructuring expense in 2015 related to the closure of a number of distribution centers in North America and Colombia and the closure of a perforating gun manufacturing facility and distribution center in Edmonton, Alberta.

Goodwill impairment charge in 2015 related to fully impairing DynaEnergetics' goodwill balance.

Operating loss declined compared to 2015 primarily due to the non-cash goodwill impairment charge and the accrual for anti-dumping and countervailing duties.

Adjusted EBITDA declined due to the factors discussed above. See "Overview" above for the explanation of the use of Adjusted EBITDA. The following is a reconciliation of the most directly comparable GAAP measure to Adjusted EBITDA.

| | 2016 | 2015 |
|---------------------------------------|------------|-------------|
| Operating loss | \$ (5,381) | \$ (19,245) |
| Adjustments: | | |
| Restructuring expenses | 1,128 | 1,660 |
| Goodwill impairment charge | — | 11,464 |
| Accrued anti-dumping duties | — | 6,205 |
| DynaEnergetics inventory reserves | — | 1,924 |
| Depreciation | 3,135 | 2,465 |
| Amortization of purchased intangibles | 3,633 | 3,654 |
| Adjusted EBITDA | \$ 2,515 | \$ 8,127 |

Liquidity and Capital Resources

We have historically financed our operations from a combination of internally generated cash flow, revolving credit borrowings, and various long-term debt arrangements. We believe that cash flow from operations and funds available under our current credit facilities and any future replacement thereof will be sufficient to fund the working capital, debt service, dividends, announced expansion plans for DynaEnergetics as well as other capital expenditure requirements of our current business operations for the foreseeable future. Nevertheless, our ability to generate sufficient cash flows from operations will depend upon our success in executing our strategies. If we are unable to (i) realize sales from our backlog; (ii) secure new customer orders; (iii) continue selling products at attractive margins; and (iv) continue to implement cost-effective internal processes, our ability to meet cash requirements through operating activities could be impacted. Also, continued heightened litigation costs or unfavorable court decisions in ongoing patent infringement litigation or anti-dumping and countervailing duties ("AD/CVD") matters could negatively impact our ability to meet future cash requirements. Furthermore, any restriction on the availability of borrowings under our credit facilities could negatively affect our ability to meet future cash requirements. In March 2017, we filed a shelf registration statement on Form S-3 with the Securities and Exchange Commission, which has been declared effective, and on which we registered for sale up to \$150 million of certain of our securities from time to time and on terms that we may determine in the future. Our ability to access this capital may be limited by market conditions at the time of any future potential offering. There can be no assurance that any such capital will be available on acceptable terms or at all.

We declared and paid quarterly dividends aggregating \$0.08 per share in 2017 and \$0.08 per share in 2016. We may pay quarterly dividends subject to capital availability and periodic determinations that cash dividends are in the best interests of our stockholders. Future dividends may be affected by, among other items, our views on potential future capital requirements, future business prospects, debt covenant compliance considerations, changes in income tax laws, and any other factors that our Board of Directors deems relevant. Any determination to pay cash dividends will be at the discretion of the Board of Directors.

Debt facilities

On March 8, 2018, we entered into a five-year \$75,000 syndicated credit agreement ("credit facility") which replaced in its entirety our prior syndicated credit facility entered into on February 23, 2015. The new credit facility allows for revolving loans of up to \$50,000 with a \$20,000 US dollar equivalent sublimit for alternative currency loans. In addition, the new agreement provides for a \$25,000 Capital Expenditure Facility ("Capex Facility") which is to be used to finance our DynaEnergetics manufacturing expansion project in Blum, Texas. The Capex facility allows for advances to fund capital expenditures of the Blum expansion project during year one of the credit facility. At the end of year one, the Capex Facility will convert to a term loan which will be amortizable at 12.5% of principal per year with a balloon payment for the outstanding balance upon the credit facility maturity date in year five. The new facility has a \$100,000 accordion feature to increase the commitments under the revolving loan class and/or by adding a term loan subject to approval by applicable lenders. We entered into the credit facility with a syndicate of three banks, with KeyBank, N.A. acting as administrative agent. The syndicated credit facility is secured by the assets of DMC including accounts receivable, inventory, and fixed assets, as well as guarantees and share pledges by DMC and its subsidiaries.

Borrowings under the \$50,000 revolving loan and \$25,000 Capex term loan can be in the form of one, two, three, or six month London Interbank Offered Rate ("LIBOR") loans. Additionally, US dollar borrowings on the revolving loan can be in the form of Base Rate loans (Base Rate borrowings are based on the greater of the administrative agent's Prime rates, an adjusted Federal Funds rates or an adjusted LIBOR rate). LIBOR loans bear interest at the applicable LIBOR rate plus an applicable margin (varying from 1.50% to 3.00%). Base Rate loans bear interest at the defined Base rate plus an applicable margin (varying from 0.50% to 2.00%).

Borrowings under the \$20,000 Alternate Currency sublimit can be in Euros, Canadian dollars, Pounds sterling, and in any other currency acceptable to the administrative agent. Alternative currency borrowings denominated in Euros, Pounds sterling, and any other currency that is dealt with on the London Interbank Deposit Market shall be comprised of LIBOR loans and bear interest at the LIBOR rate plus an applicable margin (varying from 1.50% to 3.00%).

The credit facility includes various covenants and restrictions, certain of which relate to the payment of dividends or other distributions to stockholders; redemption of capital stock; incurrence of additional indebtedness; mortgaging, pledging or disposition of major assets; and maintenance of specified ratios.

As of December 31, 2017, U.S. dollar revolving loans of \$18,250 were outstanding under our 2015 syndicated credit facility and our available borrowing capacity was approximately \$16,750.

The leverage ratio is defined in the 2015 syndicated credit facility, as amended, for any trailing four quarter period, as the ratio of Consolidated Funded Indebtedness (as defined in the agreement) on the last day of such period to Consolidated Pro Forma EBITDA for such period. The maximum leverage ratio permitted by our 2015 syndicated credit facility, as amended, is 3.0 to 1.0. The actual leverage ratio as of December 31, 2017, calculated in accordance with the 2015 syndicated credit facility, as amended, was 0.82 to 1.0.

The debt service coverage ratio is defined in the 2015 syndicated credit facility, as amended, for any trailing four quarter period, as the ratio of (x) Consolidated Pro Forma EBITDA for such period minus the sum of cash dividends, certain cash income taxes, and capital expenditures for such period to (y) the sum of cash interest expense for such period and scheduled principal payments of Consolidated Funded Indebtedness actually made during such period. The 2015 syndicated credit facility, as amended, required a minimum debt service coverage ratio of 1.35 to 1.0. The actual debt service coverage ratio for the trailing twelve months ended December 31, 2017, calculated in accordance with the 2015 syndicated credit facility, as amended, was 12.74 to 1.0.

Our 2015 syndicated credit facility also includes various other covenants and restrictions, certain of which relate to the payment of dividends or other distributions to stockholders, redemption of capital stock, incurrence of additional indebtedness, mortgaging, and pledging or disposition of major assets. As of December 31, 2017, we were in compliance with all financial covenants and other provisions of our credit facilities.

We also maintain a line of credit with a German bank for certain European operations. This line of credit provides a borrowing capacity of 4,000 Euros.

Other contractual obligations and commitments

The table below presents principal cash flows by expected maturity dates for our debt obligations and other contractual obligations and commitments as of December 31, 2017:

| | Payment Due by Period As of December 31, 2017 | | | | |
|------------------------------------|--|------------------|---------------|----------------------|------------------|
| | Less than 1 Year | 1-3 Years | 3-5 Years | More than 5 Years | Total |
| Other Contractual Obligations | | | | | |
| Multicurrency revolver (1) | \$ — | \$ 18,250 | \$ — | \$ — | \$ 18,250 |
| Operating lease obligations (2) | 1,365 | 1,625 | 832 | 100 | 3,922 |
| License agreements obligations (3) | 398 | 398 | — | — | 796 |
| Purchase obligations (4) | 29,099 | — | — | — | 29,099 |
| Total | \$ 30,862 | \$ 20,273 | \$ 832 | \$ 100 | \$ 52,067 |

(1) Represents outstanding borrowings under our U.S. dollar revolving line of credit. For more information about our debt obligations, see Note 3 "Debt" to our Consolidated Financial Statements.

(2) The operating lease obligations presented reflect future minimum lease payments due under non-cancelable portions of our leases as of December 31, 2017. Our operating lease obligations are described in Note 8 "Commitments and Contingencies" of the Notes to Consolidated Financial Statements.

(3) The license agreements obligations presented reflect future minimum payments due under non-cancelable portions of our agreements as of December 31, 2017. Our license agreements obligations are described in Note 8 "Commitments and Contingencies" of the Notes to Consolidated Financial Statements.

(4) Amounts represent commitments to purchase goods or services to be utilized in the normal course of business. These amounts are not reflected in the accompanying Consolidated Balance Sheets.

Cash flows from operating activities

Net cash provided by operating activities was \$6,747 in 2017 compared with \$18,198 for 2016. The decline primarily was due to increased net working capital requirements from higher sales and tendering \$3,049 in AD/CVD amounts to U.S. Customs in March 2017 pending ultimate resolution of the AD/CVD case.

Net cash provided by operating activities was \$18,198 in 2016 compared to \$1,618 in 2015. The year-over-year increase of \$16,580 was driven by an improvement in net working capital. We experienced favorable net working capital changes of \$10,081 in 2016 compared to unfavorable changes in net working capital of \$3,068 in 2015. Favorable changes in our 2016 net working capital included decreases of \$6,829, \$2,679 and \$1,002 in inventory, accounts receivable and prepaid expenses, respectively, and decreases of \$510 and \$223 in accrued expenses and other liabilities and in customer advances. The favorable working capital changes partially were offset by a decrease in accounts payable of \$1,338.

Cash flows from investing activities

Net cash flows used in investing activities in 2017 totaled \$6,184 and primarily consisted of acquisition of property, plant and equipment of \$4,025 for DynaEnergetics and \$1,584 for NobelClad.

Net cash flows used in investing activities in 2016 totaled \$5,702 and primarily consisted of acquisition of property, plant and equipment of \$4,448 for DynaEnergetics and \$1,217 for NobelClad.

Net cash flows used in investing activities in 2015 totaled \$5,326 and consisted of acquisition of property, plant and equipment of \$3,668 for DynaEnergetics and \$1,376 for NobelClad.

Cash flows from financing activities

Net cash flows provided by financing activities for 2017 totaled \$647, which included net borrowings on bank lines of credit of \$2,000, offset by payment of quarterly dividends of \$1,174.

Net cash flows used in financing activities for 2016 totaled \$12,107, which included net repayments on bank lines of credit of \$11,250 and payment of quarterly dividends of \$1,150.

Net cash flows provided by financing activities for 2015 totaled \$1,788, which included net borrowings on bank lines of credit of \$5,003, payment of quarterly dividends of \$2,260, and payment of deferred debt issuance costs of \$1,222.

Critical Accounting Policies and Estimates

Our historical Consolidated Financial Statements and notes to our historical Consolidated Financial Statements contain information that is pertinent to our management's discussion and analysis of financial condition and results of operations. Preparation of financial statements in conformity with accounting principles generally accepted in the United States requires that our management make estimates, judgments and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses, and the disclosure of contingent assets and liabilities. However, the accounting principles used by us generally do not change our reported cash flows or liquidity. Existing rules must be interpreted and judgments made on how the specifics of a given rule apply to us.

In management's opinion, the more significant reporting areas impacted by management's judgments and estimates are revenue recognition, asset impairments, goodwill and other intangible assets, and income taxes. Management's judgments and estimates in these areas are based on information available from both internal and external sources, and actual results could differ from the estimates, as additional information becomes known. We believe the following to be our most critical accounting policies.

Revenue recognition

Sales of clad metal products are generally based upon customer specifications set forth in customer purchase orders and require us to provide certifications relative to metals used, services performed and the results of any non-destructive testing that the customer has requested be performed. Issues of conformity of the product to specifications are resolved before the product is shipped and billed. Products related to the DynaEnergetics segment, which include detonating cords, detonators, bi-directional boosters and shaped charges, as well as seismic-related explosives and accessories, are standard in nature. In all cases, revenue is recognized only when all four of the following criteria have been satisfied: persuasive evidence of an arrangement exists; the price is fixed or determinable; delivery has occurred; and collection is reasonably assured.

In May 2014, the FASB issued a new standard related to revenue recognition. Under the standard, revenue is recognized when a customer obtains control of promised goods or services in an amount that reflects the consideration the Company expects to receive in exchange for those goods or services. In addition, the standard requires disclosure of the nature, amount, timing, and uncertainty of revenue and cash flows arising from contracts with customers.

The standard will be effective for the Company on January 1, 2018. The standard can be adopted using either of two methods: (1) retrospective application to each prior reporting period presented with the option to elect certain practical expedients, as defined within the standard ("full retrospective") or (2) retrospective application with the cumulative effect of adoption recognized at the date of initial application and providing certain additional disclosures, as defined within the standard ("modified retrospective"). The Company will adopt the standard using the modified retrospective approach.

In preparation for adoption of the standard, the Company analyzed contracts from the NobelClad and DynaEnergetics segments to determine the technical accounting conclusions and the impact of the new revenue standard. In our NobelClad business, contracts are often for unique projects, but the vast majority of contracts contain standard terms and conditions. In our DynaEnergetics business, we sell a range of products to a wide variety of customers, but the contracts also often contain similar terms and conditions. We have reviewed NobelClad and DynaEnergetics revenue contracts and have concluded that applying the new standard will not have a material impact on our financial statements. The impact to our financial statements is not material because the analysis of our contracts under the new revenue recognition supports the recognition of revenue consistent with our current approach. Going forward, revenue on our contracts will continue to be recognized at the invoice price upon delivery to a customer because that is when our performance obligation is satisfied.

Inventories

Inventories are stated at the lower-of-cost (first-in, first-out) or net realizable value. Significant cost elements included in inventory are material, labor, freight, subcontract costs, and manufacturing overhead. As necessary, we record provisions and maintain reserves for excess, slow moving and obsolete inventory. To determine reserve amounts, we regularly review inventory quantities on hand and values, and compare them to estimates of future product demand, market conditions, production requirements and technological developments.

Asset impairments

Finite-lived assets are tested for impairment whenever events or changes in circumstances indicate that their carrying value may not be recoverable. We compare the expected undiscounted future operating cash flows associated with these finite-lived assets to their respective carrying values to determine if they are fully recoverable when indicators of impairment are present. If the expected future operating cash flows of an asset are not sufficient to recover the carrying value, we estimate the fair value of the asset. Impairment is recognized when the carrying amount of the asset is not recoverable and when carrying value exceeds fair value. Long-lived assets to be disposed of, if any, are reported at the lower of carrying amount or fair value less cost to sell.

In association with the 2015 and 2017 goodwill impairments, we tested finite-lived assets for impairment, and found that the carrying amounts of assets at the lowest level of identifiable cash flows, in this case our reporting units, are fully recoverable.

Business Combinations

We account for our business acquisitions using the purchase method of accounting. We allocate the total cost of the acquisition to the underlying net assets based on their respective estimated fair values. As part of this allocation process, we identify and attribute values and estimated lives to the intangible assets acquired. These determinations involve significant estimates and assumptions regarding multiple, highly subjective variables, including those with respect to future cash flows, discount rates, asset lives, and the use of different valuation models, and therefore require considerable judgment. Our estimates and assumptions are based, in part, on the availability of listed market prices or other transparent market data. These determinations affect the amount of amortization expense recognized in future periods. We base our fair value estimates on assumptions we believe to be reasonable but are inherently uncertain.

Goodwill

Goodwill represents the excess of the purchase price in a business combination over the fair value of the net tangible and intangible assets acquired. The carrying value of goodwill is periodically reviewed for impairment (at a minimum annually) and whenever events or changes in circumstances indicate that the carrying amount of the asset may not be recoverable. Examples of such events or changes in circumstances, many of which are subjective in nature, include significant negative industry or economic trends, significant changes in the manner of our use of the acquired assets or our strategy, a significant decrease in the market value of the asset, and a significant change in legal factors or in the business climate that could affect the value of the asset.

Our reporting units for goodwill impairment testing are currently the same as our reportable business segments: NobelClad and DynaEnergetics. Each business segment represents separately managed strategic business units, and our chief operating decision maker, our Chief Executive Officer, reviews financial results and evaluates operating performance at this level.

Goodwill impairment testing is performed annually as of December 31. We utilize an income approach (discounted cash flow analysis) to determine the fair value of each reporting unit. We believe the discounted cash flow approach is the most reliable indicator of fair value for our reporting units. The key assumptions used in the discounted cash flows for both reporting units include, among other measures, expected future sales, operating income, working capital and capital expenditures. Discount rates are determined using a peer-based, risk-adjusted weighted average cost of capital. Our approach also includes reviewing for reasonableness the total market capitalization of the Company as of December 31 to the sum of the discounted cash flows for the combined reporting units.

As required under Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) 350, "Goodwill and Other Intangible Assets", we routinely review the carrying value of our net assets, including goodwill, to determine if any impairment has occurred. At June 30, 2017, we conducted a quantitative assessment, at which time, based on existing conditions and management's outlook, we determined there was no impairment of NobelClad's goodwill. In the third quarter of 2017, activity in NobelClad's primary end markets slowed considerably. NobelClad experienced a significant decline in its small size core maintenance bookings within the oil and gas industry. Additionally, certain large petrochemical projects previously forecasted to ship in the next twelve months were delayed, and uncertainty existed as to the ultimate timing of booking and shipping these potential orders. As a result, we determined that a potential indicator of goodwill impairment existed during the third quarter of 2017. We utilized an income approach (discounted cash flow analysis) to determine the fair value of the NobelClad reporting unit and concluded that our long-term forecasts were not materializing and needed to be revised downward.

We determined that the estimated fair value of the NobelClad reporting unit was less than its carrying value primarily due to the factors described above and their related impact on expected future cash flows. During the third quarter, we adopted Accounting Standards Update ("ASU") 2017-04 which amends and simplifies how an entity measures a goodwill impairment loss by eliminating step two from the goodwill impairment test. As the carrying value of the NobelClad reporting unit exceeded the fair value by more than the book value of goodwill, we recorded an impairment charge of \$17,584 to fully impair the goodwill related to this reporting unit as of September 30, 2017.

During the fourth quarter of 2015, we observed a decrease in the market capitalization of the Company, thereby providing a potential indicator of impairment, which coincided with our 2015 annual goodwill impairment tests. As a result of our impairment testing, we found that the fair value of the DynaEnergetics reporting unit was less than its carrying value due primarily to the sustained decline in global oil prices, expected reduction in exploration and production activities of certain of our customers, and the impact these factors had on our expected future cash flows. We valued the assets of DynaEnergetics and, based on the results of that valuation, recorded a goodwill impairment charge of \$11,464, representing the entire goodwill balance as of December 31, 2015. The NobelClad reporting unit had a fair value that exceeded carrying value by approximately 19%. No impairment of goodwill was identified in connection with our 2016 annual goodwill impairment tests.

Income taxes

We recognize deferred tax assets and liabilities for the expected future income tax consequences of temporary differences between the financial reporting and tax bases of assets and liabilities. Any effects of changes in income tax rates or tax laws are included in the provision for income taxes in the period of enactment. The deferred income tax impact of tax credits are recognized as an immediate adjustment to income tax expense. We recognize deferred tax assets for the expected future effects of all deductible temporary differences to the extent we believe these assets will more likely than not be realized. We record a valuation allowance when, based on current circumstances, it is more likely than not that all or a portion of the deferred tax assets will not be realized. In making such determination, we consider all available positive and negative evidence, including future reversals of existing taxable temporary differences, projected future taxable income, tax planning strategies, recent financial operations and their associated valuation allowances, if any.

We recognize the tax benefits from uncertain tax positions only when it is more likely than not, based on the technical merits of the position, the tax position will be sustained upon examination, including the resolution of any related appeals or litigation. The tax benefits recognized in the Consolidated Financial Statements from such a position are measured as the largest benefit that is more likely than not to be realized upon ultimate resolution. We recognize interest and penalties related to uncertain tax positions in operating expense.

Off Balance Sheet Arrangements

At December 31, 2017, we had no off-balance sheet arrangements, as defined by SEC rules, that have or are reasonably likely to have a material current or future effect on our financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources.

Recent Accounting Pronouncements

Please refer to Note 2 "Significant Accounting Policies" to our Consolidated Financial Statements in this annual report for a discussion of recent accounting pronouncements and their anticipated effect on our business.

ITEM 7A. Quantitative and Qualitative Disclosures about Market Risk

Foreign Currency Risk

Our Consolidated Financial Statements are expressed in U.S. dollars, but a portion of our business is conducted in currencies other than U.S. dollars. Changes in the exchange rates for such currencies into U.S. dollars can affect our revenues, earnings, and the carrying value of our assets and liabilities in our Consolidated Balance Sheets, either positively or negatively. Sales made in currencies other than U.S. dollars accounted for 28%, 28%, and 23% of total sales for the years ended 2017, 2016, and 2015, respectively. As a result of foreign currency risk, we may experience economic loss and a negative impact on earnings and equity with respect to our holdings solely as a result of foreign currency exchange rate fluctuations. Our primary exposure to foreign currency risk is the Euro due to the percentage of our U.S. dollar revenue that is derived from countries where the Euro is the functional currency and the Russian Ruble due to DynaEnergetics' manufacturing and sales operations in Tyumen, Siberia.

We use foreign currency forward contracts to offset foreign exchange rate fluctuation on foreign currency denominated asset and liability positions. Foreign currency forward contracts are sensitive to changes in foreign currency exchange rates. Consistent with the use of these contracts to neutralize the effect of exchange rate fluctuations, such unrealized losses or gains would be offset by corresponding gains or losses, respectively, in the remeasurement of the asset and liability positions being hedged. As such, these forward currency contracts and the offsetting underlying asset and liability positions do not create material market risk.

ITEM 8. Financial Statements and Supplementary Data**DMC GLOBAL INC.
INDEX TO CONSOLIDATED FINANCIAL STATEMENTS****As of December 31, 2017 and 2016 and for Each of the Three Years Ended
December 31, 2017, 2016 and 2015**

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The consolidated financial statement schedules required by Regulation S-X are filed under Item 15 "Exhibits and Financial Statement Schedules".

To The Shareholders and the
Board of Directors of DMC Global Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of DMC Global Inc. (the Company) as of December 31, 2017 and 2016, and the related consolidated statements of operations, comprehensive income (loss), stockholders' equity and cash flows for each of the three years in the period ended December 31, 2017, and the related notes and financial statement schedules listed in the Index at Item 15(a) (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2017 and 2016, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2017, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2017, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework), and our report dated March 8, 2018 expressed an unqualified opinion thereon.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 2002.

Denver, Colorado
March 8, 2018

DMC GLOBAL INC.
CONSOLIDATED BALANCE SHEETS
(Amounts in Thousands, Except Share and Per Share Data)

| | As of December 31, | |
|--|--------------------|-------------------|
| | 2017 | 2016 |
| ASSETS | | |
| CURRENT ASSETS: | | |
| Cash and cash equivalents | \$ 8,983 | \$ 6,419 |
| Accounts receivable, net of allowance for doubtful accounts of \$1,088 and \$1,146, respectively | 49,468 | 32,959 |
| Inventory, net | 35,742 | 28,833 |
| Prepaid expenses and other | 5,763 | 5,148 |
| Total current assets | 99,956 | 73,359 |
| PROPERTY, PLANT AND EQUIPMENT | 121,339 | 109,427 |
| Less - accumulated depreciation | (61,467) | (52,294) |
| Property, plant and equipment, net | 59,872 | 57,133 |
| GOODWILL, net | — | 16,097 |
| PURCHASED INTANGIBLE ASSETS, net | 12,861 | 15,827 |
| DEFERRED TAX ASSETS | 98 | — |
| OTHER ASSETS, net | 296 | 139 |
| TOTAL ASSETS | \$ 173,083 | \$ 162,555 |

The accompanying notes are an integral part of these Consolidated Financial Statements.

DMC GLOBAL INC.
CONSOLIDATED BALANCE SHEETS
(Amounts in Thousands, Except Share and Per Share Data)

| | As of December 31, | |
|--|--------------------|-------------------|
| | 2017 | 2016 |
| LIABILITIES AND STOCKHOLDERS' EQUITY | | |
| CURRENT LIABILITIES: | | |
| Accounts payable | \$ 19,826 | \$ 13,260 |
| Accrued expenses | 6,884 | 4,173 |
| Accrued anti-dumping duties | 3,609 | 6,550 |
| Dividend payable | 295 | 290 |
| Accrued income taxes | 2,939 | 548 |
| Accrued employee compensation and benefits | 6,186 | 3,307 |
| Customer advances | 5,888 | 2,619 |
| Total current liabilities | 45,627 | 30,747 |
| LINES OF CREDIT | 17,984 | 15,732 |
| DEFERRED TAX LIABILITIES | 573 | 1,448 |
| OTHER LONG-TERM LIABILITIES | 3,119 | 2,219 |
| Total liabilities | 67,303 | 50,146 |
| COMMITMENTS AND CONTINGENT LIABILITIES (See Note 8) | — | — |
| STOCKHOLDERS' EQUITY: | | |
| Preferred stock, \$0.05 par value; 4,000,000 shares authorized; no issued and outstanding shares | — | — |
| Common stock, \$0.05 par value; 25,000,000 shares authorized; 14,782,018 and 14,496,359 shares outstanding, respectively | 741 | 725 |
| Additional paid-in capital | 76,146 | 73,116 |
| Retained earnings | 60,074 | 80,107 |
| Other cumulative comprehensive loss | (30,819) | (41,514) |
| Treasury stock, at cost; 39,783 and 2,378 shares, respectively | (362) | (25) |
| Total stockholders' equity | 105,780 | 112,409 |
| TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY | \$ 173,083 | \$ 162,555 |

The accompanying notes are an integral part of these Consolidated Financial Statements.

DMC GLOBAL INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
(Amounts in Thousands, Except Share and Per Share Data)

| | Year Ended December 31, | | |
|--|-------------------------|------------|------------|
| | 2017 | 2016 | 2015 |
| NET SALES | \$ 192,803 | \$ 158,575 | \$ 166,918 |
| COST OF PRODUCTS SOLD | 133,412 | 119,895 | 131,294 |
| Gross profit | 59,391 | 38,680 | 35,624 |
| COSTS AND EXPENSES: | | | |
| General and administrative expenses | 27,135 | 22,115 | 20,998 |
| Selling and distribution expenses | 18,589 | 16,626 | 18,745 |
| Amortization of purchased intangible assets | 4,060 | 4,011 | 4,033 |
| Restructuring expenses | 4,283 | 1,202 | 4,063 |
| Goodwill impairment charge | 17,584 | — | 11,464 |
| Total costs and expenses | 71,651 | 43,954 | 59,303 |
| OPERATING LOSS | (12,260) | (5,274) | (23,679) |
| OTHER INCOME (EXPENSE): | | | |
| Other income (expense), net | (1,376) | 633 | (669) |
| Interest expense | (1,651) | (1,070) | (1,745) |
| Interest income | 3 | 3 | 4 |
| LOSS BEFORE INCOME TAXES | (15,284) | (5,708) | (26,089) |
| INCOME TAX PROVISION (BENEFIT) | 3,569 | 797 | (2,118) |
| NET LOSS | (18,853) | (6,505) | (23,971) |
| LOSS PER SHARE | | | |
| Basic | \$ (1.31) | \$ (0.46) | \$ (1.72) |
| Diluted | \$ (1.31) | \$ (0.46) | \$ (1.72) |
| WEIGHTED AVERAGE NUMBER OF SHARES OUTSTANDING: | | | |
| Basic | 14,346,851 | 14,126,108 | 13,935,097 |
| Diluted | 14,346,851 | 14,126,108 | 13,935,097 |
| DIVIDENDS DECLARED PER COMMON SHARE | \$ 0.08 | \$ 0.08 | \$ 0.14 |

The accompanying notes are an integral part of these Consolidated Financial Statements.

DMC GLOBAL INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(Amounts in Thousands)

| | Year Ended December 31, | | |
|--|-------------------------|------------|-------------|
| | 2017 | 2016 | 2015 |
| Net loss | \$ (18,853) | \$ (6,505) | \$ (23,971) |
| Change in cumulative foreign currency translation adjustment | 10,695 | (1,049) | (13,869) |
| Total comprehensive loss | \$ (8,158) | \$ (7,554) | \$ (37,840) |

The accompanying notes are an integral part of these Consolidated Financial Statements.

DMC GLOBAL INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(Amounts in Thousands, Except Share Data)

DMC Global Inc. Stockholders

| | Common Stock | | Additional Paid-In Capital | Retained Earnings | Other Cumulative Comprehensive Loss | Treasury Stock | | Total |
|--|--------------|--------|----------------------------------|----------------------|--|----------------|----------|------------|
| | Shares | Amount | | | | Shares | Amount | |
| Balances, December 31, 2014 | 13,997,076 | \$ 700 | \$ 67,088 | \$ 113,723 | \$ (26,596) | — | \$ — | \$ 154,915 |
| Net loss | — | — | — | (23,971) | — | — | — | (23,971) |
| Change in cumulative foreign currency translation adjustment | — | — | — | — | (13,869) | — | — | (13,869) |
| Shares issued in connection with stock compensation plans | 215,039 | 11 | 261 | — | — | — | — | 272 |
| Tax impact of stock-based compensation | — | — | (303) | — | — | — | — | (303) |
| Stock-based compensation | — | — | 3,362 | — | — | — | — | 3,362 |
| Dividends declared | — | — | — | (1,985) | — | — | — | (1,985) |
| Balances, December 31, 2015 | 14,212,115 | \$ 711 | \$ 70,408 | \$ 87,767 | \$ (40,465) | — | \$ — | \$ 118,421 |
| Net loss | — | — | — | (6,505) | — | — | — | (6,505) |
| Change in cumulative foreign currency translation adjustment | — | — | — | — | (1,049) | — | — | (1,049) |
| Shares issued in connection with stock compensation plans | 286,622 | 14 | 308 | — | — | — | — | 322 |
| Stock-based compensation | — | — | 2,400 | — | — | — | — | 2,400 |
| Dividends declared | — | — | — | (1,155) | — | — | — | (1,155) |
| Treasury stock purchases | — | — | — | — | — | (2,378) | (25) | (25) |
| Balances, December 31, 2016 | 14,498,737 | \$ 725 | \$ 73,116 | \$ 80,107 | \$ (41,514) | (2,378) | \$ (25) | \$ 112,409 |
| Net loss | — | — | — | (18,853) | — | — | — | (18,853) |
| Change in cumulative foreign currency translation adjustment | — | — | — | — | 10,695 | — | — | 10,695 |
| Shares issued in connection with stock compensation plans | 323,064 | 16 | 280 | — | — | — | — | 296 |
| Stock-based compensation | — | — | 2,750 | — | — | — | — | 2,750 |
| Dividends declared | — | — | — | (1,180) | — | — | — | (1,180) |
| Treasury stock purchases | — | — | — | — | — | (37,405) | (337) | (337) |
| Balances, December 31, 2017 | 14,821,801 | \$ 741 | \$ 76,146 | \$ 60,074 | \$ (30,819) | (39,783) | \$ (362) | \$ 105,780 |

The accompanying notes are an integral part of these Consolidated Financial Statements.

DMC GLOBAL INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Amounts in Thousands)

| | Year Ended December 31, | | |
|---|-------------------------|------------|-------------|
| | 2017 | 2016 | 2015 |
| CASH FLOWS FROM OPERATING ACTIVITIES: | | | |
| Net loss | \$ (18,853) | \$ (6,505) | \$ (23,971) |
| Adjustments to reconcile net loss to net cash provided by operating activities: | | | |
| Depreciation (including capital lease amortization) | 6,506 | 6,756 | 6,244 |
| Amortization of purchased intangible assets | 4,060 | 4,011 | 4,033 |
| Amortization and write-off of deferred debt issuance costs | 390 | 156 | 752 |
| Stock-based compensation | 2,975 | 2,326 | 2,826 |
| Deferred income tax benefit | (556) | (284) | (725) |
| (Gain) loss on disposal of property, plant and equipment | 125 | 455 | (23) |
| Restructuring and asset impairment expenses | 4,283 | 1,202 | 4,063 |
| Goodwill impairment charge | 17,584 | — | 11,464 |
| Transition tax liability | 946 | — | — |
| Other | — | — | 23 |
| Change in: | | | |
| Accounts receivable, net | (14,425) | 2,679 | (2,394) |
| Inventory, net | (5,294) | 6,829 | 1,386 |
| Prepaid expenses and other | (440) | 1,002 | (3,570) |
| Accounts payable | 5,216 | (1,338) | 758 |
| Customer advances | 3,207 | 223 | (857) |
| Accrued anti-dumping duties | (2,941) | 176 | 6,374 |
| Accrued expenses and other liabilities | 3,964 | 510 | (4,765) |
| Net cash provided by operating activities | 6,747 | 18,198 | 1,618 |
| CASH FLOWS FROM INVESTING ACTIVITIES: | | | |
| Acquisition of property, plant and equipment | (6,186) | (5,719) | (5,433) |
| Proceeds on sale of property, plant and equipment | 2 | 26 | — |
| Change in other non-current assets | — | (9) | 107 |
| Net cash used in investing activities | (6,184) | (5,702) | (5,326) |
| CASH FLOWS FROM FINANCING ACTIVITIES: | | | |
| Borrowings (payments) on lines of credit | 2,000 | (11,250) | 5,003 |
| Payment on capital lease obligations | — | (4) | (5) |
| Payment of dividends | (1,174) | (1,150) | (2,260) |
| Payment of deferred debt issuance costs | (138) | — | (1,222) |
| Net proceeds from issuance of common stock to employees and directors | 296 | 322 | 272 |
| Treasury stock purchases | (337) | (25) | — |
| Net cash provided by (used in) financing activities | 647 | (12,107) | 1,788 |
| EFFECTS OF EXCHANGE RATES ON CASH | 1,354 | (261) | (1,189) |
| NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS | 2,564 | 128 | (3,109) |
| CASH AND CASH EQUIVALENTS, beginning of the period | 6,419 | 6,291 | 9,400 |
| CASH AND CASH EQUIVALENTS, end of the period | 8,983 | 6,419 | 6,291 |
| SUPPLEMENTAL DISCLOSURE OF CASH FLOW INFORMATION: | | | |
| Cash paid during the period for - | | | |
| Interest | \$ 1,150 | \$ 575 | \$ 624 |
| Income taxes, net | \$ 124 | \$ 354 | \$ 2,491 |

The accompanying notes are an integral part of these Consolidated Financial Statements.

DMC GLOBAL INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
DECEMBER 31, 2017
(Amounts in Thousands, Except Share and Per Share Data)

1. ORGANIZATION AND BUSINESS

DMC Global Inc. ("DMC", "we", "us", "our", or the "Company") was incorporated in the state of Colorado in 1971 and reincorporated in the state of Delaware in 1997. DMC is headquartered in Boulder, Colorado and has manufacturing facilities in the United States, Germany, France, and Russia. Customers are located throughout the world. DMC currently operates two business segments: NobelClad and DynaEnergetics. NobelClad metallurgically joins or alters metals by using explosives. DynaEnergetics manufactures, markets, and sells oilfield perforating equipment and explosives.

Restructuring

Throughout 2015, 2016, and 2017 we restructured operations within NobelClad and DynaEnergetics and eliminated positions within our corporate office. See Note 9 "Restructuring" for additional disclosures regarding these restructuring charges.

2. SIGNIFICANT ACCOUNTING POLICIES

Principles of Consolidation

The Consolidated Financial Statements include the accounts of DMC and its controlled subsidiaries. Only subsidiaries in which controlling interests are maintained are consolidated. All significant intercompany accounts, profits, and transactions have been eliminated in consolidation.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States (U.S. GAAP) requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from these estimates.

Foreign Operations and Foreign Exchange Rate Risk

The functional currency for our foreign operations is the applicable local currency for each affiliate company. Assets and liabilities of foreign subsidiaries for which the functional currency is the local currency are translated at exchange rates in effect at period-end, and the statements of operations are translated at the average exchange rates during the period. Exchange rate fluctuations on translating foreign currency financial statements into U.S. dollars that result in unrealized gains or losses are referred to as translation adjustments. Cumulative translation adjustments are recorded as a separate component of stockholders' equity and are included in other cumulative comprehensive loss. Transactions denominated in currencies other than the functional currency are recorded based on exchange rates at the time such transactions arise. Subsequent changes in exchange rates result in transaction gains and losses, which are reflected in other income (expense) as unrealized (based on period-end translations) or realized upon settlement of the transactions. Cash flows from our operations in foreign countries are translated at actual exchange rates when known, or at the average rate for the period. As a result, amounts related to assets and liabilities reported in the Consolidated Statements of Cash Flows will not agree to changes in the corresponding balances in the Consolidated Balance Sheets. The effects of exchange rate changes on cash balances held in foreign currencies are reported as a separate line item below cash flows from financing activities.

Cash and Cash Equivalents

For purposes of the Consolidated Financial Statements, we consider highly liquid investments purchased with an original maturity of three months or less to be cash equivalents.

Accounts Receivable

We review our accounts receivable balance routinely to identify any specific customers with collectability issues. In circumstances where we are aware of a specific customer's inability to meet its financial obligation to us, we record a specific

allowance for doubtful accounts (with the offsetting expense charged to selling and distribution expenses in our Consolidated Statements of Operations) against the amounts due reducing the net recognized receivable to the amount we estimate will be collected.

Inventories

Inventories are stated at the lower-of-cost (first-in, first-out) or net realizable value. Significant cost elements included in inventory are material, labor, freight, subcontract costs, and manufacturing overhead. As necessary, we record provisions and maintain reserves for excess, slow moving and obsolete inventory. To determine reserve amounts, we regularly review inventory quantities on hand and values, and compare them to estimates of future product demand, market conditions, production requirements and technological developments.

For the twelve months ended December 31, 2017, 2016, and 2015, changes in our inventory reserves as recognized in our Consolidated Balance Sheets and Statements of Operations consisted of the following:

| | 2017 | 2016 | 2015 |
|--|------------|--------|--------|
| (Decrease) increase in inventory reserve | \$ (1,158) | \$ 544 | \$ 565 |
| Expense recorded | (22) | 1,738 | 1,952 |

Inventories, net of reserves of \$3,068 and \$4,226 most of which related to finished goods, consist of the following at December 31, 2017 and 2016 respectively:

| | 2017 | 2016 |
|-----------------|------------------|------------------|
| Raw materials | \$ 16,255 | \$ 10,926 |
| Work-in-process | 6,120 | 5,417 |
| Finished goods | 13,049 | 12,146 |
| Supplies | 318 | 344 |
| | <u>\$ 35,742</u> | <u>\$ 28,833</u> |

Shipping and handling costs incurred by us upon shipment to customers are included in cost of products sold in the accompanying Consolidated Statements of Operations.

Property, Plant and Equipment

Property, plant and equipment are recorded at cost, except for assets acquired in acquisitions which are recorded at fair value. Additions and improvements are capitalized. Maintenance and repairs are charged to operations as costs are incurred. Depreciation is computed using the straight-line method over the estimated useful life of the related asset (except leasehold improvements which are depreciated over the shorter of their estimated useful life or the lease term) as follows:

| | |
|---|-------------|
| Buildings and improvements | 15-30 years |
| Manufacturing equipment and tooling | 3-15 years |
| Furniture, fixtures, and computer equipment | 3-10 years |
| Other | 3-10 years |

Gross property, plant and equipment consist of the following at December 31, 2017 and 2016:

| | 2017 | 2016 |
|--|-------------------|-------------------|
| Land | \$ 3,560 | \$ 3,654 |
| Buildings and improvements | 46,270 | 41,952 |
| Manufacturing equipment and tooling | 46,814 | 42,851 |
| Furniture, fixtures and computer equipment | 17,266 | 15,997 |
| Other | 3,296 | 4,152 |
| Construction in process | 4,133 | 821 |
| | <u>\$ 121,339</u> | <u>\$ 109,427</u> |

Asset Impairments

Finite-lived assets are tested for impairment whenever events or changes in circumstances indicate that their carrying value may not be recoverable. We compare the expected undiscounted future operating cash flows associated with these finite-lived assets to their respective carrying values to determine if they are fully recoverable when indicators of impairment are present. If the expected future operating cash flows of an asset are not sufficient to recover the carrying value, we estimate the fair value of the asset. Impairment is recognized when the carrying amount of the asset is not recoverable and when carrying value exceeds fair value. Long-lived assets to be disposed of, if any, are reported at the lower of carrying amount or fair value less cost to sell.

For the year ended December 31, 2017, we recognized an impairment charge of approximately \$1,241 (recorded in restructuring expenses) associated with restructuring our NobelClad operations in France, related to assets used in the explosion cladding process. The fair value of applicable French assets upon which an impairment charge was taken was primarily based upon the utilization of a third-party appraiser. For the year ended December 31, 2015, we recognized an impairment charge of approximately \$205 (recorded in restructuring expenses) associated with restructuring our DynaEnergetics operations in Canada and Colombia. The impairment charges were primarily associated with assets used in the perforating gun manufacturing facility and distribution center in Edmonton, Alberta and the distribution centers in Colombia, all of which were closed under the restructuring program (See Note 9 "Restructuring").

Goodwill

Goodwill represents the excess of the purchase price in a business combination over the fair value of the net tangible and intangible assets acquired. The carrying value of goodwill is periodically reviewed for impairment (at a minimum annually) and whenever events or changes in circumstances indicate that the carrying amount of the asset may not be recoverable. Examples of such events or changes in circumstances, many of which are subjective in nature, include significant negative industry or economic trends, significant changes in the manner of our use of the acquired assets or our strategy, a significant decrease in the market value of the assets, and a significant change in legal factors or in the business climate that could affect the value of the assets.

Our reporting units for goodwill impairment testing are the same as our reportable business segments: NobelClad and DynaEnergetics. Each business segment represents separately managed strategic business units and our chief operating decision maker, our Chief Executive Officer, reviews financial results and evaluates operating performance at this level. Goodwill impairment testing is performed annually as of December 31.

As required under Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") 350, "Goodwill and Other Intangible Assets", we routinely review the carrying value of our net assets, including goodwill, to determine if any impairment has occurred. At June 30, 2017, we conducted a quantitative assessment, at which time, based on existing conditions and management's outlook, we determined there was no impairment of NobelClad's goodwill. In the third quarter of 2017, activity in NobelClad's primary end markets slowed considerably. NobelClad experienced a significant decline in its small size core maintenance bookings within the oil and gas industry. Additionally, certain large petrochemical projects previously forecasted to ship in the next twelve months were delayed, and uncertainty existed as to the ultimate timing of booking and shipping these potential orders. As a result, we determined that a potential indicator of goodwill impairment existed during the third quarter of 2017. We utilized an income approach (discounted cash flow analysis) to determine the fair value of the NobelClad reporting unit and concluded that our long-term forecasts were not materializing and needed to be

revised downward. We believe the discounted cash flow approach is the most reliable indicator of fair value. The key assumptions used in the discounted cash flow analysis included, among other measures, expected future sales, operating income, working capital and capital expenditures. The discount rate was determined using a peer-based, risk-adjusted weighted average cost of capital.

We determined that the estimated fair value of the NobelClad reporting unit was less than its carrying value primarily due to the factors described above and their related impact on expected future cash flows. During the third quarter, we adopted FASB accounting standards update ("ASU") 2017-04 which amends and simplifies how an entity measures a goodwill impairment loss by eliminating step two from the goodwill impairment test. As the carrying value of the NobelClad reporting unit exceeded the fair value by more than the book value of goodwill, we recorded an impairment charge of \$17,584 to fully impair the goodwill related to this reporting unit as of September 30, 2017.

No impairment of goodwill was identified in connection with our 2016 annual goodwill impairment test as our estimated fair value exceeded the carrying value.

During the fourth quarter of 2015, we observed a decrease in the market capitalization of the Company, thereby providing a potential indicator of impairment, which coincided with our 2015 annual goodwill impairment tests. We utilized an income approach (discounted cash flow analysis) to determine the fair value of each reporting unit.

We determined that the fair value of the DynaEnergetics reporting unit was less than its carrying value due primarily to the sustained decline in global oil prices at the time, expected reduction in exploration and production activities of certain of our customers, and the impact these factors had on our expected future cash flows. We valued the assets of DynaEnergetics with the assistance of a third-party valuation specialist, and based on the results of that valuation, we recorded a goodwill impairment charge of \$11,464 to impair fully the goodwill related to the DynaEnergetics reporting unit. As of December 31, 2015, the fair value of the NobelClad reporting unit exceeded the carrying value of its net assets.

The changes to the carrying amount of goodwill during the periods are summarized below. For the periods presented, all of the changes were within our NobelClad segment.

| | | |
|--|----|----------|
| Goodwill balance at December 31, 2015 | \$ | 17,190 |
| Adjustment due to recognition of tax benefit of tax amortization of certain goodwill | | (507) |
| Adjustment due to exchange rate differences | | (586) |
| Goodwill balance at December 31, 2016 | | 16,097 |
| Adjustment due to recognition of tax benefit of tax amortization of certain goodwill | | (450) |
| Adjustment due to exchange rate differences | | 1,937 |
| Goodwill impairment | | (17,584) |
| Goodwill balance at December 31, 2017 | \$ | — |

Purchased Intangible Assets

Our purchased intangible assets include finite-lived core technology, customer relationships and trademarks/trade names. For purchased intangible assets, we performed an assessment of the recoverability in accordance with the general valuation requirements set forth under ASC 360, "Accounting for the Impairment of Long-Lived Assets." If impairment indicators are present, estimated undiscounted future cash flows associated with applicable assets or operations are compared with their carrying value to determine if a write-down to fair value is required. During the years ended December 31, 2017, 2016, and 2015, we tested finite-lived intangibles for impairment, and found that the carrying amounts of assets at the lowest level of identifiable cash flows, in each case our reporting units, are fully recoverable.

Finite-lived intangible assets are amortized over the estimated useful life of the related assets which have a weighted average amortization period of 12 years in total. The weighted average amortization periods of the intangible assets by asset category are as follows:

| | |
|--------------------------|----------|
| Core technology | 20 years |
| Customer relationships | 9 years |
| Trademarks / Trade names | 9 years |

The following table presents details of our purchased intangible assets, other than goodwill, as of December 31, 2017:

| | Gross | Accumulated Amortization | Net |
|--------------------------|-----------|-----------------------------|-----------|
| Core technology | \$ 20,027 | \$ (10,333) | \$ 9,694 |
| Customer relationships | 39,244 | (36,077) | 3,167 |
| Trademarks / Trade names | 2,149 | (2,149) | — |
| Total intangible assets | \$ 61,420 | \$ (48,559) | \$ 12,861 |

The following table presents details of our purchased intangible assets, other than goodwill, as of December 31, 2016:

| | Gross | Accumulated Amortization | Net |
|--------------------------|-----------|-----------------------------|-----------|
| Core technology | \$ 17,751 | \$ (8,165) | \$ 9,586 |
| Customer relationships | 36,088 | (29,965) | 6,123 |
| Trademarks / Trade names | 1,903 | (1,785) | 118 |
| Total intangible assets | \$ 55,742 | \$ (39,915) | \$ 15,827 |

The change in the gross value of our purchased intangible assets from December 31, 2016 to December 31, 2017 was due to foreign currency translation and an adjustment due to recognition of tax benefit of tax amortization previously applied to certain goodwill related to the NobelClad and DynaEnergetics reporting units. After the goodwill was written off at September 30, 2017 and December 31, 2015, respectively, the tax amortization reduces other noncurrent intangible assets related to the historical acquisition.

Expected future amortization of intangible assets is as follows:

| | |
|-----------------------------------|-----------|
| For the years ended December 31 - | |
| 2018 | \$ 2,984 |
| 2019 | 1,669 |
| 2020 | 1,669 |
| 2021 | 1,304 |
| 2022 | 1,067 |
| Thereafter | 4,168 |
| | \$ 12,861 |

Customer Advances

On occasion, we require customers to make advance payments prior to the shipment of their orders in order to help finance our inventory investment on large orders or to keep customers' credit limits at acceptable levels. As of December 31, 2017 and 2016 customer advances totaled \$5,888 and \$2,619, respectively, and originated from several customers.

Revenue Recognition

Sales of clad metal products are generally based upon customer specifications set forth in customer purchase orders and require us to provide certifications relative to metals used, services performed, and the results of any non-destructive testing

that the customer has requested be performed. Issues of conformity of the product to specifications are resolved before the product is shipped and billed. Products related to the DynaEnergetics segment, which include detonating cords, detonators, bi-directional boosters, and shaped charges, as well as seismic related explosives and accessories, are standard in nature. In all cases, revenue is recognized only when all four of the following criteria have been satisfied: persuasive evidence of an arrangement exists; the price is fixed or determinable; delivery has occurred; and collection is reasonably assured.

In May 2014, the FASB issued a new standard related to revenue recognition. Under the standard, revenue is recognized when a customer obtains control of promised goods or services in an amount that reflects the consideration the company expects to receive in exchange for those goods or services. In addition, the standard requires disclosure of the nature, amount, timing, and uncertainty of revenue and cash flows arising from contracts with customers.

The standard will be effective for the Company on January 1, 2018. The standard can be adopted using either of two methods: (1) retrospective application to each prior reporting period presented with the option to elect certain practical expedients, as defined within the standard ("full retrospective") or (2) retrospective application with the cumulative effect of adoption recognized at the date of initial application and providing certain additional disclosures, as defined within the standard ("modified retrospective"). The Company will adopt the standard using the modified retrospective approach.

In preparation for adoption of the standard, the Company analyzed contracts from the NobelClad and DynaEnergetics segments to determine the technical accounting conclusions and the impact of the new revenue standard. In our NobelClad business, contracts are often for unique projects, but the vast majority of contracts contain standard terms and conditions. In our DynaEnergetics business, we sell a range of products to a wide variety of customers, but the contracts also often contain similar terms and conditions. We have reviewed NobelClad and DynaEnergetics revenue contracts and have concluded that applying the new standard will not have a material impact on our financial statements. The impact to our financial statements is not material because the analysis of our contracts under the new revenue recognition standard supports the recognition of revenue consistent with our current approach. Going forward, revenue from our contracts will continue to be recognized at the invoice price upon delivery to a customer because that is when our performance obligation is satisfied.

Research and Development

Research and development costs include expenses associated with developing new products and processes as well as improvements to current manufacturing processes. Research and development costs are included in our cost of products sold and are as follows for the years ended December 31, 2017, 2016 and 2015:

| | 2017 | 2016 | 2015 |
|---|----------|----------|----------|
| DynaEnergetics research and development costs | \$ 4,335 | \$ 3,990 | \$ 2,357 |
| NobelClad research and development costs | 833 | 609 | 685 |
| Total research and development costs | \$ 5,168 | \$ 4,599 | \$ 3,042 |

Earnings Per Share

Unvested awards of share-based payments with rights to receive dividends or dividend equivalents are considered participating securities for purposes of calculating earnings per share ("EPS") and require the use of the two class method for calculating EPS. Under this method, a portion of net income is allocated to these participating securities and therefore is excluded from the calculation of EPS allocated to common stock. Because we are in a net loss position for the years ended December 31, 2017, 2016 and 2015, potentially dilutive shares of 128,633, 166,368, and 87,888, respectively, are anti-dilutive and are excluded from the determination of diluted EPS.

Computation and reconciliation of earnings per common share for the years ended December 31, 2017, 2016 and 2015 are as follows:

| | 2017 | 2016 | 2015 |
|--|-------------|------------|-------------|
| Numerator: | | | |
| Net loss | \$ (18,853) | \$ (6,505) | \$ (23,971) |
| Less income allocated to RSAs | — | — | — |
| Net loss allocated to common stock for EPS calculation | \$ (18,853) | \$ (6,505) | \$ (23,971) |
| Denominator: | | | |
| Weighted average common shares outstanding - basic | 14,346,851 | 14,126,108 | 13,935,097 |
| Dilutive stock-based compensation plans | — | — | — |
| Weighted average common shares outstanding - diluted | 14,346,851 | 14,126,108 | 13,935,097 |
| Net loss allocated to common stock for EPS calculation: | | | |
| Basic | \$ (1.31) | \$ (0.46) | \$ (1.72) |
| Diluted | \$ (1.31) | \$ (0.46) | \$ (1.72) |

Fair Value of Financial Instruments

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. We are required to use an established hierarchy for fair value measurements based upon the inputs to the valuation and the degree to which they are observable or not observable in the market. The three levels in the hierarchy are as follows:

- Level 1 — Inputs to the valuation based upon quoted prices (unadjusted) for identical assets or liabilities in active markets that are accessible as of the measurement date.
- Level 2 — Inputs to the valuation include quoted prices in either markets that are not active, or in active markets for similar assets or liabilities, inputs other than quoted prices that are observable, and inputs that are derived principally from or corroborated by observable market data.
- Level 3 — Inputs to the valuation that are unobservable inputs for the asset or liability.

The highest priority is assigned to Level 1 inputs and the lowest priority to Level 3 inputs.

The carrying value of cash and cash equivalents, trade accounts receivable and payables, accrued expenses and lines of credit approximate their fair value, and these are considered Level 1 assets and liabilities. Our foreign currency forward contracts are valued using quoted market prices or are determined using a yield curve model based on current market rates. As a result, we intend to classify these investments as Level 2 in the fair value hierarchy.

We did not hold any Level 3 assets or liabilities as of December 31, 2017 or December 31, 2016. The goodwill impairment charges recorded in the third quarter of 2017 and fourth quarter of 2015 were calculated using Level 3 inputs.

Income Taxes

We recognize deferred tax assets and liabilities for the expected future income tax consequences of temporary differences between the financial reporting and tax bases of assets and liabilities. Any effects of changes in income tax rates or tax laws are included in the provision for income taxes in the period of enactment. The deferred income tax impact of tax credits are recognized as an immediate adjustment to income tax expense. We recognize deferred tax assets for the expected future effects of all deductible temporary differences to the extent we believe these assets will more likely than not be realized. We record a valuation allowance when, based on current circumstances, it is more likely than not that all or a portion of the deferred tax assets will not be realized. In making such determination, we consider all available positive and negative evidence, i

ncluding future reversals of existing taxable temporary differences, projected future taxable income, tax planning strategies, recent financial operations and their associated valuation allowances, if any.

We recognize the tax benefits from uncertain tax positions only when it is more likely than not, based on the technical merits of the position, that the tax position will be sustained upon examination, including the resolution of any related appeals or litigation. The tax benefits recognized in the Consolidated Financial Statements from such a position are measured as the largest benefit that is more likely than not to be realized upon ultimate resolution. We recognize interest and penalties related to uncertain tax positions in operating expense.

See Note 5 "Income Taxes" for more information on our income taxes, including discussion of the Tax Cuts and Jobs Act of 2017.

Concentration of Credit Risk and Off Balance Sheet Arrangements

Financial instruments, which potentially subject us to a concentration of credit risk, consist primarily of cash, cash equivalents, and accounts receivable. Generally, we do not require collateral to secure receivables. At December 31, 2017, we had no financial instruments with off-balance sheet risk of accounting losses.

Other Cumulative Comprehensive Loss

Other cumulative comprehensive loss as of December 31, 2017, 2016, and 2015 consisted entirely of currency translation adjustments including those in intra-entity foreign currency transactions that are long-term investments.

Recently Adopted Accounting Standards

In July 2015, the FASB issued an ASU to change the measurement of inventory from lower of cost or market to lower of cost or net realizable value. This pronouncement is effective for reporting periods beginning after December 15, 2016, and the Company adopted this ASU in the first quarter of 2017. The adoption of this standard did not have a material impact on the Company's Consolidated Financial Statements.

Recent Accounting Pronouncements

In February 2016, the FASB issued an ASU which amends the existing accounting standards for lease accounting, including requiring lessees to recognize most leases on their Balance Sheets and making targeted changes to lessor accounting. This ASU will be effective beginning in the first quarter of 2019. Early adoption is permitted. The new leases standard requires a modified retrospective transition approach for all leases existing at, or entered into after, the date of initial application, with an option to use certain transition relief. The Company is currently evaluating the impact of adopting the new leases standard on our Consolidated Financial Statements.

In October 2016, the FASB issued an ASU which removes the prohibition against the immediate recognition of the current and deferred income tax effects of intra-entity transfers of assets other than inventory. This ASU is effective for public business entities in fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. The Company is in the process of evaluating the impact of adopting this standard on its Consolidated Financial Statements.

3. DEBT

Lines of credit consisted of the following at December 31, 2017 and 2016:

| | 2017 | 2016 |
|------------------------------|-----------|-----------|
| Syndicated credit agreement: | | |
| U.S. Dollar revolving loan | \$ 18,250 | \$ 16,250 |
| Euro revolving loan | — | — |
| Commerzbank line of credit | — | — |
| | 18,250 | 16,250 |
| Less current portion | — | — |
| Long-term lines of credit | 18,250 | 16,250 |
| Less: debt issuance costs | 266 | 518 |
| Lines of credit | \$ 17,984 | \$ 15,732 |

Syndicated Credit Agreement

As of December 31, 2017, we had a \$35,000 syndicated credit agreement ("credit facility") that allowed for revolving loans of \$30,000 in U.S. dollars and \$5,000 in alternative currencies as well as a \$25,000 accordion feature to increase the commitments in any of the loan classes subject to approval by applicable lenders.

On February 23, 2015, we entered into the credit facility as a five-year \$150,000 agreement which amended and replaced in its entirety our prior syndicated credit facility entered into on December 11, 2011. The credit facility allowed for revolving loans of \$90,000 in US dollars, \$10,000 in alternative currencies and a \$50,000 US dollar term loan facility as well as a \$100,000 accordion feature to increase the commitments in any of the three previous loan classes subject to approval by applicable lenders. The credit facility is secured by the assets of DMC including accounts receivable, inventory, and fixed assets, as well as guarantees and share pledges by DMC and its subsidiaries. On December 18, 2015, we entered into an amendment which reduced the amount of U.S. borrowings available under the credit facility to \$65,000 from \$90,000 and eliminated the \$50,000 term loan facility, and increased the maximum debt-to-EBITDA leverage ratio until the December 31, 2016 reporting period. On December 30, 2016, we entered into a second amendment which clarified the treatment of cash income tax refunds in the calculation of the debt service coverage ratio and the insurance requirements for the Company.

On March 6, 2017, we entered into a third amendment which, among other changes, reduced the amount of borrowings available under the credit facility from \$75,000 to \$35,000, consisting of revolving loans of \$30,000 in U.S. dollars and \$5,000 in alternative currencies. The amendment increased the maximum debt-to-EBITDA leverage ratio from 3.00x to 4.00x for the March 31, 2017 reporting period, 5.00x for the June 30, 2017 reporting period and 3.50x for the September 30, 2017 reporting period. The maximum debt-to-EBITDA leverage ratio returned to 3.00x for the December 31, 2017 reporting period and thereafter. The third amendment also waived the applicability of the minimum debt service coverage ratio for the March 31, 2017 reporting period, the June 30, 2017 reporting period, and the September 30, 2017 reporting period, and added a minimum EBITDA covenant that required Consolidated Pro Forma EBITDA (as defined in the agreement) of at least \$4,500 for the March 31, 2017 reporting period, at least \$4,000 for the June 30, 2017 reporting period, at least \$6,500 for the September 30, 2017 reporting period, and was inapplicable thereafter. The debt service coverage ratio returned to 1.35x for the December 31, 2017 reporting period and thereafter. The spread to London Interbank Offered Rate ("LIBOR") on borrowings increased 0.50% basis points across the previous pricing grid. If the leverage ratio equals or exceeds 3.00x, the interest margin applicable to outstanding borrowings will be LIBOR plus 3.25% and an undrawn fee of 0.50% will apply to any undrawn amounts.

U.S. borrowings under the amended credit facility can be in the form of Alternate Base Rate loans ("ABR" borrowings are based on the greater of adjusted Prime rates, adjusted CD rates, or adjusted Federal Funds rates) or one, two, three, or six month LIBOR loans. ABR loans bear interest at the defined ABR rate plus an applicable margin and LIBOR loans bear interest at the applicable LIBOR rate plus an applicable margin.

Alternative currency borrowings under the amended credit facility can be in Canadian Dollars, Euros, Pounds Sterling and any other currency that is freely transferable and convertible to U.S. Dollars. Alternative currency borrowings denominated in Canadian Dollars shall be comprised of Canadian Dealer Offered Rate ("CDOR") Loans or Canadian Prime Loans, at our option, and bear interest at the CDOR rate plus applicable margin or the applicable Canadian Prime Rate plus an applicable margin, respectively. Alternative currency borrowings denominated in Euros shall be comprised of Euro Interbank Offered Rate ("EURIBOR") loans and bear interest at the EURIBOR rate plus an applicable margin. Alternative currency borrowings denominated in any other alternative currency shall be comprised of Eurocurrency loans and bear interest at the LIBOR rate plus an applicable margin.

LIBOR, EURIBOR, and CDOR applicable margins vary from 1.75% to 3.25%, and ABR and Canadian Prime applicable margins vary from 0.75% to 2.25%.

The credit facility includes various covenants and restrictions, certain of which relate to the payment of dividends or other distributions to stockholders; redemption of capital stock; incurrence of additional indebtedness; mortgaging, pledging or disposition of major assets; and maintenance of specified financial ratios. As of December 31, 2017, we were in compliance with all financial covenants and other provisions of our debt agreements.

On March 8, 2018, we entered into a five-year \$75,000 syndicated credit agreement ("credit facility") which replaced in its entirety our prior syndicated credit facility entered into on February 23, 2015. Please refer to Note 11 "Subsequent Events" for a discussion of the new credit facility.

Line of Credit with German Bank

We maintain a line of credit with a German bank for our NobelClad and DynaEnergetics operations in Europe. This line of credit provides a borrowing capacity of 4,000 Euros and is also used to issue bank guarantees to its customers to secure advance payments made by them. As of December 31, 2017, we had no outstanding borrowings under this line of credit and bank guarantees of \$1,549 secured by the line of credit. The line of credit bears interest at a EURIBOR-based variable rate which at December 31, 2017 was 3.33%. The line of credit has open-ended terms and can be canceled by the bank at any time.

Debt Issuance Costs

Included in lines of credit are deferred debt issuance costs of \$266 and \$518 as of December 31, 2017 and 2016, respectively. On March 6, 2017, we amended the credit facility, and we wrote off \$261 of previously deferred debt issuance costs, continued capitalization of \$229 of deferred debt issuance costs related to the credit agreement prior to amendment, and incurred \$138 of additional costs. Remaining deferred debt issuance costs are being amortized over the remaining term of the amended and restated credit agreement which expires on February 23, 2020.

4. STOCK OWNERSHIP AND BENEFIT PLANS

Our stock-based compensation expense results from restricted stock awards (RSAs), restricted stock units (RSUs), performance share units (PSUs), and stock issued under the Employee Stock Purchase Plan. The following table sets forth the total stock-based compensation expense included in the Consolidated Statements of Operations:

| | 2017 | 2016 | 2015 |
|---|---------|---------|---------|
| Cost of products sold | \$ 282 | \$ 235 | \$ 243 |
| General and administrative expenses | 2,337 | 1,755 | 2,240 |
| Selling and distribution expenses | 356 | 336 | 343 |
| Restructuring expense | — | 74 | 536 |
| Stock-based compensation expense before income taxes | 2,975 | 2,400 | 3,362 |
| Income tax benefit | — | — | (915) |
| Stock-based compensation expense, net of income taxes | 2,975 | 2,400 | 2,447 |
| Earnings per share impact | | | |
| Basic | \$ 0.21 | \$ 0.17 | \$ 0.18 |
| Diluted | \$ 0.21 | \$ 0.17 | \$ 0.18 |

On November 4, 2016, our stockholders approved the 2016 Omnibus Incentive Plan ("2016 Plan"). The 2016 Plan provides for the grant of various types of equity-based incentives, including stock options, restricted stock awards, restricted stock units, stock appreciation rights, performance shares, performance units, other stock-based awards, and cash-based awards. Our stockholders approved a total of 5,000,000 shares available for grant under the 2016 Plan, less the number of awards outstanding under the 2006 Stock Incentive Plan ("2006 Plan") on September 21, 2016, which was the expiration date of the 2006 Plan. As of September 21, 2016, we had granted an aggregate of 1,639,881 shares of restricted stock awards and restricted stock units under the 2006 Plan, leaving 3,360,119 shares available for grant under the 2016 Plan. As of December 31, 2017, we have granted an aggregate of 379,095 shares of restricted stock awards and restricted stock units under the 2016 Plan, and 2,981,524 shares are available for future grant.

Historically, RSAs and RSUs have been granted to employees and non-employee directors based on time-vesting and/or performance conditions. For currently outstanding RSAs or RSUs with time-vesting only, vesting occurs in one-third increments on the first, second, and third anniversary of the grant date. For currently outstanding RSAs or RSUs with time and performance conditions, one-quarter of the shares vest on each of the first and second anniversaries of the grant date. On the third anniversary, all or a portion of the remaining one-half of the shares will vest based on a formula that takes into account the Company's achievement of Adjusted EBITDA compared to a target amount and the relative total return to the Company's stockholders in comparison to the total stockholder return of the Company's peer group of public companies. Each RSA represents a restricted share that has voting rights, the right to receive dividends, and becomes fully unrestricted upon vesting. Each RSU represents the right to receive one share of the Company's stock upon vesting.

The fair value of RSAs and RSUs granted to employees and non-employee directors is based on the fair value of DMC's stock on the grant date. RSAs and RSUs granted to employees and non-employee directors are amortized to compensation expense over the vesting period on a straight-line basis. Our policy is to recognize forfeitures of RSAs and RSUs as they occur.

Performance share units (PSUs) are granted to employees with vesting based on performance and market conditions. Each PSU represents the right to receive one share of the Company's stock, contingent on the achievement of two separate, equally-weighted performance conditions - the achievement of a targeted Adjusted EBITDA goal and total shareholder return (TSR) performance relative to a disclosed peer group. A target number of PSUs is awarded on the grant date, and the recipient is eligible to earn shares of common stock between 0% and 200% of the number of targeted PSUs awarded, and the PSUs earned, if any, cliff vest at the end of the third year following the year of grant based on the degree of satisfaction of the PSU performance and market conditions.

The fair value of PSUs with target Adjusted EBITDA performance conditions is based on the fair value of DMC's stock on the grant date, and the value is amortized to compensation expense over the vesting period based on the relative satisfaction of the performance condition to date. The fair value of PSUs with TSR performance conditions is based on a third-party valuation simulating a range of possible TSR outcomes over the performance period, and the value is amortized to

compensation expense over the vesting period based on a straight-line basis. Our policy is to recognize forfeitures of PSUs as they occur.

A summary of the activity of our nonvested shares of RSAs issued under the 2016 Plan for the year ended December 31, 2017 is as follows:

| | Shares | Weighted Average Grant Date Fair Value |
|------------------------------|---------|--|
| Balance at December 31, 2016 | — | \$ — |
| Granted | 260,095 | 15.27 |
| Vested | (4,027) | 13.05 |
| Forfeited | — | — |
| Balance at December 31, 2017 | 256,068 | \$ 15.31 |

A summary of the activity of our nonvested shares of RSAs issued under the 2006 Plan for the years ended December 31, 2017, 2016, and 2015 is as follows:

| | Shares | Weighted Average Grant Date Fair Value |
|------------------------------|-----------|--|
| Balance at December 31, 2014 | 262,720 | \$ 19.55 |
| Granted | 148,972 | 14.65 |
| Vested | (157,673) | 18.81 |
| Forfeited | (12,332) | 18.82 |
| Balance at December 31, 2015 | 241,687 | \$ 19.55 |
| Granted | 228,532 | 8.07 |
| Vested | (144,008) | 15.08 |
| Forfeited | (42,634) | 10.82 |
| Balance at December 31, 2016 | 283,577 | \$ 11.74 |
| Granted | — | — |
| Vested | (130,547) | 12.41 |
| Forfeited | — | — |
| Balance at December 31, 2017 | 153,030 | \$ 11.74 |

A summary of the activity of our nonvested RSUs issued under the 2016 Plan for the year ended December 31, 2017 is as follows:

| | Shares | Weighted Average Grant Date Fair Value |
|------------------------------|--------|--|
| Balance at December 31, 2016 | — | \$ — |
| Granted | 73,000 | 15.62 |
| Vested | — | — |
| Forfeited | (500) | 15.60 |
| Balance at December 31, 2017 | 72,500 | \$ 15.62 |

A summary of the activity of our nonvested RSUs issued under the 2006 Plan for the years ended December 31, 2017, 2016, and 2015 is as follows:

| | Share Units | Weighted Average Grant Date Fair Value |
|------------------------------|----------------|--|
| Balance at December 31, 2014 | 84,566 | \$ 18.33 |
| Granted | 50,167 | 13.90 |
| Vested | (38,405) | 17.58 |
| Forfeited | (9,166) | 14.23 |
| Balance at December 31, 2015 | 87,162 | \$ 18.33 |
| Granted | 48,855 | 6.88 |
| Vested | (40,836) | 16.24 |
| Forfeited | — | — |
| Balance at December 31, 2016 | 95,181 | \$ 16.54 |
| Granted | — | — |
| Vested | (36,450) | 13.30 |
| Forfeited | (333) | 6.22 |
| Balance at December 31, 2017 | 58,398 | \$ 11.71 |

A summary of the activity of our nonvested PSUs issued under the 2016 Plan for the year ended December 31, 2017 is as follows:

| | Shares | Weighted Average Grant Date Fair Value |
|------------------------------|--------|--|
| Balance at December 31, 2016 | — | \$ — |
| Granted | 23,000 | 18.18 |
| Vested | — | — |
| Forfeited | — | — |
| Balance at December 31, 2017 | 23,000 | \$ 18.18 |

As of December 31, 2017, total unrecognized stock-based compensation related to unvested awards was as follows:

| | Unrecognized stock compensation | Weighted-average recognition period |
|---------------|---------------------------------|--|
| Unvested RSAs | \$ 3,493 | 2.2 years |
| Unvested RSUs | 1,281 | 2.0 years |
| Unvested PSUs | 428 | 2.0 years |

Employee Stock Purchase Plan

We have an Employee Stock Purchase Plan ("ESPP") which is authorized to issue up to 850,000 shares of which 259,465 shares remain available for future purchase. The offerings begin on the first day following each previous offering ("Offering Date") and end six months from the Offering Date ("Purchase Date"). The ESPP provides that full time employees may authorize DMC to withhold up to 15% of their earnings, subject to certain limitations, to be used to purchase common stock of DMC at the lesser of 85% of the fair market value of DMC's common stock on the Offering Date or the Purchase Date. In connection with the ESPP, 26,519, 45,888, and 33,346 shares of our stock were purchased during the years ended

December 31, 2017, 2016, and 2015, respectively. Our total stock-based compensation expense for 2017, 2016, and 2015 includes \$92, \$54, and \$89 respectively, in compensation expense associated with the ESPP.

401(k) Plan

We offer a contributory 401(k) plan to our employees. We make matching contributions equal to 100% of each employee's contribution up to 3% of qualified compensation and 50% of the next 2% of qualified compensation contributed by each employee. Total DMC contributions were \$511, \$455, and \$526 for the years ended December 31, 2017, 2016 and 2015, respectively.

Defined Benefit Plans

We have defined benefit pension plans at certain foreign subsidiaries for which we have recorded an unfunded pension obligation of \$1,374 and \$1,197 as of December 31, 2017 and 2016, respectively, which is included in other long-term liabilities in the Consolidated Balance Sheets. All necessary adjustments to the obligation are based upon actuarial calculations and are recorded directly to the Consolidated Statements of Operations. We recognized net adjustments of \$10, \$235 and \$(16) for the years ended December 31, 2017, 2016 and 2015, respectively.

5. INCOME TAXES

The domestic and foreign components of income (loss) before taxes for our operations for the years ended December 31, 2017, 2016 and 2015 are summarized below:

| | 2017 | 2016 | 2015 |
|---------------------------------------|--------------------|-------------------|--------------------|
| Domestic | \$ (5,942) | \$ (4,346) | \$ (16,167) |
| Foreign | (9,342) | (1,362) | (9,922) |
| Total loss before income taxes | \$ (15,284) | \$ (5,708) | \$ (26,089) |

The components of the provision (benefit) for income taxes for the years ended December 31, 2017, 2016 and 2015 are as follows:

| | 2017 | 2016 | 2015 |
|---|-----------------|---------------|-------------------|
| Current - Federal | \$ 946 | \$ (888) | \$ (3,005) |
| Current - State | 91 | 55 | 55 |
| Current - Foreign | 3,088 | 1,914 | 1,557 |
| Current income tax expense (benefit) | 4,125 | 1,081 | (1,393) |
| Deferred - Federal | (393) | — | 1,149 |
| Deferred - State | (5) | — | 217 |
| Deferred - Foreign | (158) | (284) | (2,091) |
| Deferred income tax benefit | (556) | (284) | (725) |
| Income tax provision (benefit) | \$ 3,569 | \$ 797 | \$ (2,118) |

Our deferred tax assets and liabilities at December 31, 2017 and 2016 consist of the following:

| | 2017 | 2016 |
|--|-----------|------------|
| Deferred tax assets: | | |
| Net operating loss carryforward | \$ 10,144 | \$ 9,764 |
| Inventory differences | 570 | 1,222 |
| Equity compensation | 591 | 688 |
| Investment in subsidiaries | 3,514 | 581 |
| Restructuring | 1,389 | 2,328 |
| Purchased goodwill | 3,331 | — |
| Accrued employee compensation and benefits | 979 | 841 |
| Other, net | 144 | 423 |
| Gross deferred tax assets | 20,662 | 15,847 |
| Less valuation allowances | (18,063) | (11,679) |
| Total deferred tax assets | 2,599 | 4,168 |
| Deferred tax liabilities: | | |
| Purchased intangible assets and goodwill | (2,644) | (4,013) |
| Depreciation and amortization | (267) | (1,130) |
| Other, net | (163) | (473) |
| Total deferred tax liabilities | (3,074) | (5,616) |
| Net deferred tax liabilities | \$ (475) | \$ (1,448) |

As of December 31, 2017, we had loss carryforwards for tax purposes totaling approximately \$76,063, comprised of \$56,873 foreign and \$19,190 domestic federal and state loss carryforwards, which will be available to offset future taxable income due to laws in certain foreign jurisdictions. If not used, the foreign tax loss carryforwards generally may be carried forward indefinitely or have at least a ten-year carryforward period. We have analyzed the foreign net operating losses and placed valuation allowances on those where we have determined the realization is not more likely than not to occur.

We assess the available positive and negative evidence to estimate if sufficient future taxable income will be generated to use existing deferred tax assets. Additionally, a three-year cumulative loss at a Consolidated Financial Statement level may be viewed as negative evidence impacting a jurisdiction that by itself is not in a three-year cumulative loss position. At December 31, 2017 and 2016, the Company is in a consolidated three-year cumulative loss position. Accordingly, we have evaluated the impact on all jurisdictions and have recorded a valuation allowance against the corresponding net deferred tax assets as of December 31, 2017 and 2016. The amount of the deferred tax assets considered realizable, however, could be adjusted in future periods if positive evidence such as current and expected future taxable income outweighs negative evidence.

A reconciliation of our income tax provision computed by applying the Federal statutory income tax rate of 35% to income before taxes is as follows:

| | 2017 | 2016 | 2015 |
|---|------------|------------|------------|
| Statutory U.S. federal income tax | \$ (5,350) | \$ (1,998) | \$ (9,131) |
| U.S. state income tax, net of federal benefit | 27 | (158) | (340) |
| U.S. TCJA - net impact | 4,435 | — | — |
| Foreign rate differential | (1,728) | 164 | 692 |
| Tax audit adjustments | 426 | — | — |
| Equity compensation | (52) | 339 | 224 |
| Deemed repatriation of foreign earnings | — | — | 810 |
| Change in State Rate | 278 | — | — |
| Impairment of goodwill | 239 | — | 498 |
| Other | (94) | 97 | (1,513) |
| Change in valuation allowances | 5,388 | 2,353 | 6,642 |
| Provision for income taxes | \$ 3,569 | \$ 797 | \$ (2,118) |

The Tax Cuts and Jobs Act ("TCJA") was enacted in December 2017. Among other things, the TCJA reduces the U.S. federal corporate tax rate from 35% to 21% beginning in 2018, requires companies to pay a one-time transition tax on previously unremitted earnings of non-U.S. subsidiaries that were previously tax deferred, and creates new taxes on certain foreign sourced earnings. The SEC staff issued Staff Accounting Bulletin (SAB) 118, which provides guidance on accounting for enactment effects of the TCJA. SAB 118 provides a measurement period of up to one year from the TCJA's enactment date for companies to complete their accounting under ASC 740. In accordance with SAB 118, to the extent that a company's accounting for certain income tax effects of the TCJA is incomplete but it is able to determine a reasonable estimate, it must record a provisional estimate in its financial statements. If a company cannot determine a provisional estimate to be included in its financial statements, it should continue to apply ASC 740 on the basis of the provisions of the tax laws that were in effect immediately before the enactment of the TCJA.

In connection with our initial analysis of the impact of the enactment of the TCJA, the Company recorded net tax expense of \$ 946 in the fourth quarter of 2017. For various reasons that are discussed more fully below, including the issuance of additional technical and interpretive guidance, we have not completed accounting for the income tax effects of certain elements of the TCJA. However, we were able to make reasonable estimates of the TCJA's effects and, as such, recorded provisional amounts related to the transition tax and the remeasurement of deferred tax assets and liabilities.

The transition tax is a tax on previously untaxed accumulated and current earnings and profits (E&P) of certain of the Company's non-U.S. subsidiaries. To determine the amount of the transition tax, we must determine, in addition to other factors, the amount of post-1986 E&P of the relevant subsidiaries, as well as the amount of non-U.S. income taxes paid on such earnings. E&P is similar to retained earnings of the subsidiary, but requires other adjustments to conform to U.S. tax rules. Further, the transition tax is based in part on the amount of those earnings held in cash and other specified assets. We were able to make a reasonable estimate of the transition tax and recorded a provisional obligation and additional income tax expense of \$946 in the fourth quarter of 2017, which the Company expects to elect to pay over eight years. As of December 31, 2017, we reflected \$75 and \$871 in current accrued income taxes and other long term liabilities, respectively. However, the Company is continuing to gather additional information and will consider additional technical guidance to more precisely compute and account for the amount of the transition tax in the measurement period. This amount may change when we finalize the calculation of post-1986 foreign E&P previously deferred from U.S. federal taxation, finalize the calculation of non-U.S. income taxes paid on such earnings, and finalize our determination on the impact of the deemed repatriation of foreign earnings on 2017 taxable income.

In addition to the transition tax, the TCJA introduced a territorial tax system, which will be effective beginning in 2018. The territorial tax system may impact the Company's overall global capital and legal entity structure, working capital, and repatriation plan on a go-forward basis. In light of the territorial tax system, and other new international provisions within the TCJA that are effective beginning in 2018, the Company is currently analyzing its global capital and legal entity structure, working capital requirements, and repatriation plans. We have not completed our full analysis with respect to the impact of the TCJA on our indefinite reinvestment assertion, and we are not yet able to make reasonable estimates of its related effects. Therefore, no provisional adjustments relative to the territorial tax system and our indefinite reinvestment assertion were

recorded. Further, it is impracticable for the Company to estimate any future tax costs for any unrecognized deferred tax liabilities associated with its indefinite reinvestment assertion as of December 31, 2017, because the actual tax liability, if any, would be dependent on complex analysis and calculations considering various tax laws, exchange rates, circumstances existing when a repatriation, sale, or liquidation occurs, or other factors. If there are any changes to our indefinite reinvestment assertion as a result of finalizing our assessment of the TCJA, the Company will adjust its provisional estimates, record, and disclose any tax impacts in the appropriate period, pursuant to SAB 118.

We remeasured certain deferred tax assets and liabilities based on the rates at which they are expected to reverse in the future, which is generally 21% under the TCJA. As our U.S. deferred tax assets are fully offset by a valuation allowance, there was no net additional tax impact related to deferred tax assets and liabilities recognized in the fourth quarter of 2017. We are still analyzing certain aspects of the TCJA, considering additional technical guidance, and refining our calculations, which could potentially affect the measurement of these balances or potentially give rise to new deferred tax amounts. This includes, but is not limited to, the impacts of changes to Code Section 162(m) on our deferred tax assets related to compensation, and the potential impacts of the global intangible low-taxed income ("GILTI") provision within the TCJA on deferred tax assets and liabilities.

We have not completed our full analysis with respect to the GILTI provision within the TCJA, and we are not yet able to make reasonable estimates of its related effects. Therefore, no provisional adjustments relative to GILTI were recorded. Currently, we have not yet elected a policy as to whether we will recognize deferred taxes for basis differences expected to reverse as GILTI or whether we will account for GILTI as period costs if and when incurred. The Company is currently evaluating other elements of the TCJA for which the Company was not yet able to make reasonable estimates of the enactment impact and for which it would continue accounting for them in accordance with ASC 740 on the basis of the tax laws in effect before the TCJA.

DMC files income tax returns in the U.S. federal jurisdiction, as well as various U.S. state and foreign jurisdictions. In the U.S., tax audits for the years 2012 through 2015 were closed during the second quarter of 2017, and no adjustments to the Company's tax provisions were proposed. In the spring of 2016, German tax authorities commenced an examination of the tax returns of our German tax authorities for the 2011 through 2014 tax years. During 2017, German tax authorities proposed and we agreed to a settlement. The key provisions of the settlement resulted in increases to income related to various issues related to transfer pricing. We recorded an additional \$251 in income tax expense and \$41 of interest to reflect these adjustments and the impact of these adjustments on 2015 and 2016 taxes.

Most of DMC's state tax returns remain open to examination for the tax years 2013 through 2017. DMC's foreign tax returns generally remain open to examination for the tax years 2013 through 2017, depending on jurisdiction.

At December 31, 2017 and 2016, the balance of unrecognized tax benefits was zero. We recognize interest and penalties related to uncertain tax positions in operating expense. As of December 31, 2017 and 2016, our accrual for interest and penalties related to uncertain tax positions was zero.

6. BUSINESS SEGMENTS

Our business is organized in the following two segments: NobelClad and DynaEnergetics. NobelClad is a global leader in the production of explosion-welded clad metal plates for use in the construction of corrosion resistant industrial processing equipment and specialized transition joints. DynaEnergetics designs, manufactures and distributes products utilized by the global oil and gas industry principally for the perforation of oil and gas wells.

The accounting policies of both segments are the same as those described in the summary of significant accounting policies. Our reportable segments are separately managed strategic business units that offer different products and services. Each segment's products are marketed to different customer types and require different manufacturing processes and technologies.

Segment information is presented for the years ended December 31, 2017, 2016, and 2015 as follows:

| | Year Ended December 31, | | |
|---------------------------------------|-------------------------|------------|-------------|
| | 2017 | 2016 | 2015 |
| Net sales: | | | |
| NobelClad | \$ 71,550 | \$ 91,285 | \$ 89,980 |
| DynaEnergetics | 121,253 | 67,290 | 76,938 |
| Consolidated net sales | \$ 192,803 | \$ 158,575 | \$ 166,918 |
| | | | |
| | Year Ended December 31, | | |
| | 2017 | 2016 | 2015 |
| Operating income (loss): | | | |
| NobelClad | \$ (17,360) | \$ 8,878 | \$ 5,819 |
| DynaEnergetics | 15,470 | (5,380) | (19,245) |
| Segment operating income (loss) | (1,890) | 3,498 | (13,426) |
| Unallocated corporate expenses | (7,395) | (6,372) | (6,891) |
| Stock-based compensation | (2,975) | (2,400) | (3,362) |
| Other income (expense), net | (1,376) | 633 | (669) |
| Interest expense | (1,651) | (1,070) | (1,745) |
| Interest income | 3 | 3 | 4 |
| Loss before income taxes | \$ (15,284) | \$ (5,708) | \$ (26,089) |
| | | | |
| | Year Ended December 31, | | |
| | 2017 | 2016 | 2015 |
| Depreciation and Amortization: | | | |
| NobelClad | \$ 3,687 | \$ 3,999 | \$ 4,158 |
| DynaEnergetics | 6,879 | 6,768 | 6,119 |
| Segment depreciation and amortization | \$ 10,566 | \$ 10,767 | \$ 10,277 |
| | | | |
| | Year Ended December 31, | | |
| | 2017 | 2016 | 2015 |
| Capital Expenditures: | | | |
| NobelClad | \$ 1,584 | \$ 1,217 | \$ 1,376 |
| DynaEnergetics | 4,025 | 4,448 | 3,668 |
| Segment capital expenditures | 5,609 | 5,665 | 5,044 |
| Corporate and other | 577 | 54 | 389 |
| Consolidated capital expenditures | \$ 6,186 | \$ 5,719 | \$ 5,433 |

| | As of December 31, | |
|---|--------------------|-------------------|
| | 2017 | 2016 |
| Assets: | | |
| NobelClad | \$ 57,906 | \$ 74,038 |
| DynaEnergetics | 98,640 | 75,728 |
| Segment assets | 156,546 | 149,766 |
| Cash and cash equivalents | 8,983 | 6,419 |
| Prepaid expenses and other assets | 6,058 | 5,287 |
| Deferred tax assets | 98 | — |
| Corporate property, plant and equipment | 1,398 | 1,083 |
| Consolidated assets | \$ 173,083 | \$ 162,555 |

The geographic location of our property, plant and equipment, net of accumulated depreciation, is as follows:

| | As of December 31, | |
|-------------------|--------------------|------------------|
| | 2017 | 2016 |
| United States | \$ 23,620 | \$ 23,286 |
| Germany | 25,876 | 21,956 |
| Russia | 9,323 | 9,338 |
| France | 837 | 2,168 |
| Kazakhstan | 15 | 179 |
| Canada | 193 | 191 |
| Rest of the world | 8 | 15 |
| Total | \$ 59,872 | \$ 57,133 |

All of our sales are from products shipped from our manufacturing facilities and distribution centers located in the United States, Germany, France, Canada, and Russia. The following represents our net sales based on the geographic location of the customer:

| | Year Ended December 31, | | |
|----------------------|-------------------------|------------|------------|
| | 2017 | 2016 | 2015 |
| United States | \$ 116,083 | \$ 78,999 | \$ 81,634 |
| Canada | 23,377 | 16,021 | 13,000 |
| United Arab Emirates | 1,768 | 7,449 | 7,891 |
| France | 3,032 | 3,744 | 6,624 |
| South Korea | 1,173 | 1,690 | 5,709 |
| Germany | 5,397 | 5,979 | 5,182 |
| Russia | 4,504 | 3,731 | 4,937 |
| India | 2,927 | 5,066 | 4,566 |
| Egypt | 2,721 | 1,942 | 4,080 |
| Spain | 1,126 | 1,500 | 3,858 |
| Iraq | 77 | 13 | 3,758 |
| China | 3,673 | 7,012 | 2,426 |
| Italy | 1,582 | 2,577 | 2,327 |
| Hong Kong | 255 | 699 | 2,207 |
| Sweden | 2,009 | 2,124 | 1,699 |
| Rest of the world | 23,099 | 20,029 | 17,020 |
| Total | \$ 192,803 | \$ 158,575 | \$ 166,918 |

During the year ended December 31, 2017, one customer in our DynaEnergetics segment was responsible for approximately 10% of total net sales. During the years ended December 31, 2016 and 2015, no customer accounted for more than 10% of total net sales.

7. DERIVATIVES

We are exposed to foreign currency exchange risk resulting from fluctuations in exchange rates, primarily the U.S. dollar to euro, the U.S. dollar to Canadian dollar, the euro to the Russian ruble, and, to a lesser extent, other currencies, arising from inter-company and third party transactions entered into by our subsidiaries that are denominated in currencies other than their functional currency. Changes in exchange rates with respect to these transactions result in unrealized gains or losses if such transactions are unsettled at the end of the reporting period or realized gains or losses at settlement of the transaction. During the third quarter of 2017, we began using foreign currency forward contracts to offset foreign exchange rate fluctuations on foreign currency denominated asset and liability positions. None of these contracts are designated as accounting hedges, and all changes in the fair value of the forward contracts are recognized in "Other income (expense), net" within our Consolidated Statements of Operations.

We execute derivatives with a specialized foreign exchange brokerage firm. The primary credit risk inherent in derivative agreements represents the possibility that a loss may occur from the nonperformance of a counterparty to the agreements, and thus we perform a review of the credit risk of our counterparties at the inception of the contract and on an ongoing basis. We anticipate that our counterparties will be able to fully satisfy their obligations under the agreements but will take action if doubt arises regarding the counterparties' ability to perform.

As of December 31, 2017, the notional amounts of the forward contracts the Company held to purchase currencies were \$13,906, and the notional amounts of forward contracts the Company held to sell currencies were \$6,385. The fair values of outstanding foreign currency forward contracts were approximately \$79 (recorded in accrued expenses) at December 31, 2017.

| | | Gain/(Loss) Recognized in Income on Derivatives | | |
|----------------------------|-----------------------------|---|------|------|
| | | Amount | | |
| | | Year Ended December 31, | | |
| Derivatives | Income Statement Location | 2017 | 2016 | 2015 |
| Foreign currency contracts | Other income (expense), net | \$ (157) | \$ — | \$ — |
| Total gain (loss) | | \$ (157) | \$ — | \$ — |

8. COMMITMENTS AND CONTINGENCIES

Contingent Liabilities

The Company records an accrual for contingent liabilities when a loss is both probable and reasonably estimable. If some amount within a range of loss appears to be a better estimate than any other amount within the range, that amount is accrued. When no amount within a range of loss appears to be a better estimate than any other amount, the lowest amount in the range is accrued.

Anti-dumping and Countervailing Duties

In June 2015, U.S. Customs and Border Protection ("U.S. Customs") sent us a Notice of Action that proposed to classify certain of our imports as subject to anti-dumping duties pursuant to a 2010 anti-dumping duty ("AD") order on Oil Country Tubular Goods ("OCTG") from China. A companion countervailing duty ("CVD") order on the same product is in effect as well. The Notice of Action covered one entry of certain raw material steel mechanical tubing made in China and imported into the U.S. from Canada by our DynaEnergetics segment during 2015 for use in manufacturing perforating guns.

In July 2015, we sent a response to U.S. Customs outlining the reasons for our position that our mechanical tubing imports do not fall within the scope of the AD order on OCTG from China and should not be subject to anti-dumping duties. U.S. Customs proposed to take similar action with respect to other entries of this product and requested an approximately \$1,100 cash deposit or bond for AD/CVD duties.

In August 2015, we posted bonds of approximately \$1,100 to U.S. Customs. Subsequently, U.S. Customs declined to conclude that the mechanical tubing the Company had been importing was not within the scope of the AD order on OCTG from China. As a result, on September 25, 2015 the Company filed a request for a scope ruling with the U.S. Department of Commerce ("Commerce Department").

In its financial statements for the year ended December 31, 2015, the Company recorded a \$6,374 reserve for AD/CVD duties and interest (\$6,205 of which was recorded as cost of products sold and \$169 as interest expense in our Consolidated Statements of Operations) that the Company expects to pay if it is unsuccessful in the remand redetermination and any subsequent appeals.

On February 15, 2016, the Company received the Commerce Department's scope ruling, which determined that certain imports, primarily used for gun carrier tubing, are included in the scope of the AD/CVD orders on OCTG from China and thus are subject to AD/CVD duties.

On March 11, 2016, the Company filed an appeal with the U.S. Court of International Trade ("CIT") related to the Commerce Department's scope ruling. On February 7, 2017, the CIT remanded the scope ruling to the Commerce Department to reconsider its determination. The Commerce Department filed its remand determination with the CIT on June 7, 2017 continuing to find that the Company's imports at issue are within the scope of the AD/CVD orders on OCTG from China. This determination is subject to the CIT's review in the ongoing appeal, which is continuing.

On December 27, 2016, we received notice from U.S. Customs that it may pursue penalties against us related to the AD/CVD issue and demanding tender of alleged loss of AD/CVD duties in an amount of \$3,049, which are covered by our reserve. We filed a response to the notice on February 6, 2017 asserting our position that any decision to pursue penalties would be premature in light of the status of the appeal with CIT and that penalties would not be appropriate under the applicable legal standards. On February 16, 2017, we received notice that U.S. Customs was assessing formal penalties in the amount of \$14,783. U.S. Customs also reasserted its demand for tender of alleged loss of AD/CVD duties in the amount of \$3,049. We tendered \$3,049 in AD amounts ("Tendered Amounts") on March 6, 2017 into a suspense account pending ultimate resolution.

of the AD/CVD case. We believe that this penalty assessment is premature and patently unreasonable in the face of the ongoing CIT appeal and that penalties are not appropriate under applicable legal standards. Further, even if penalties are found to be justified, we believe the amount of penalties asserted by U.S. Customs is unreasonable and subject to challenge on various grounds. We submitted a petition for relief and mitigation of penalties on May 17, 2017 asserting these and other points and seeking a stay of the penalty proceedings pending ultimate resolution of the CIT appeal and any further appeals. We are awaiting a response from U.S. Customs and U.S. Customs Headquarters on this petition.

For the year ended December 31, 2017, the Company recorded \$108 of interest on its reserve for AD/CVD duties, bringing the total reserved amount related to AD/CVD duties as of December 31, 2017 to \$3,609. The Tendered Amounts will be applied to reduce the reserve. The Company will continue to incur legal defense costs and could also be subject to additional interest and penalties. Accruals for the potential penalties discussed above are not reflected in our financial statements as of December 31, 2017 as we do not believe they are probable at this time.

Patent and Trademark Infringement

On September 22, 2015, GEODynamics, Inc., a US-based oil and gas perforating equipment manufacturer based in Fort Worth, TX, filed a patent and trademark infringement action against DynaEnergetics US, Inc., ("DynaEnergetics"), a wholly owned subsidiary of DMC, in the United States District Court for the Eastern District of Texas ("District Court") regarding alleged infringement of US Patent No. 9,080,431 granted on July 14, 2015 (the "431 patent") and a related US trademark for REACTIVE, alleging that DynaEnergetics' US sales of DPEX® shaped charges infringe the 431 patent and the trademark. The 431 case went to trial in late March 2017, and on March 30, 2017, the jury found in favor of DynaEnergetics on all counts. A bench trial on related matters, including the trademark infringement action, occurred on April 20, 2017, and the Court ordered cancellation of GEODynamics' REACTIVE trademark. In December 2017, the Court ordered GEODynamics to reimburse DynaEnergetics for certain of its attorney's fees incurred in connection with the trademark action.

On July 1, 2016, GEODynamics filed a second patent infringement action against DynaEnergetics in District Court alleging infringement of US Patent No. 8,544,563 (the "563 patent"), also based on DynaEnergetics' US sales of DPEX® shaped charges. DynaEnergetics denies validity and infringement of the 563 patent and has vigorously defended itself against this lawsuit. As part of that defense, on September 20, 2016, DynaEnergetics filed an Inter Parties Review (IPR) against the 563 patent at the U.S. Patent Trial and Appeal Board ("PTAB"), requesting invalidation of the 563 patent. On March 17, 2017, DynaEnergetics' IPR request was instituted by the PTAB, and on March 1, 2018, PTAB issued its decision in favor of DynaEnergetics, invalidating all challenged claims of the 563 patent. Trial on the 563 patent remains stayed at this time, and DynaEnergetics plans to file for dismissal of the District Court case at the appropriate time.

On April 28, 2017, GEODynamics filed a third patent infringement action against DynaEnergetics in District Court alleging infringement of U.S. Patent No. 8,220,394 (the "394 patent"), based on DynaEnergetics' sales of its DPEX® and HaloFrac® shaped charges. DynaEnergetics denies validity and infringement of the 394 patent and plans to vigorously defend against this lawsuit. On August 28, 2017, DynaEnergetics filed an IPR against the 394 patent at the PTAB, requesting invalidation of the 394 patent. PTAB's decision on whether to institute the IPR is expected in mid-March 2018.

On August 21, 2017, GEODynamics filed a patent infringement action against DynaEnergetics GmbH & Co. KG and DynaEnergetics Beteiligungs GmbH, both wholly owned subsidiaries of DMC (collectively, "DynaEnergetics EU"), in the Regional Court of Düsseldorf, Germany, alleging infringement of the German part DE 60 2004 033 297 of European patent EP 1 671 013 B1 granted on June 29, 2011, a patent related to the 394 patent (the "EP 013 patent"). This action is based on the manufacturing, sale and marketing of DPEX shaped charges in Germany. DynaEnergetics EU denies validity and infringement of the EP 013 patent and plans to vigorously defend against this lawsuit. DynaEnergetics EU filed its defense at the Regional Court of Düsseldorf and a nullity action against EP 013 at the German Federal Patent Court on February 14, 2018. A trial in the infringement proceedings is not yet scheduled but expected in the fourth quarter of 2018, and a trial in the nullity action is not expected before late 2019.

On September 27, 2017, DynaEnergetics GmbH & Co. KG filed a revocation action in the Patents Court, Shorter Trials Scheme in the UK against GEODynamics, asserting that the EP 013 patent, as maintained in the UK, is invalid. GEODynamics filed its defense and a counterclaim alleging infringement of the EP 013 patent in November 2017 based on sales and marketing of DPEX® shaped charges in the UK. DynaEnergetics denies validity and infringement of the EP 013 patent and plans to vigorously challenge the EP 013 patent and defend against this lawsuit. Trial is currently expected to occur in October 2018.

We do not believe that the 563 patent, the 394 patent, the EP 013 patent or infringement claims based on the patents are valid, and we do not believe it is probable that we will incur a material loss on the 563 matter, the 394 matter or the EP 013 matter. However, if it is determined that the patents are valid and that DynaEnergetics or DynaEnergetics EU, as applicable, has

infringed them, it is reasonably possible that our financial statements could be materially affected. We are not able to provide a reasonable estimate of the range of loss, and we have not accrued for any such losses. Such an evaluation includes, among other things, a determination of the total number of infringing sales in the United States or infringing products manufactured in Germany, as applicable, what a reasonable royalty, if any, might be under the circumstances; or, alternatively, the scope of damages and the relevant period for which damages would apply, if any.

Operating Leases

We lease certain office space, equipment, storage space, vehicles and other equipment under various non-cancelable lease agreements. Future minimum rental commitments under non-cancelable leases are as follows:

| | Operating Leases |
|--------------------------|------------------|
| Year ended December 31 - | |
| 2018 | \$ 1,365 |
| 2019 | 922 |
| 2020 | 703 |
| 2021 | 450 |
| 2022 | 382 |
| Thereafter | 100 |
| Total minimum payments | \$ 3,922 |

Total rental expense included in continuing operations was \$2,988, \$2,510, and \$3,403 for the years ended December 31, 2017, 2016, and 2015, respectively.

During 2008, we entered into a license agreement and a risk allocation agreement related to our U.S. NobelClad business. These agreements, which were amended in 2012, provide us with the ability to perform our explosive shooting process at a second shooting site in Pennsylvania. Future minimum payments required to be made by us under these agreements are as follows:

| | |
|--------------------------|--------|
| Year ended December 31 - | |
| 2018 | \$ 398 |
| 2019 | 398 |
| 2020 | — |
| 2021 | — |
| 2022 | — |
| Thereafter | — |
| Total minimum payments | \$ 796 |

9. RESTRUCTURING

NobelClad

During the fourth quarter of 2017, NobelClad announced plans to consolidate its European production facilities by closing manufacturing operations in France, which it expects to complete by the end of 2018. The proposed measures remain subject to consultation with the local workers council, in accordance with applicable French law, which is expected to be completed in April 2018. NobelClad centralized a portion of its European production facilities after its November 2014 purchase of a state-of-the-art manufacturing center in Liebenscheid, Germany. The facility now performs the majority of NobelClad's European explosion cladding, although some work is still conducted at a smaller facility in Rivesaltes, France. NobelClad plans to exit the Rivesaltes production facility by the end of 2018, but will maintain its sales and administrative office in France. In 2018, we expect to incur approximately \$1,500 of additional restructuring expenses related to severance, equipment moving, legal fees, and contract termination costs.

In 2015, NobelClad shifted the majority of its clad metal plate production in Europe from facilities in Rivesaltes, France and Würgendorf, Germany to its manufacturing facility in Liebenseid, Germany.

DynaEnergetics

In 2017, DynaEnergetics announced the closure of its operations in Kazakhstan after legislative changes increased our costs to do business while the overall sales in Kazakhstan were not significant to our results. In conjunction with the announcement, we recorded severance expense, wrote off remaining receivables, prepaid assets, and inventory, recorded an asset impairment to mark the fixed assets down to their salable value, and recorded to the Consolidated Statements of Operations foreign exchange losses that had previously been recorded to the Consolidated Balance Sheets through currency translation adjustments, due to the substantial liquidation of the entity.

In 2016, DynaEnergetics reduced headcount in Troisdorf, Germany and Austin, Texas, consolidated administrative offices to Houston, Texas and wrote-off certain assets after relocating perforating gun manufacturing operations from the previous leased facility in Troisdorf, Germany to the new facility in Liebenseid, Germany.

In 2015, we launched several initiatives to enhance DynaEnergetics' operational efficiencies and align its production and distribution resources with the anticipated demands of the market. We closed three North American distribution centers as well as a perforating gun manufacturing facility and distribution center in Edmonton, Alberta. We also exited multiple other distribution centers in Texas and Colombia. Two centralized distribution centers replaced the distribution centers that were closed. North America perforating gun manufacturing was consolidated into DynaEnergetics' existing facility in Whitney, Texas. We reduced administrative costs through a reduction in force affecting 12 employees at DynaEnergetics' corporate offices in Troisdorf, Germany and the termination of certain consulting contracts.

Corporate Restructuring

In conjunction with the cost reductions announced in 2016, we eliminated certain positions and incurred restructuring charges associated with the accelerated vesting of stock awards.

In 2015, we eliminated certain positions in our corporate office and incurred restructuring charges, including severance and expense related to the accelerated vesting of stock awards.

Total restructuring charges incurred to date for these programs are as follows and are reported in the Restructuring expenses line item in our Consolidated Statements of Operations for the years ended December 31, 2017, 2016 and 2015:

| Year Ended December 31, 2017 | | | | | | |
|------------------------------|-----------|------------------|----------------------------|------------------------|------------------|----------|
| | Severance | Asset Impairment | Contract Termination Costs | Equipment Moving Costs | Other Exit Costs | Total |
| NobelClad | \$ 2,513 | \$ 1,241 | \$ — | \$ — | \$ 71 | \$ 3,825 |
| DynaEnergetics | \$ 20 | \$ 143 | — | — | 295 | 458 |
| Total | \$ 2,533 | \$ 1,384 | \$ — | \$ — | \$ 366 | \$ 4,283 |

| Year Ended December 31, 2016 | | | | | | |
|------------------------------|-----------|------------------|----------------------------|------------------------|------------------|----------|
| | Severance | Asset Impairment | Contract Termination Costs | Equipment Moving Costs | Other Exit Costs | Total |
| DynaEnergetics | \$ 684 | \$ — | \$ 386 | \$ 15 | \$ 43 | \$ 1,128 |
| Corporate | 74 | — | — | — | — | 74 |
| Total | \$ 758 | \$ — | \$ 386 | \$ 15 | \$ 43 | \$ 1,202 |

| | Year Ended December 31, 2015 | | | | | |
|----------------|------------------------------|------------------|----------------------------|------------------------|------------------|----------|
| | Severance | Asset Impairment | Contract Termination Costs | Equipment Moving Costs | Other Exit Costs | Total |
| NobelClad | \$ 238 | \$ — | 40 | 476 | \$ (4) | \$ 750 |
| DynaEnergetics | 735 | 205 | 498 | 391 | (169) | 1,660 |
| Corporate | 1,653 | — | — | — | — | 1,653 |
| Total | \$ 2,626 | \$ 205 | \$ 538 | \$ 867 | \$ (173) | \$ 4,063 |

The changes to the restructuring liability within accrued expenses associated with these programs is summarized below:

| | December 31, 2016 | Expense | Payments | Currency and Other Adjustments | December 31, 2017 |
|----------------------------|-------------------|----------|----------|--------------------------------|-------------------|
| Severance | \$ 62 | \$ 2,533 | \$ (62) | \$ 35 | \$ 2,568 |
| Contract termination costs | 112 | — | (113) | 1 | — |
| Other exit costs | — | 71 | (61) | — | 10 |
| Total | \$ 174 | \$ 2,604 | \$ (236) | \$ 36 | \$ 2,578 |

10. SELECTED QUARTERLY FINANCIAL DATA (UNAUDITED)

Selected unaudited quarterly financial data for the years ended December 31, 2017 and 2016 are presented below:

| | 2017 | | | |
|----------------|-------------------------|------------------------|-----------------------------|----------------------------|
| | Quarter ended March 31, | Quarter ended June 30, | Quarter ended September 30, | Quarter ended December 31, |
| Net sales | \$ 38,962 | \$ 47,190 | \$ 52,161 | \$ 54,490 |
| Gross profit | \$ 10,366 | \$ 14,018 | \$ 17,162 | \$ 17,845 |
| Net loss | \$ (3,020) | \$ 189 | \$ (14,064) | \$ (1,958) |
| Loss per share | | | | |
| Basic | \$ (0.21) | \$ 0.01 | \$ (0.98) | \$ (0.13) |
| Diluted | \$ (0.21) | \$ 0.01 | \$ (0.98) | \$ (0.13) |

| | 2016 | | | |
|--------------------|-------------------------|------------------------|-----------------------------|----------------------------|
| | Quarter ended March 31, | Quarter ended June 30, | Quarter ended September 30, | Quarter ended December 31, |
| Net sales | \$ 40,532 | \$ 41,317 | \$ 36,553 | \$ 40,173 |
| Gross profit | \$ 10,385 | \$ 9,908 | \$ 8,457 | \$ 9,930 |
| Net loss | \$ (413) | \$ (766) | \$ (3,136) | \$ (2,190) |
| Net loss per share | | | | |
| Basic | \$ (0.03) | \$ (0.05) | \$ (0.22) | \$ (0.16) |
| Diluted | \$ (0.03) | \$ (0.05) | \$ (0.22) | \$ (0.16) |

11. SUBSEQUENT EVENTS

New Credit Facility

On March 8, 2018, we entered into a five-year \$75,000 syndicated credit agreement ("credit facility") which replaced in its entirety our prior syndicated credit facility entered into on February 23, 2015. The new credit facility allows for revolving loans of up to \$50,000 with a \$20,000 US dollar equivalent sublimit for alternative currency loans. In addition, the new agreement provides for a \$25,000 Capital Expenditure Facility ("Capex Facility") which is to be used to finance our DynaEnergetics manufacturing expansion project in Blum, Texas. The Capex facility allows for advances to fund capital expenditures of the Blum expansion project during year one of the credit facility. At the end of year one, the Capex Facility will convert to a term loan which will be amortizable at 12.5% of principal per year with a balloon payment for the outstanding balance upon the credit facility maturity date in year five. The new facility has a \$100,000 accordion feature to increase the commitments under the revolving loan class and/or by adding a term loan subject to approval by applicable lenders. We entered into the credit facility with a syndicate of three banks, with KeyBank, N.A. acting as administrative agent. The syndicated credit facility is secured by the assets of DMC including accounts receivable, inventory, and fixed assets, as well as guarantees and share pledges by DMC and its subsidiaries.

Borrowings under the \$50,000 revolving loan and \$25,000 Capex term loan can be in the form of one, two, three, or six month London Interbank Offered Rate ("LIBOR") loans. Additionally, US dollar borrowings on the revolving loan can be in the form of Base Rate loans (Base Rate borrowings are based on the greater of the administrative agent's Prime rates, an adjusted Federal Funds rates or an adjusted LIBOR rate). LIBOR loans bear interest at the applicable LIBOR rate plus an applicable margin (varying from 1.50% to 3.00%). Base Rate loans bear interest at the defined Base rate plus an applicable margin (varying from 0.50% to 2.00%).

Borrowings under the \$20,000 Alternate Currency sublimit can be in Euros, Canadian dollars, Pounds sterling, and in any other currency acceptable to the administrative agent. Alternative currency borrowings denominated in Euros, Pounds sterling, and any other currency that is dealt with on the London Interbank Deposit Market shall be comprised of LIBOR loans and bear interest at the LIBOR rate plus an applicable margin (varying from 1.50% to 3.00%).

The credit facility includes various covenants and restrictions, certain of which relate to the payment of dividends or other distributions to stockholders; redemption of capital stock; incurrence of additional indebtedness; mortgaging, pledging or disposition of major assets; and maintenance of specified ratios.

ITEM 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

There are no changes in or disagreements with accountants on accounting and financial disclosure for the fiscal year ended December 31, 2017.

ITEM 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Our Chief Executive Officer and Chief Financial Officer have evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934). Based on that evaluation, the Company's Chief Executive Officer and Chief Financial Officer concluded that the Company's disclosure controls and procedures were effective as of December 31, 2017. Our management's annual report on internal control over financial reporting is set forth below.

Management's Report on Internal Control over Financial Reporting

The management of DMC Global Inc. ("DMC") is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rules 13a-15(f) and 15d-15(f).

Under the supervision and with the participation of DMC's management, including its Chief Executive Officer and Chief Financial Officer, management conducted an evaluation of the effectiveness of DMC's internal control over financial reporting as of December 31, 2017 based on the 2013 framework in "Internal Control - Integrated Framework" issued by the Committee of Sponsoring Organizations of the Treadway Commission. In designing and evaluating the internal control over financial reporting, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Based upon this evaluation, our Chief Executive Officer and Chief Financial Officer concluded that, as of December 31, 2017, our internal controls over financial reporting were effective.

DMC's internal control over financial reporting as of December 31, 2017, has also been audited by Ernst & Young LLP, an independent registered public accounting firm, as stated in their attestation report which expressed an unqualified opinion and is included elsewhere herein.

Changes in Internal Control Over Financial Reporting

There has been no change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) promulgated under the Exchange Act) during our fourth quarter of 2017, that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

/s/ Kevin Longe

Kevin Longe

President and Chief Executive Officer

March 8, 2018

/s/ Michael Kuta

Michael Kuta

Chief Financial Officer

March 8, 2018

To The Shareholders and the
Board of Directors of DMC Global Inc.

Opinion on Internal Control over Financial Reporting

We have audited DMC Global Inc.'s internal control over financial reporting as of December 31, 2017, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, DMC Global Inc. (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2017, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2017 and 2016, and the related consolidated statements of operations, comprehensive income (loss), stockholders' equity and cash flows for each of the three years in the period ended December 31, 2017, and the related notes and financial statement schedules listed in the Index at Item 15(a) and our report dated March 8, 2018 expressed an unqualified opinion thereon.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Ernst & Young LLP

Denver, Colorado
March 8, 2018

ITEM 9B. Other Information

Not applicable.

PART III**ITEM 10. Directors, Executive Officers and Corporate Governance**

Item 10 incorporates information by reference to our Proxy Statement for the 2018 Annual Meeting of Stockholders, which is expected to be filed with the SEC within 120 days of the close of fiscal year 2017.

ITEM 11. Executive Compensation

Item 11 incorporates information by reference to our Proxy Statement for the 2018 Annual Meeting of Stockholders, which is expected to be filed with the SEC within 120 days of the close of fiscal year 2017.

ITEM 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

Item 12 incorporates information by reference to our Proxy Statement for the 2018 Annual Meeting of Stockholders, which is expected to be filed with the SEC within 120 days of the close of fiscal year 2017.

For information regarding securities authorized for issuance under our equity compensation plans see the Proxy Statement for our 2018 Annual Meeting of Shareholders, which information is incorporated herein by reference.

ITEM 13. Certain Relationships and Related Transactions, and Director Independence

Item 13 incorporates information by reference to our Proxy Statement for the 2018 Annual Meeting of Stockholders, which is expected to be filed with the SEC within 120 days of the close of fiscal year 2017.

ITEM 14. Principal Accounting Fees and Services

Item 14 incorporates information by reference to our Proxy Statement for the 2018 Annual Meeting of Stockholders, which is expected to be filed with the SEC within 120 days of the close of fiscal year 2017.

PART IV**ITEM 15. Exhibits and Financial Statement Schedules****(a)(1) Financial Statements**

See Index to Financial Statements in Item 8 of this Annual Report on Form 10-K, which is incorporated herein by reference.

(a)(2) Financial Statement Schedules

See Schedule II beginning on page 93 of this Annual Report on Form 10-K.

(a)(3) Exhibits

| Exhibit Number | Description |
|----------------|--|
| 3.1 | Amended and Restated Certificate of Incorporation of the Company (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed with the Commission on November 4, 2016). |
| 3.2 | Amended and Restated Bylaws of the Company (incorporated by reference to Exhibit 4.2 to the Company's Current Report on Form 8-K filed with the Commission on November 4, 2016). |
| 10.1 | Credit Agreement dated as of March 8, 2018, by and among the Company, the borrowers party thereto, the guarantors party thereto, the Lenders party thereto, and KeyBank National Association, as administrative agent. |
| 10.2 | Second Amended and Restated Credit Agreement dated as of February 23, 2015, by and among the Company, the borrowers party thereto, the Guarantors party thereto, the Lenders party thereto, JPMorgan Chase Bank, N.A., as administrative agent, J.P. Morgan Europe Limited, as London agent, JPMorgan Chase Bank, N.A., Toronto Branch, as Canadian agent, KeyBank National Association, as syndication agent, and Wells Fargo Bank, National Association, as documentation agent (incorporated by reference to Exhibit 10.1 to the Company's Form 10-K filed with the Commission on March 16, 2015) |

| Exhibit Number | Description |
|----------------|--|
| 10.3 | First Amendment to the Second Amended and Restated Credit Facility dated December 18, 2015 among the Company, JP Morgan Chase Bank, N.A. and the other parties named therein (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the Commission on December 18, 2015). |
| 10.4 | Second Amendment to the Second Amended and Restated Credit Facility dated December 30, 2016 among the Company, JP Morgan Chase Bank, N.A. and the other parties named therein (incorporated by reference to Exhibit 10.3 to the Company's Form 10-K filed with the Commission on March 9, 2017). |
| 10.5 | Third Amendment to the Second Amended and Restated Credit Facility dated March 6, 2017 among the Company, JP Morgan Chase Bank, N.A. and the other parties named therein (incorporated by reference to Exhibit 10.3 to the Company's Form 10-K filed with the Commission on March 9, 2017). |
| 10.6 | Employment Agreement, dated as of March 1, 2013, by and between the Company and Kevin Longe (incorporated by reference to Exhibit 10.2 to the Company's Form 10-K filed with the Commission on March 14, 2013). * |
| 10.7 | Employment Offer Letter dated February 23, 2014, from the Company to Michael L. Kuta (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the Commission on March 31, 2014). * |
| 10.8 | Employment Agreement dated July 26, 2013, from the Company to Ian Grieves (incorporated by reference to Exhibit 10.7 to the Company's Form 10-K filed with the Commission on March 9, 2017). * |
| 10.9 | Employment Offer Letter dated July 17, 2016, from the Company to Michelle H. Shepston (incorporated by reference to Exhibit 10.8 to the Company's Form 10-K filed with the Commission on March 9, 2017). * |
| 10.10 | Employment Offer Letter dated October 7, 2016, from the Company to John E. Scheatzle Jr. (incorporated by reference to Exhibit 10.9 to the Company's Form 10-K filed with the Commission on March 9, 2017). * |
| 10.11 | 2006 Stock Incentive Plan, as amended by Amendment No. 1 to the Company's 2006 Stock Incentive Plan dated March 11, 2013 (incorporated by reference to Exhibit 10.5 to the Company's Annual Report on Form 10-K filed with the Commission on March 7, 2014). * |
| 10.12 | Performance-Based Plan (incorporated by reference to Exhibit 10.3 to the Company's Form 8-K filed with the Commission on May 24, 2013). * |
| 10.13 | Amended and Restated Nonqualified Deferred Compensation Plan. * |
| 10.14 | Form of Executive Officer Restricted Stock Award Agreement under 2006 Stock Incentive Plan (incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed with the Commission on June 12, 2007). * |
| 10.15 | Form of Non-Executive Director Restricted Stock Award Agreement under 2006 Stock Incentive Plan (incorporated by reference to Exhibit 10.2 to the Company's Form 8-K filed with the Commission on June 12, 2007). * |
| 10.16 | 2016 Omnibus Incentive Plan dated November 4, 2016 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the Commission on November 4, 2016). |
| 10.17 | Form of Executive Officer Restricted Stock Award Agreement under 2016 Omnibus Incentive Plan (incorporated by reference to Exhibit 10.16 to the Company's Form 10-K filed with the Commission on March 9, 2017). * |
| 10.18 | Form of Director Restricted Stock Award Agreement under 2016 Omnibus Incentive Plan. |
| 10.19 | Form of Executive Officer Restricted Stock Unit Agreement under 2016 Omnibus Incentive Plan (incorporated by reference to Exhibit 10.17 to the Company's Form 10-K filed with the Commission on March 9, 2017). * |
| 10.20 | Form of Executive Officer Performance Unit Agreement under 2016 Omnibus Incentive Plan (incorporated by reference to Exhibit 10.18 to the Company's Form 10-K filed with the Commission on March 9, 2017). * |
| 10.21 | Form of Indemnification Agreement (incorporated by reference to Exhibit 10.4 to the Company's Form 8-K filed with the Commission on January 24, 2011). * |
| 10.22 | Sublease for Dunbar, Pennsylvania clad metal shooting site dated December 16, 2000 by and between Mypodiamond, Inc. and the Company. |
| 10.23 | License Agreement dated July 29, 2008 by and between Coolspring Stone Supply Company, Inc. ("CSSC") and the Company. |
| 10.24 | First Amendment to License Agreement dated September 24, 2012 by and between CSSC and the Company. |
| 10.25 | Risk Allocation, Consulting and Services Agreement dated April 1, 2008 by and between Snoddy Management, Inc. ("SMI") and the Company. |
| 10.26 | First Amendment to Risk Allocation, Consulting and Services Agreement dated September 24, 2012 by and between SMI and the Company. |

| Exhibit Number | Description |
|----------------|---|
| 10.27 | Company's Employee Stock Purchase Plan, as amended (incorporated by reference from Appendix A to the Company's Definitive Proxy Statement filed April 5, 2017, relating to the Company's 2017 Annual Meeting of Stockholders).* |
| 12.1 | Statement regarding computation of ratio of earnings to fixed charges. |
| 21.1 | Subsidiaries of the Company. |
| 23.1 | Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm. |
| 31.1 | Certification of the President and Chief Executive Officer pursuant to 17 CFR 240.13a-14(a) or 17 CFR 240.15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. |
| 31.2 | Certification of the Chief Financial Officer pursuant to 17 CFR 240.13a-14(a) or 17 CFR 240.15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. |
| 32.1 | Certification of the President and Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002. |
| 32.2 | Certification of the Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002. |
| 101 | The following materials from the Annual Report on Form 10-K of DMC Global Inc. For the year ended December 31, 2015, formatted in XBRL (eXtensible Business Reporting Language): (i) the Consolidated Balance Sheets, (ii) the Consolidated Statements of Operations, (iii) the Consolidated Statements of Comprehensive Income, (iv) the Consolidated Statement of Stockholders' Equity, (v) the Consolidated Statements of Cash Flows, and (vi) the Notes to Consolidated Financial Statements.** |

* Management contract or compensatory plan or arrangement.

** Pursuant to Rule 406T of Regulation S-T, the Interactive Data Files on Exhibit 101 hereto are deemed not filed or part of a registration statement or prospectus for purposes of Sections 11 or 12 of the Securities Act of 1933, as amended, are deemed not filed for purposes of Section 18 of the Securities and Exchange Act of 1934, as amended, and otherwise are not subject to liability under those sections.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Company has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

DMC Global Inc.

March 8, 2018

By: /s/ Michael Kuta
Michael Kuta
Chief Financial Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Company and in the capacities and on the dates indicated.

| SIGNATURE | TITLE | DATE |
|---|---|---------------|
| <u>/s/ Kevin Longe</u> Kevin Longe | President and Chief Executive Officer and Director (Principal Executive Officer) | March 8, 2018 |
| <u>/s/ Michael Kuta</u> Michael Kuta | Chief Financial Officer (Principal Financial and Accounting Officer) | March 8, 2018 |
| <u>/s/ Gerard Munera</u> Gerard Munera | Chairman and Director | March 8, 2018 |
| <u>/s/ David Aldous</u> David Aldous | Director | March 8, 2018 |
| <u>/s/ Yvon Pierre Cariou</u> Yvon Pierre Cariou | Director | March 8, 2018 |
| <u>/s/ Robert A. Cohen</u> Robert A. Cohen | Director | March 8, 2018 |
| <u>/s/ James J. Ferris</u> James J. Ferris | Director | March 8, 2018 |
| <u>/s/ Richard P. Graff</u> Richard P. Graff | Director | March 8, 2018 |
| <u>/s/ Peter Rose</u> Clifton Peter Rose | Director | March 8, 2018 |

DMC GLOBAL INC. AND SUBSIDIARIES
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AS OF DECEMBER 31, 2017

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DMC GLOBAL INC. AND SUBSIDIARIES
SCHEDULE II(a) - VALUATION AND QUALIFYING ACCOUNTS AND RESERVES
ALLOWANCE FOR DOUBTFUL ACCOUNTS

| | Balance at beginning of period | Additions charged to income | Accounts receivable written off | Currency and Other Adjustments | Balance at end of period |
|-------------------|--------------------------------------|-----------------------------------|---------------------------------------|-----------------------------------|--------------------------------|
| Year ended - | | | | | |
| December 31, 2015 | \$ 542 | \$ 1,072 | \$ (191) | \$ (449) | \$ 974 |
| December 31, 2016 | \$ 974 | \$ 873 | \$ (351) | \$ (350) | \$ 1,146 |
| December 31, 2017 | \$ 1,146 | \$ 306 | \$ (174) | \$ (190) | \$ 1,088 |

DMC GLOBAL INC. AND SUBSIDIARIES
SCHEDULE II(b) - VALUATION AND QUALIFYING ACCOUNTS AND RESERVES
WARRANTY RESERVE

| | Balance at beginning of period | Additions charged to income | Repairs allowed | Currency and Other Adjustments | Balance at end of period |
|-------------------|--------------------------------------|-----------------------------------|--------------------|-----------------------------------|--------------------------------|
| Year ended - | | | | | |
| December 31, 2015 | \$ 130 | \$ 339 | \$ (308) | \$ (31) | \$ 130 |
| December 31, 2016 | \$ 130 | \$ 535 | \$ (140) | \$ — | \$ 525 |
| December 31, 2017 | \$ 525 | \$ 218 | \$ (466) | \$ 74 | \$ 351 |

DMC GLOBAL INC. AND SUBSIDIARIES
SCHEDULE II(c) - VALUATION AND QUALIFYING ACCOUNTS AND RESERVES
INVENTORY RESERVE

| | Balance at beginning of period | Additions charged to income | Inventory write-offs | Currency and Other Adjustments | Balance at end of period |
|-------------------|--------------------------------------|-----------------------------------|-------------------------|-----------------------------------|--------------------------------|
| Year ended - | | | | | |
| December 31, 2015 | \$ 3,117 | \$ 1,952 | \$ (1,160) | (227) | \$ 3,682 |
| December 31, 2016 | \$ 3,682 | \$ 1,738 | \$ (1,198) | 4 | \$ 4,226 |
| December 31, 2017 | \$ 4,226 | \$ (22) | \$ (1,263) | 127 | \$ 3,068 |

CREDIT AND SECURITY AGREEMENT

among

DMC GLOBAL INC.

THE DOMESTIC SUBSIDIARY BORROWERS NAMED HEREIN

THE FOREIGN BORROWERS NAMED HEREIN
as Borrowers

THE LENDERS NAMED HEREIN
as Lenders

and

KEYBANK NATIONAL ASSOCIATION
as Administrative Agent, a Swing Line Lender and an Issuing Lender

KEYBANC CAPITAL MARKETS INC.
as Sole Lead Arranger and Sole Book Runner

BOKF, NA DBA COLORADO STATE BANK AND TRUST
U.S. BANK NATIONAL ASSOCIATION
as Co-Syndication Agents

dated as of
March 8, 2018

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This CREDIT AND SECURITY AGREEMENT (as the same may from time to time be amended, restated or otherwise modified, this "Agreement") is made effective as of the 8th day of March, 2018 among:

- (a) DMC GLOBAL INC., a Delaware corporation ("DMC Global");
- (b) each Domestic Subsidiary Borrower, as hereinafter defined (each such Domestic Subsidiary Borrower, together with DMC Global, collectively, the "US Borrowers" and, individually, each a "US Borrower");
- (c) each Foreign Borrower, as hereinafter defined (each such Foreign Borrower, together with each US Borrower, collectively, the "Borrowers" and, individually, each a "Borrower");
- (d) the lenders listed on Schedule 1 hereto and each other Eligible Assignee, as hereinafter defined, that from time to time becomes a party hereto pursuant to Section 2.10(b) or 12.9 hereof (collectively, the "Lenders" and, individually, each a "Lender"); and
- (e) KEYBANK NATIONAL ASSOCIATION, a national banking association, as the administrative agent for the Lenders under this Agreement (the "Administrative Agent"), a Swing Line Lender and an Issuing Lender.

WITNESSETH:

WHEREAS, the Borrowers, the Administrative Agent and the Lenders desire to contract for the establishment of credits in the aggregate principal amounts hereinafter set forth, to be made available to the Borrowers upon the terms and subject to the conditions hereinafter set forth;

NOW, THEREFORE, it is mutually agreed as follows:

ARTICLE I. DEFINITIONS

Section 1.1. Definitions. As used in this Agreement, the following terms shall have the meanings set forth below:

"Abstract Acknowledgement of Debt" means the acknowledgement of the Parallel Debt as set forth in Schedule 9 hereto.

"Account" means an account, as that term is defined in the U.C.C.

"Account Debtor" means an account debtor, as that term is defined in the U.C.C., or any other Person obligated to pay all or any part of an Account in any manner and includes (without limitation) any Guarantor thereof.

"Acquisition" means any transaction or series of related transactions for the purpose of or resulting, directly or indirectly, in (a) the acquisition of all or substantially all of the assets of any Person (other than a Company), or of all or substantially all of any business or division of any Person (other than a Company), (b) the acquisition of in excess of fifty percent (50%) of the outstanding capital stock (or other equity interest) of any Person (other than a Company), or (c) the acquisition of another Person (other than a Company) by a merger, amalgamation or consolidation or any other combination with such Person.

"Additional Borrower Assumption Agreement" means each of the Additional Borrower Assumption Agreements executed by a Company, substantially in the form of the attached Exhibit H, as the same may from time to time be amended, restated or otherwise modified.

"Additional Commitment" means that term as defined in Section 2.10(b)(i) hereof.

"Additional Issuing Lender" means a Lender (or an affiliate of a Lender) that shall have (a) agreed with the Administrative Agent to issue a Letter of Credit hereunder in its own name, but in each instance on behalf of the Revolving Lenders hereunder, and (b) executed with the Administrative Agent an Additional Issuing Lender Agreement; provided that, if such Person is an Affiliate of a Lender, both such Lender and the Affiliate of such Lender shall execute the Additional Issuing Lender Agreement.

"Additional Issuing Lender Agreement" means an Additional Issuing Lender Agreement, prepared by the Administrative Agent and in form and substance acceptable to the Administrative Agent in its reasonable discretion, among the Borrowers, the Administrative Agent and a Lender with respect to the issuance by such Lender of Letters of Credit hereunder, whereby such Lender (or an Affiliate of such Lender) agrees to become an Additional Issuing Lender.

"Additional Lender" means an Eligible Assignee that shall become a Lender during the Commitment Increase Period pursuant to Section 2.10(b) hereof.

"Additional Lender Assumption Agreement" means an additional lender assumption agreement, in form and substance satisfactory to the Administrative Agent in its reasonable discretion, wherein an Additional Lender shall become a Lender.

"Additional Lender Assumption Effective Date" means that term as defined in Section 2.10(b)(ii) hereof.

"Additional Term Loan Facility" means that term as defined in Section 2.10(b)(i) hereof.

"Additional Term Loan Facility Amendment" means that term as defined in Section 2.10(c)(ii) hereof.

"Administrative Agent Fee Letter" means the Administrative Agent Fee Letter between Administrative Borrower and the Administrative Agent, dated as of the Closing Date, as the same may from time to time be amended, restated or otherwise modified.

"Administrative Borrower" means DMC Global.

"Advantage" means any payment (whether made voluntarily or involuntarily, by offset of any deposit or other indebtedness or otherwise) received by any Lender (a) prior to an Equalization Event, in respect of the Applicable Debt, if such payment results in that Lender having less than its pro rata share (based upon its Applicable Commitment Percentage) of the Applicable Debt then outstanding, and (b) on and after an Equalization Event, in respect of the Obligations, if such payment results in that Lender having less than its pro rata share (based upon its Equalization Percentage) of the Obligations then outstanding.

"Affiliate" means, with respect to a specified Person, another Person that directly or indirectly through one or more intermediaries, Controls or is Controlled by or is under common Control with the Person specified.

"Agent" means the Administrative Agent or the Foreign Funding Agent, as applicable.

"Agent Parties" means that term as defined in Section 10.18(b) hereof.

"Agreement" means that term as defined in the first paragraph of this agreement.

"Alternate Currency" means (a) Euros, Canadian Dollars and Pounds Sterling; (b) any other currency, other than Dollars, agreed to by the Administrative Agent and the Required Lenders in writing, (i) that shall be freely transferable and convertible into Dollars, (ii) that is dealt with in the London interbank deposit market, and (iii) for which no central bank or other governmental authorization in the country of issue of such currency is required to give authorization for the use of such currency by any Lender for making Revolving Loans unless such authorization has been obtained and remains in full force and effect; or (c) any other currency, other than Dollars, that is approved in accordance with Section 2.4(g) hereof.

"Alternate Currency Exposure" means, at any time and without duplication, the sum of the Dollar Equivalent of (a) the aggregate principal amount of Alternate Currency Loans outstanding to the US Borrowers, (b) the aggregate principal amount of Alternate Currency Loans outstanding to the Foreign Borrowers, (c) the Letter of Credit Exposure that is denominated in one or more Alternate Currencies, and (d) the Swing Line Exposure that is denominated in one or more Alternate Currencies.

"Alternate Currency Issuing Lender" means the Administrative Agent.

"Alternate Currency Letter of Credit" means a commercial documentary letter of credit or standby letter of credit that shall be issued by the Alternate Currency Issuing Lender for the account of a Borrower, including amendments thereto, if any, and shall have an expiration date no later than

one year after its date of issuance (provided that such Alternate Currency Letter of Credit may provide for the renewal thereof for additional one year periods).

"Alternate Currency Loan" means a Revolving Loan described in Section 2.2(a) hereof, that shall be denominated in an Alternate Currency and on which one or more Borrowers shall pay interest at the Derived Alternate Currency Rate applicable to such Alternate Currency.

"Alternate Currency Maximum Amount" means Twenty Million Dollars (\$20,000,000).

"Alternate Currency Rate" means, for any Interest Period:

(a) with respect to an Alternate Currency Loan denominated in Euros, Pounds Sterling or any other currency that is dealt with in the London interbank deposit market, the LIBOR Fixed Rate;

(b) with respect to an Alternate Currency Loan denominated in Canadian Dollars, the Canadian Fixed Rate; and

(c) with respect to any other Alternate Currency agreed upon in accordance with the terms of this Agreement, the applicable interest rate quotation as published by Thomson Reuters or Bloomberg (or other commercially available source providing such interest rate quotations as designated by the Administrative Agent from time to time) for such Alternate Currency as the interbank lending rate for leading banks in the applicable jurisdiction as of approximately 11:00 A.M. (Local Time) two Business Days prior to the beginning of such Interest Period (or such other time as the Administrative Agent may reasonably determine in light of the rate setting mechanism), for deposits in the relevant currency with a term equivalent to such Interest Period; provided that, in the event that such rate is not available for any reason with respect to an Alternate Currency, then the Alternate Currency Rate for such Alternate Currency shall be the average of the per annum rates at which deposits in immediately available funds in the relevant Alternate Currency for the relevant Interest Period and in the amount of the Alternate Currency Loan to be disbursed or to remain outstanding during such Interest Period, as the case may be, are offered to the applicable Agent (or an Affiliate of such Agent, in such Agent's discretion) by leading banks in any Alternate Currency market reasonably selected by such Agent (or, at the option of such Agent, the per annum rate at which deposits in immediately available funds in the relevant Alternate Currency for the relevant Interest Period and in the amount of the Alternate Currency Loan are offered by such Agent), determined as of 11:00 A.M. (Local Time) (or as soon thereafter as practicable), two Business Days prior to the beginning of the relevant Interest Period pertaining to such Alternate Currency Loan hereunder.

Notwithstanding the foregoing, if at any time the Alternate Currency Rate, as determined above, is less than zero, it shall be deemed to be zero for purposes of this Agreement

"Alternate Currency Swing Line Lender" means the Foreign Funding Agent.

"Alternate Currency Swing Loan" means a loan that shall be denominated in an Alternate Currency made to one or more Foreign Borrowers by the Alternate Currency Swing Line Lender under the Swing Line Commitment, in accordance with Section 2.2(c) hereof.

"Anti-Corruption Laws" means all laws, rules, and regulations of any jurisdiction applicable to the Companies from time to time concerning or relating to bribery or corruption (including, without limitation, the Foreign Corrupt Practices Act of 1977 (FCPA) (15 U.S.C. § 78dd-1, et seq.), as amended, and the rules and regulations thereunder).

"Applicable Commitment Fee Rate" means:

(a) for the period from the Closing Date through August 31, 2018, twenty (20.00) basis points; and

(b) commencing with the Consolidated financial statements of DMC Global for the fiscal quarter ending June 30, 2018, the number of basis points set forth in the following matrix, based upon the result of the computation of the Leverage Ratio as set forth in the Compliance Certificate for such fiscal period and, thereafter, as set forth in each successive Compliance Certificate, as provided below:

| Leverage Ratio | Applicable Commitment Fee Rate |
|--|--------------------------------|
| Greater than or equal to 3.00 to 1.00 | 30.00 basis points |
| Greater than or equal to 2.50 to 1.00 but less than 3.00 to 1.00 | 25.00 basis points |
| Greater than or equal to 2.00 to 1.00 but less than 2.50 to 1.00 | 25.00 basis points |
| Greater than or equal to 1.50 to 1.00 but less than 2.00 to 1.00 | 20.00 basis points |
| Greater than or equal to 1.00 to 1.00 but less than 1.50 to 1.00 | 20.00 basis points |
| Less than 1.00 to 1.00 | 15.00 basis points |

The first date on which the Applicable Commitment Fee Rate is subject to change is September 1, 2018. After September 1, 2018, changes to the Applicable Commitment Fee Rate shall be effective on the first day of the calendar month following each date upon which the Administrative Agent should have received, pursuant to Section 5.3(c) hereof, the Compliance Certificate. The above pricing matrix does not modify or waive, in any respect, the requirements of Section 5.7 hereof, the rights of the Administrative Agent and the Lenders to charge the Default Rate, or the rights and remedies of the Administrative Agent and the Lenders pursuant to Articles VIII and IX hereof. Notwithstanding anything herein to the contrary, (i) during any period when the Borrowers shall have failed to timely deliver the Consolidated financial statements pursuant to Section 5.3(a) or (b) hereof, or the Compliance Certificate pursuant to Section 5.3(c) hereof, until such time as the appropriate Consolidated financial statements and Compliance Certificate are delivered, the Applicable Commitment Fee Rate shall, at the election of the Administrative Agent (which may be

retroactively effective), be the highest rate per annum indicated in the above pricing grid regardless of the Leverage Ratio at such time and (ii) in the event that any financial information or certification provided to the Administrative Agent in the Compliance Certificate is shown to be inaccurate (regardless of whether this Agreement or the Commitment is in effect when such inaccuracy is discovered), and such inaccuracy, if corrected, would have led to the application of a higher Applicable Commitment Fee Rate for any period (an "Applicable Commitment Fee Period") than the Applicable Commitment Fee Rate applied for such Applicable Commitment Fee Period, then (A) the Borrowers shall promptly deliver to the Administrative Agent a corrected Compliance Certificate for such Applicable Commitment Fee Period, (B) the Applicable Commitment Fee Rate shall be determined based on such corrected Compliance Certificate, and (C) the Borrowers shall promptly pay to the Administrative Agent, for the benefit of the Lenders, the accrued additional fees owing as a result of such increased Applicable Commitment Fee Rate for such Applicable Commitment Fee Period.

"Applicable Commitment Percentage" means, for each Lender:

(a) with respect to the Revolving Credit Commitment, the percentage, if any, set forth opposite such Lender's name under the column headed "Revolving Credit Commitment Percentage", as set forth on Schedule 1 hereto, subject to assignments of interests pursuant to Section 12.9 hereof; and

(b) with respect to the Capex Commitment (or the Capex Loan if the Capex Loan Commitment is no longer in effect), the percentage, if any, set forth opposite such Lender's name under the column headed "Capex Commitment Percentage", as set forth on Schedule 1 hereto, subject to assignments of interests pursuant to Section 12.9 hereof.

"Applicable Debt" means:

(a) with respect to the Revolving Credit Commitment, collectively, (i) all Indebtedness incurred by the Borrowers to the Revolving Lenders pursuant to this Agreement and the other Loan Documents, and includes, without limitation, the principal of and interest on all Revolving Loans and all Swing Loans and all obligations with respect to Letters of Credit, (ii) each extension, renewal or refinancing of the foregoing, in whole or in part, (iii) the commitment, prepayment and other fees and amounts payable hereunder in connection with the Revolving Credit Commitment, and (iv) all Related Expenses incurred in connection with the foregoing; and

(b) with respect to the Capex Commitment, collectively, (i) all Indebtedness incurred by the Borrowers to the Capex Lenders pursuant to this Agreement and the other Loan Documents, and includes, without limitation, the principal of and interest on all Capex Loans, (ii) each extension, renewal or refinancing of the foregoing in whole or in part, (iii) the Commitment, prepayment and other fees and amounts payable hereunder in connection with the Capex Commitment, and (iv) all Related Expenses incurred in connection with the foregoing.

"Applicable Margin" means:

(a) for the period from the Closing Date through August 31, 2018, one hundred seventy-five (175.00) basis points for Fixed Rate Loans and seventy-five (75.00) basis points for Base Rate Loans; and

(b) commencing with the Consolidated financial statements of DMC Global for the fiscal quarter ending June 30, 2018, the number of basis points (depending upon whether Loans are Fixed Rate Loans or Base Rate Loans) set forth in the following matrix, based upon the result of the computation of the Leverage Ratio as set forth in the Compliance Certificate for such fiscal period and, thereafter, as set forth in each successive Compliance Certificate, as provided below:

| Leverage Ratio | Applicable Basis Points for Fixed Rate Loans | Applicable Basis Points for Base Rate Loans |
|--|---|--|
| Greater than or equal to 3.00 to 1.00 | 300.00 | 200.00 |
| Greater than or equal to 2.50 to 1.00 but less than 3.00 to 1.00 | 250.00 | 150.00 |
| Greater than or equal to 2.00 to 1.00 but less than 2.50 to 1.00 | 225.00 | 125.00 |
| Greater than or equal to 1.50 to 1.00 but less than 2.00 to 1.00 | 200.00 | 100.00 |
| Greater than or equal to 1.00 to 1.00 but less than 1.50 to 1.00 | 175.00 | 75.00 |
| Less than 1.00 to 1.00 | 150.00 | 50.00 |

The first date on which the Applicable Margin is subject to change is September 1, 2018. After September 1, 2018, changes to the Applicable Margin shall be effective on the first day of the calendar month following each date upon which the Administrative Agent should have received, pursuant to Section 5.3(c) hereof, the Compliance Certificate. The above pricing matrix does not modify or waive, in any respect, the requirements of Section 5.7 hereof, the rights of the Administrative Agent and the Lenders to charge the Default Rate, or the rights and remedies of the Administrative Agent and the Lenders pursuant to Articles VIII and IX hereof. Notwithstanding anything herein to the contrary, (i) during any period when the Borrowers shall have failed to timely deliver the Consolidated financial statements pursuant to Section 5.3(a) or (b) hereof, or the Compliance Certificate pursuant to Section 5.3(c) hereof, until such time as the appropriate Consolidated financial statements and Compliance Certificate are delivered, the Applicable Margin shall, at the election of the Administrative Agent (which may be retroactively effective), be the highest rate per annum indicated in the above pricing grid for Loans of that type, regardless of the Leverage Ratio at such time, and (ii) in the event that any financial information or certification provided to the Administrative Agent in the Compliance Certificate is shown to be inaccurate (regardless of whether this Agreement or the Commitment is in effect when such inaccuracy is discovered), and such inaccuracy, if corrected, would have led to the application of a higher Applicable Margin for any period (an "Applicable Margin Period") than the Applicable Margin

applied for such Applicable Margin Period, then (A) the Borrowers shall promptly deliver to the Administrative Agent a corrected Compliance Certificate for such Applicable Margin Period, (B) the Applicable Margin shall be determined based on such corrected Compliance Certificate, and (C) the Borrowers shall promptly pay to the Administrative Agent, for the benefit of the Lenders, the accrued additional interest owing as a result of such increased Applicable Margin for such Applicable Margin Period.

"Approved Fund" means any Person (other than a natural Person) that is (or will be) engaged in making, purchasing, holding or otherwise investing in commercial loans, bonds and similar extensions of credit in the ordinary course of its activities that is administered or managed by (a) a Lender, (b) an Affiliate of a Lender, or (c) an entity or an Affiliate of an entity that administers or manages a Lender.

"Assignment Agreement" means an Assignment and Assumption Agreement entered into by a Lender and an Eligible Assignee (with the consent of any party whose consent is required by Section 12.9 hereof), and accepted by the Administrative Agent, in substantially the form of Exhibit I, or any other form approved by the Administrative Agent.

"Authorized Officer" means a Financial Officer or other individual authorized by a Financial Officer in writing (with a copy to the Administrative Agent and, if applicable, the Foreign Funding Agent) to handle certain administrative matters in connection with this Agreement.

"Bail-In Action" means the exercise of any Write-Down and Conversion Powers by the applicable EEA Resolution Authority in respect of any liability of an EEA Financial Institution.

"Bail-In Legislation" means, with respect to any EEA Member Country implementing Article 55 of Directive 2014/59/EU of the European Parliament and of the Council of the European Union, the implementing law for such EEA Member Country from time to time that is described in the EU Bail-In Legislation Schedule.

"Bank Product Agreements" means those certain cash management services and other agreements entered into from time to time between a Company and the Administrative Agent or a Lender (or an Affiliate of a Lender) in connection with any of the Bank Products.

"Bank Product Obligations" means all obligations, liabilities, contingent reimbursement obligations, fees and expenses owing by a Company to the Administrative Agent or any Lender (or an Affiliate of a Lender) pursuant to or evidenced by the Bank Product Agreements.

"Bank Products" means a service or facility extended to a Company by the Administrative Agent or any Lender (or an Affiliate of a Lender) for (a) credit cards and credit card processing services, (b) debit cards, purchase cards and stored value cards, (c) ACH transactions, and (d) cash management, including controlled disbursement, accounts or services.

"Bankruptcy Code" means Title 11 of the United States Code entitled "Bankruptcy", as now or hereafter in effect, or any successor thereto, as hereafter amended.

"Base Rate" means, for any day, a rate per annum equal to the highest of (a) the Prime Rate, (b) one-half of one percent (.50%) in excess of the Federal Funds Effective Rate, and (c) one percent (1%) in excess of the London interbank offered rate for loans in Eurodollars for a period of one month (or, if such day is not a Business Day, such rate as calculated on the most recent Business Day). Any change in the Base Rate shall be effective immediately from and after such change in the Base Rate. Notwithstanding the foregoing, if at any time the Base Rate as determined above is less than zero, it shall be deemed to be zero for purposes of this Agreement.

"Base Rate Loan" means a Revolving Loan made to US Borrowers described in Section 2.2(a) hereof, a Capex Draw Loan as described in Section 2.3(a) hereof or a portion of the Capex Term Loan described in Section 2.3(b), in each case that shall be denominated in Dollars and on which US Borrowers shall pay interest at the Derived Base Rate.

"Borrower" means that term as defined in the first paragraph of this Agreement.

"Borrowers" means that term as defined in the first paragraph of this Agreement.

"Business Day" means a day that is not a Saturday, a Sunday or a day on which banks are authorized or required to close in Cleveland, Ohio, and, in addition, (a) if the applicable Business Day relates to a Eurodollar Loan, is a day of the year on which dealings in Dollar deposits are carried on in the London interbank Eurodollar market, and (b) if the applicable Business Day relates to a Loan or Letter of Credit denominated in an Alternate Currency, is a day of the year on which dealings in deposits are carried on in such Alternate Currency in the London interbank market and in the principal financial center for such Alternate Currency.

"Canadian Dollar" or "CAD" means lawful money of Canada.

"Canadian Fixed Rate" means, for any Interest Period, a rate per annum equal to the greater of (a) (i) for a Lender that is a Schedule I Bank, the quotient obtained by dividing (A) the average of the bid rates for Canadian Dollar bankers' acceptances having identical issues and comparable maturity days as the Interest Period quoted at approximately 10:00 A.M. (Toronto time) on such date (or, if such day is not a Business Day, the immediately preceding Business Day on the CDOR Page of Reuter Monitor Money Rate Services), as adjusted by the Administrative Agent after 10:00 A.M. (Toronto time) to reflect any error in the posted rate of interest or in the posted average annual rate of interest, by (B) 1.00 minus the Reserve Percentage, and (ii) for a Lender that is not a Schedule I Bank, the rate set forth under subsection (a) above plus 10.00 basis points; and (b) one and one-half percent (1.50%). Notwithstanding the foregoing, if such average rate does not appear on the Page of Reuter Monitor Money Rate Services as contemplated above, then subsection (a)(i) above for such Interest Period on any day shall instead be calculated based on the cost of funds quoted by the Administrative Agent to raise Canadian Dollars for such Interest Period as of 10:00 A.M. (Toronto time) on such day, or, if such day is not a Business Day, then on the immediately preceding Business Day. Notwithstanding the foregoing, if at any time the Canadian Fixed Rate, as determined above, is less than zero, it shall be deemed to be zero for purposes of this Agreement.

"Capex Commitment" means the Capex Draw Commitment and the Capex Term Loan Commitment.

"Capex Conversion Date" means March 7, 2019.

"Capex Draw Commitment" means the obligation hereunder of the Capex Lenders, during the applicable Commitment Period, to make Capex Draw Loans up to an aggregate principal amount outstanding at any time equal to the Maximum Capex Draw Amount.

"Capex Draw Exposure" means, at any time, the aggregate principal amount of all Capex Draw Loans outstanding.

"Capex Draw Loan" means a loan made to a US Borrower by the Capex Lenders in accordance with Section 2.3(a) hereof.

"Capex Exposure" means, at any time, the outstanding principal amount of all Capex Loans.

"Capex Lender" means a Lender with a percentage of the Capex Commitment as set forth on Schedule 1 hereto, or that acquires a percentage of the Capex Commitment pursuant to Section 2.10(b) or 12.10 hereof.

"Capex Loan" means a Capex Draw Loan or the Capex Term Loan.

"Capex Note" means a Capex Note, in the form of the attached Exhibit D, executed and delivered pursuant to Section 2.5(d) hereof.

"Capex Term Loan" means the Loan made to a US Borrower in an original principal amount equal to the aggregate principal amount of all Capex Draw Loans outstanding on the Capex Conversion Date, in accordance with Section 2.3(b) hereof.

"Capex Term Loan Commitment" means the obligation hereunder of the Lenders to make the Capex Term Loan.

"Capex Term Loan First Payment Date" means the first Regularly Scheduled Payment Date after the Capex Conversion Date.

"Capex Term Loan Payment Amount" means an amount equal to the original principal amount of the Capex Term Loan divided by thirty-two (32).

"Capital Distribution" means a payment made, liability incurred or other consideration given by a Company to any Person that is not a Company, (a) for the purchase, acquisition, redemption, repurchase, payment or retirement of any capital stock or other equity interest of such Company, or (b) as a dividend, return of capital or other distribution (other than any stock dividend, stock split or other equity distribution payable only in capital stock or other equity of such Company) in respect of such Company's capital stock or other equity interest.

"Capital Maintenance Rules" means liable capital maintenance rules applicable to companies incorporated in Germany as a limited liability company (*Gesellschaft mit beschränkter Haftung*) or established in Germany as a limited partnership (*Kommanditgesellschaft*) with a limited liability company (*Gesellschaft mit beschränkter Haftung*) as general partner if and to the extent that the relevant company guarantees obligations of an affiliated company other than any of its subsidiaries as set forth in Schedule 8 hereto.

"Capitalized Lease Obligations" means obligations of the Companies for the payment of rent for any real or personal property under leases or agreements to lease that, in accordance with GAAP, have been or should be capitalized on the books of the lessee and, for purposes hereof, the amount of any such obligation shall be the capitalized amount thereof determined in accordance with GAAP.

"Cash Collateral Account" means a commercial Deposit Account designated as a "cash collateral account" and maintained by one or more US Borrowers with the Administrative Agent, without liability by the Administrative Agent or the Lenders to pay interest thereon, from which account the Administrative Agent, on behalf of the Lenders, shall have the exclusive right to withdraw funds until all of the Secured Obligations are paid in full (other than contingent indemnification obligations as to which no claim has been asserted).

"Cash Collateralize" means to deposit into a cash collateral account maintained with (or on behalf of) the Administrative Agent, and under the sole dominion and control of the Administrative Agent, or to pledge and deposit with or deliver to the Administrative Agent, for the benefit of any Issuing Lender, as collateral for any Letter of Credit Exposure or obligations of the Lenders to fund participations in respect of any Letter of Credit Exposure, cash or deposit account balances, or, if the Administrative Agent and such Issuing Lender shall agree in their sole discretion, other credit support, in each case pursuant to documentation in form and substance satisfactory to the Administrative Agent and such Issuing Lender. For the purposes of this Agreement, "Cash Collateral" shall have a meaning correlative to the foregoing and shall include the proceeds of such cash collateral and other credit support.

"Cash Equivalent" means cash equivalent as determined in accordance with GAAP.

"Cash Security" means all cash, instruments, Deposit Accounts, Securities Accounts and cash equivalents, in each case whether matured or unmatured, whether collected or in the process of collection, upon which one or more US Borrowers presently has or may hereafter have any claim or interest, wherever located, including but not limited to any of the foregoing that are presently or may hereafter be existing or maintained with, issued by, drawn upon by, or in the possession of the Administrative Agent or any Lender.

"Change in Control" means:

- (a) the acquisition of ownership or voting control, directly or indirectly, beneficially (within the meaning of Rules 13d-3 and 13d-5 of the Exchange Act) or of record,

on or after the Closing Date, by any Person or group (within the meaning of Sections 13d and 14d of the Exchange Act), of shares representing more than thirty-five percent (35%) of the aggregate ordinary Voting Power represented by the issued and outstanding equity interests of DMC Global;

(b) if, at any time during any period of twenty-four (24) consecutive months, a majority of the members of the board of directors of DMC Global cease to be composed of individuals (i) who were members of that board of directors on the first day of such period, (ii) whose election or nomination to that board of directors was approved by individuals referred to in subpart (i) hereof that constituted, at the time of such election or nomination, at least a majority of that board of directors, or (iii) whose election or nomination to that board of directors was approved by individuals referred to in subparts (i) and (ii) hereof that constituted, at the time of such election or nomination, at least a majority of that board of directors; or

(c) if DMC Global shall cease to own, directly or indirectly, one hundred percent (100%) of the aggregate ordinary Voting Power represented by the issued and outstanding capital stock or equity interests of each other Borrower.

"Change in Law" means the occurrence, after the Closing Date, of any of the following: (a) the adoption or taking effect of any Law, rule, regulation or treaty, (b) any change in any Law, rule, regulation or treaty or in the administration, interpretation, implementation or application thereof by any Governmental Authority, or (c) the making or issuance of any request, rule, guideline or directive (whether or not having the force of law) by any Governmental Authority; provided that, notwithstanding anything herein to the contrary, (i) the Dodd-Frank Act and all requests, rules, guidelines or directives thereunder, or issued in connection therewith, and (ii) all requests, rules, guidelines or directives promulgated by the Bank for International Settlements, the Basel Committee on Banking Supervision (or any successor or similar authority) or the United States or foreign regulatory authorities, in each case pursuant to Basel III, shall in each case be deemed to be a "Change in Law", regardless of the date enacted, adopted or issued.

"Closing Date" means the effective date of this Agreement as set forth in the first paragraph of this Agreement.

"Closing Fee Letter" means the Closing Fee Letter between Administrative Borrower and the Administrative Agent, dated as of the Closing Date.

"Code" means the Internal Revenue Code of 1986, as amended, together with the rules and regulations promulgated thereunder.

"Collateral" means (a) all of each US Borrower's existing and future (i) personal property, (ii) Accounts, Investment Property, instruments, contract rights, chattel paper, documents, supporting obligations, letter-of-credit rights, Pledged Securities, Pledged Notes, Commercial Tort Claims, General Intangibles, Inventory and Equipment, (iii) funds now or hereafter on deposit in

the Cash Collateral Account, and (iv) Cash Security; (b) the Mortgaged Real Property; and (c) Proceeds and products of any of the foregoing.

"Collateral Access Agreement" means an agreement, in form and substance reasonably satisfactory to the Administrative Agent, pursuant to which a lessor of real property on which Collateral is stored or otherwise located, or a warehouseman, consignor, processor or other bailee of Inventory or other property owned by any Credit Party, acknowledges the Liens of the Administrative Agent and waives (or, if approved by the Administrative Agent, subordinates) any Liens held by such Person on such property, and, if applicable, permits the Agents access to and use of such property to access, assemble, complete and sell any Collateral stored or otherwise located thereon.

"Commercial Tort Claim" means a commercial tort claim, as that term is defined in the U.C.C. (Schedule 7.5 hereto lists all Commercial Tort Claims of the Domestic Credit Parties in existence as of the Closing Date in excess of Two Hundred Fifty Thousand Dollars (\$250,000).)

"Commitment" means the obligation hereunder of the Lenders, during the applicable Commitment Periods, (a) to make Loans and to participate in Swing Loans and the issuance of Letters of Credit pursuant to the Revolving Credit Commitment, and (b) to make Capex Loans pursuant to the Capex Commitment; up to the Total Commitment Amount.

"Commitment Increase Period" means the period from the Closing Date to the date that is six months prior to the last day of the Commitment Period.

"Commitment Period" means (a) with respect to the Revolving Credit Commitment, the period from the Closing Date to March 7, 2023, and (b) with respect to the Capex Draw Commitment, the period from the Closing Date to the Capex Conversion Date, or, in the case of both subparts (a) and (b), such earlier date on which the Commitment shall have been terminated pursuant to Article IX hereof.

"Commodity Exchange Act" means the Commodity Exchange Act (7 U.S.C. § 1 et seq.), as amended from time to time, together with the rules and regulations promulgated thereunder.

"Communications" means, that term as defined in Section 10.18(b) hereof.

"Companies" means all Borrowers and all Subsidiaries of all Borrowers.

"Company" means a Borrower or a Subsidiary of a Borrower.

"Compliance Certificate" means a Compliance Certificate in the form of the attached Exhibit G.

"Connection Income Taxes" means Other Connection Taxes that are imposed on or measured by net income (however denominated) or that are franchise Taxes or branch profits Taxes.

"Consideration" means, in connection with an Acquisition, the aggregate consideration paid or to be paid, including borrowed funds, cash, deferred payments, the issuance of securities or notes, the assumption or incurring of liabilities (direct or contingent), the payment of consulting fees or fees for a covenant not to compete and any other consideration paid or to be paid for such Acquisition.

"Consolidated" means the resultant consolidation of the financial statements of DMC Global and its Subsidiaries in accordance with GAAP, including principles of consolidation consistent with those applied in preparation of the consolidated financial statements referred to in Section 6.14 hereof.

"Consolidated Capital Expenditures" means, for any period, the amount of capital expenditures of DMC Global, as determined on a Consolidated basis.

"Consolidated Debt Service" means, for any period, as determined on a Consolidated basis, the aggregate, without duplication, of (a) Consolidated Interest Expense paid in cash, and (b) scheduled principal payments on Consolidated Funded Indebtedness (for the avoidance of doubt, not including any optional prepayments or any unscheduled mandatory prepayments).

"Consolidated Depreciation and Amortization Charges" means, for any period, the aggregate of all depreciation and amortization charges for fixed assets, leasehold improvements and general intangibles (specifically including goodwill) of DMC Global for such period, as determined on a Consolidated basis.

"Consolidated EBITDA" means, for any period, as determined on a Consolidated basis, (a) Consolidated Net Earnings for such period plus, without duplication, the aggregate amounts deducted in determining such Consolidated Net Earnings in respect of (i) Consolidated Interest Expense, (ii) Consolidated Income Tax Expense, (iii) Consolidated Depreciation and Amortization Charges, (iv) non-cash charges excluding inventory reserves, (v) non-recurring cash charges not incurred in the ordinary course of business as agreed to by the Administrative Agent in its discretion, (vi) unrealized foreign currency losses, (vii) non-cash stock-based compensation expense, and (viii) non-cash accrual in connection with anti-dumping penalties to the extent such accrual has reduced Consolidated Net Earnings for such period, in an aggregate amount not to exceed Fourteen Million Eight Hundred Thousand Dollars (\$14,800,000) (it being understood that any cash payments made in connection with anti-dumping penalties shall not be included in such calculation) during the Commitment Period; minus (b) to the extent included in Consolidated Net Earnings for such period, (i) non-cash gains, (ii) non-recurring cash gains not incurred in the ordinary course of business, and (iii) unrealized foreign currency gains.

"Consolidated Funded Indebtedness" means, at any date, all Indebtedness of DMC Global, as determined on a Consolidated basis, evidenced by a note, bond, debenture or similar instrument with regularly scheduled interest payments and a maturity date.

"Consolidated Income Tax Expense" means, for any period, all provisions for taxes based on the gross or net income of DMC Global (including, without limitation, any additions to such taxes, and any penalties and interest with respect thereto), as determined on a Consolidated basis.

"Consolidated Interest Expense" means, for any period, the interest expense on Indebtedness (including, without limitation, the "imputed interest" portion of Capitalized Lease Obligations, synthetic leases and asset securitizations, if any, and excluding deferred financing costs) of DMC Global for such period, as determined on a Consolidated basis.

"Consolidated Net Earnings" means, for any period, the net income (loss) of DMC Global for such period, as determined on a Consolidated basis.

"Consolidated Net Worth" means, at any date, the stockholders' equity of DMC Global, determined as of such date on a Consolidated basis.

"Consolidated Unfunded Capital Expenditures" means, for any period, Consolidated Capital Expenditures that are not directly financed by the Companies with long-term Indebtedness (other than Revolving Loans) or Capitalized Lease Obligations, as determined on a Consolidated basis.

"Control" means the possession, directly or indirectly, of the power to direct or cause the direction of the management or policies of a Person, whether through the ability to exercise voting power, by contract or otherwise. "Controlling" and "Controlled" have meanings correlative thereto.

"Control Agreement" means a Deposit Account Control Agreement or Securities Account Control Agreement.

"Controlled Group" means a Company and each Person required to be aggregated with a Company under Code Section 414(b), (c), (m) or (o).

"Council Regulation (EC) 2271/96" means Council Regulation (EC) No. 2271/96 of 22 November 1996 protecting against the effects of the extra-territorial application of legislation adopted by a third country, and actions based thereon or resulting therefrom.

"Credit Event" means the making by the Lenders of a Loan, the conversion by the Lenders of a Base Rate Loan to a Eurodollar Loan, the continuation by the Lenders of a Fixed Rate Loan after the end of the applicable Interest Period, the making by a Swing Line Lender of a Swing Loan, or the issuance (or amendment or renewal) by an Issuing Lender of a Letter of Credit.

"Credit Party" means any Borrower and any Guarantor of Payment.

"Debtor Relief Laws" means the Bankruptcy Code, and all other liquidation, conservatorship, bankruptcy, assignment for the benefit of creditors, moratorium, rearrangement, receivership, insolvency, reorganization, or similar debtor relief Laws of the United States or other applicable jurisdictions, from time to time in effect.

"Debt Service Coverage Ratio" means, as determined for the most recently completed four fiscal quarters of DMC Global on a Consolidated basis, the ratio of (a) the sum of (i) Consolidated EBITDA, minus (ii) Capital Distributions paid in cash, minus (iii) Consolidated Unfunded Capital

Expenditures, minus (iv) Consolidated Income Tax Expense paid in cash (net of income taxes refunded in cash during such period); to (b) Consolidated Debt Service.

"Default" means an event or condition that constitutes, or with the lapse of any applicable grace period or the giving of notice or both would constitute, an Event of Default, and that has not been waived by the Required Lenders (or, if required hereunder, all of the Lenders) in writing.

"Default Rate" means (a) with respect to any Loan or other Obligation for which a rate is specified, a rate per annum equal to two percent (2%) in excess of the rate otherwise applicable thereto, and (b) with respect to any other amount, if no rate is specified or available, a rate per annum equal to two percent (2%) in excess of the Derived Base Rate from time to time in effect.

"Defaulting Lender" means, subject to Section 12.10(b) hereof, any Lender that (a) has failed to (i) fund all or any portion of its Loans within two Business Days of the date such Loans were required to be funded hereunder, unless such Lender notifies the Administrative Agent and the Administrative Borrower in writing that such failure is the result of such Lender's determination that one or more conditions precedent to funding (each of which conditions precedent, together with any applicable default, shall be specifically identified in such writing) has not been satisfied, or (ii) pay to the Administrative Agent, the Issuing Lender, the Swing Line Lender or any other Lender any other amount required to be paid by it hereunder (including in respect of its participation in Letters of Credit or Swing Loans) within two Business Days of the date when due, (b) has notified the Administrative Borrower, the Administrative Agent, the Issuing Lender or the Swing Line Lender in writing that it does not intend to comply with its funding obligations under this Agreement, or has made a public statement to that effect (unless such writing or public statement relates to such Lender's obligation to fund a Loan hereunder and states that such position is based on such Lender's determination that a condition precedent to funding (which condition precedent, together with any applicable default, shall be specifically identified in such writing or public statement) cannot be satisfied), (c) has failed, within three Business Days after written request by the Administrative Agent or the Administrative Borrower, to confirm in writing to the Administrative Agent and the Administrative Borrower that it will comply with its prospective funding obligations hereunder (provided that such Lender shall cease to be a Defaulting Lender pursuant to this subpart (c) upon receipt of such written confirmation by the Administrative Agent and the Administrative Borrower), or (d) has, or has a direct or indirect parent company that has, (i) become the subject of a proceeding under any Debtor Relief Law, (ii) had appointed for it a receiver, custodian, conservator, trustee, administrator, assignee for the benefit of creditors or similar Person charged with reorganization or liquidation of its business or assets, including the Federal Deposit Insurance Corporation or any other state or federal regulatory authority acting in such a capacity, or (iii) become the subject of a Bail-In Action; provided that, a Lender shall not be a Defaulting Lender solely by virtue of the ownership or acquisition of any equity interest in that Lender, or any direct or indirect parent company thereof, by a Governmental Authority, so long as such ownership interest does not result in or provide such Lender with immunity from the jurisdiction of courts within the United States, or from the enforcement of judgments or writs of attachment on its assets, or permit such Lender (or such Governmental Authority) to reject, repudiate, disavow or disaffirm any contracts or agreements made with such Lender. Any determination by the Administrative Agent that a Lender is a Defaulting Lender under any one or more of subparts (a) through (d) above shall be conclusive

and binding absent manifest error, and such Lender shall be deemed to be a Defaulting Lender (subject to Section 12.10(b) hereof) upon delivery of written notice of such determination to the Administrative Borrower, the Issuing Lender, the Swing Line Lender and each Lender.

"Deposit Account" means a deposit account, as that term is defined in the U.C.C.

"Deposit Account Control Agreement" means each Deposit Account Control Agreement (or similar agreement with respect to a Deposit Account) among a Domestic Credit Party, the Administrative Agent and a depository institution, to be in form and substance satisfactory to the Administrative Agent in its reasonable discretion as the same may from time to time be amended, restated or otherwise modified.

"Derived Alternate Currency Rate" means a rate per annum equal to the sum of the Applicable Margin (from time to time in effect) for Fixed Rate Loans plus the Alternate Currency Rate applicable to the relevant Alternate Currency.

"Derived Base Rate" means a rate per annum equal to the sum of the Applicable Margin (from time to time in effect) for Base Rate Loans plus the Base Rate.

"Derived Eurodollar Rate" means a rate per annum equal to the sum of the Applicable Margin (from time to time in effect) for Fixed Rate Loans plus the Eurodollar Rate.

"Dodd-Frank Act" means the Dodd-Frank Wall Street Reform and Consumer Protection Act (Pub.L. 111-203, H.R. 4173) signed into law on July 21, 2010, as amended from time to time.

"Dollar" or the \$ sign means lawful currency of the United States.

"Dollar Equivalent" means (a) with respect to an Alternate Currency Loan or Letter of Credit denominated in an Alternate Currency, the Dollar equivalent of the amount of such Alternate Currency Loan or Letter of Credit denominated in such Alternate Currency, determined by the Administrative Agent on the basis of its spot rate at approximately 11:00 A.M. (London time) on the date two Business Days before the date of such Alternate Currency Loan or issuance of such Letter of Credit denominated in such Alternate Currency, for the purchase of the relevant Alternate Currency with Dollars for delivery on the date of such Alternate Currency Loan or Letter of Credit, and (b) with respect to any other amount, if such amount is denominated in Dollars, then such amount in Dollars and, otherwise the Dollar equivalent of such amount, determined by the Administrative Agent on the basis of its spot rate at approximately 11:00 A.M. (London time) on the date for which the Dollar equivalent amount of such amount is being determined, for the purchase of the relevant Alternate Currency with Dollars for delivery on such date; provided that, in calculating the Dollar Equivalent for purposes of determining (i) a Borrower's obligation to prepay Loans and Letters of Credit pursuant to Section 2.12 hereof, or (ii) a Borrower's ability to request additional Loans or Letters of Credit pursuant to the Commitment, the Administrative Agent may, in its discretion, on any Business Day selected by the Administrative Agent (prior to payment in full of the Obligations), calculate the Dollar Equivalent of each such Loan or Letter of Credit. (Note that for purposes of repayment of an Alternate Currency Loan at the end of an Interest Period, the amount

of the Alternate Currency borrowed (as opposed to the Dollar Equivalent of such amount) is the amount required to be repaid.) The Administrative Agent shall notify the Administrative Borrower of the Dollar Equivalent of such Loans and Letters of Credit or any other amount, at the time that such Dollar Equivalent shall have been determined.

"Domestic Credit Party" means a US Borrower or a Domestic Guarantor of Payment.

"Domestic Guarantor of Payment" means each of the Companies designated a "Domestic Guarantor of Payment" on Schedule 3 hereto, each of which is executing and delivering a Guaranty of Payment, and any other Domestic Subsidiary that shall deliver a Guaranty of Payment to the Administrative Agent subsequent to the Closing Date.

"Domestic Subsidiary" means a Subsidiary that is not a Foreign Subsidiary.

"Domestic Subsidiary Borrower" means each of the Domestic Subsidiaries of DMC Global set forth on Schedule 2 hereto, together with any other Domestic Subsidiary of DMC Global that shall have satisfied the requirements of Section 2.15(a) hereof.

"Dormant Subsidiary" means:

(a) (i) DynaEnergetics Colombia SAS En, a Colombia corporation, (ii) Nitro Metall Aktiebolag, a Swedish corporation, and (iii) TOO KAZ DYNAEnergetics, a company organized under the laws of Kazakhstan, in each case of the foregoing only so long as (A) the total value of the assets of such entity does not exceed Two Hundred Fifty Thousand Dollars (\$250,000), and (B) all of the assets of such entity are distributed to one or more of its direct or indirect parent entities; and

(b) a Company that (a) is not a Credit Party or the direct or indirect equity holder of a Credit Party, (b) has aggregate assets of less than Fifty Thousand Dollars (\$50,000) (or the foreign currency equivalent of such amount), and (c) has no direct or indirect Subsidiaries with aggregate assets, for such Company and all such Subsidiaries, of more than Fifty Thousand Dollars (\$50,000) (or the foreign currency equivalent of such amount).

"EEA Financial Institution" means (a) any credit institution or investment firm established in any EEA Member Country which is subject to the supervision of an EEA Resolution Authority, (b) any entity established in an EEA Member Country which is a parent of an institution described in subpart (a) of this definition, or (c) any financial institution established in an EEA Member Country that is a subsidiary of an institution described in subparts (a) or (b) of this definition and is subject to consolidated supervision with its parent.

"EEA Member Country" means any of the member states of the European Union, Iceland, Liechtenstein, and Norway.

"EEA Resolution Authority" means any public administrative authority or any person entrusted with public administrative authority of any EEA Member Country (including any delegatee) having responsibility for the resolution of any EEA Financial Institution.

"Eligible Assignee" means any Person that meets the requirements to be an assignee under Section 12.9(b)(iii), (v) and (vi) hereof (subject to such consents, if any, as may be required under Section 12.9(b)(iii) hereof).

"Environmental Laws" means all provisions of law (including the common law), statutes, ordinances, codes, rules, guidelines, policies, procedures, orders-in-council, regulations, permits, licenses, judgments, writs, injunctions, decrees, orders, authorizations, certificates, approvals, registrations, awards and standards promulgated by a Governmental Authority or by any court, agency, instrumentality, regulatory authority or commission of any of the foregoing concerning environmental health or safety and protection of natural resources, or regulation of the discharge of substances into, the environment.

"Environmental Permits" means all permits, licenses, authorizations, certificates, approvals or registrations required by any Governmental Authority under any Environmental Laws.

"Equalization Event" means the earlier of (a) the occurrence of an Event of Default under Section 8.11 hereof, or (b) the acceleration of the maturity of the Obligations after the occurrence of an Event of Default.

"Equalization Maximum Amount" means that term as defined in Section 9.5(b)(i) hereof.

"Equalization Percentage" means that term as defined in Section 9.5(b)(ii) hereof.

"Equipment" means equipment, as that term is defined in the U.C.C.

"ERISA" means the Employee Retirement Income Security Act of 1974, as amended from time to time, and the regulations promulgated pursuant thereto.

"ERISA Event" means (a) the existence of a condition or event with respect to an ERISA Plan that presents a risk of the imposition of an excise tax or any other liability on a Company or of the imposition of a Lien on the assets of a Company; (b) the engagement by a Company in a non-exempt "prohibited transaction" (as defined under ERISA Section 406 or Code Section 4975) or a breach of a fiduciary duty under ERISA that could result in material liability to a Company; (c) the application by a Controlled Group member for a waiver from the minimum funding requirements of Code Section 412 or ERISA Section 302 or a Controlled Group member is required to provide security under Code Section 412(c) (4) or ERISA Section 302(c)(4); (d) the occurrence of a Reportable Event as to which notice is required to be provided to the PBGC; (e) the withdrawal by a Controlled Group member from a Multiemployer Plan in a "complete withdrawal" or a "partial withdrawal" (as such terms are defined in ERISA Sections 4203 and 4205, respectively); (f) the occurrence of a Multiemployer Plan being in endangered or critical status, as defined in Section 432 of the Code; (g) the failure of an ERISA Plan (and any related trust) that is intended to be

qualified under Code Sections 401 and 501 to be so qualified or the failure of any "cash or deferred arrangement" under any such ERISA Plan to meet the requirements of Code Section 401(k); (h) the receipt by any Controlled Group member of any notice from the PBGC or a plan administrator relating to an intention to terminate an ERISA Plan or appoint a trustee to administer a Pension Plan, or the taking by a Controlled Group member of any steps to terminate a Pension Plan; (i) the failure by a Controlled Group member or an ERISA Plan to satisfy any requirements of law applicable to an ERISA Plan; (j) the commencement, existence or threatening of a claim, action, suit, audit or investigation with respect to an ERISA Plan, other than a routine claim for benefits; or (k) any incurrence by or any expectation of the incurrence by a Controlled Group member of any liability for post-retirement benefits under any Welfare Plan, other than as required by ERISA Section 601, et. seq. or Code Section 4980B.

"ERISA Plan" means an "employee benefit plan" (within the meaning of ERISA Section 3(3)) that a Controlled Group member at any time sponsors, maintains, contributes to, has liability with respect to or has an obligation to contribute to such plan.

"EU Bail-In Legislation Schedule" means the EU Bail-In Legislation Schedule published by the Loan Market Association (or any successor entity), as in effect from time to time.

"Eurocurrency Liabilities" shall have the meaning assigned to that term in Regulation D of the Board of Governors of the Federal Reserve System, as in effect from time to time.

"Eurodollar" means a Dollar denominated deposit in a bank or branch outside of the United States.

"Eurodollar Loan" means a Revolving Loan made to a US Borrower described in Section 2.2(a) hereof, a Capex Draw Loan as described in Section 2.3(a) hereof or a portion of the Capex Term Loan described in Section 2.3(b) hereof, in each case that shall be denominated in Dollars and on which US Borrowers shall pay interest at the Derived Eurodollar Rate.

"Eurodollar Rate" means, with respect to a Eurodollar Loan, for any Interest Period, a rate per annum equal to the quotient obtained by dividing (a) the rate of interest, determined by the Administrative Agent (or the Foreign Funding Agent with respect to Alternate Currency Swing Loans made to Foreign Borrowers) in accordance with its usual procedures (which determination shall be conclusive absent manifest error) as of approximately 11:00 A.M. (London time) two Business Days prior to the beginning of such Interest Period pertaining to such Eurodollar Loan, as listed as the London interbank offered rate, as published by Thomson Reuters or Bloomberg (or, if for any reason such rate is unavailable from Thomson Reuters or Bloomberg, from any other similar company or service that provides rate quotations comparable to those currently provided by Thomson Reuters or Bloomberg) for Dollar deposits in immediately available funds with a maturity comparable to such Interest Period; by (b) 1.00 minus the Reserve Percentage. Notwithstanding the foregoing, if at any time the Eurodollar Rate, as determined above, is less than zero, it shall be deemed to be zero for purposes of this Agreement.

"Event of Default" means an event or condition that shall constitute an event of default as defined in Article VIII hereof.

"Exchange Act" means the Securities Exchange Act of 1934, as amended.

"Excluded Swap Obligations" means, with respect to any Credit Party, any Swap Obligation if, and to the extent that, all or a portion of the guarantee of such Credit Party of, or the grant by such Credit Party of a security interest to secure, such Swap Obligation (or any guarantee thereof) is or becomes illegal under the Commodity Exchange Act or any rule, regulation or order of the Commodity Futures Trading Commission (or the application or official interpretation of any thereof) by virtue of such Credit Party's failure to constitute an "eligible contract participant" as defined in the Commodity Exchange Act (determined after giving effect to any "keepwell, support or other agreement" for the benefit of such Credit Party and any and all guarantees of such Credit Party's Swap Obligations by other Credit Parties), at the time such guarantee or grant of security interest of such Credit Party becomes, or would become, effective with respect to such Swap Obligation. If a Swap Obligation arises under a master agreement governing more than one swap, such exclusion shall apply only to the portion of such Swap Obligation that is attributable to swaps for which such guarantee or security interest is, or becomes, illegal.

"Excluded Taxes" means, with respect to a Recipient, any of the following Taxes imposed on or with respect to such Recipient or required to be withheld or deducted from a payment to such Recipient, (a) Taxes imposed on or measured by net income (however denominated), franchise Taxes, and branch profits Taxes, in each case, (i) imposed as a result of such Recipient being organized under the laws of, or having its principal office located in, or, in the case of any Lender, having its applicable lending office located in, the jurisdiction imposing such Tax (or any political subdivision thereof), or (ii) that are Other Connection Taxes; (b) in the case of a Lender, U.S. federal withholding Taxes imposed on amounts payable to or for the account of such Lender with respect to an applicable interest in a Loan or Commitment pursuant to a law in effect on the date on which (i) such Lender acquires such interest in the Loan or Commitment (other than pursuant to an assignment request by the Administrative Borrower under Sections 3.6 or 12.3(c) hereof); or (ii) such Lender changes its lending office, except in each case to the extent that, pursuant to Section 3.2 hereof, amounts with respect to such Taxes were payable either to such Lender's assignor immediately before such Lender became a party hereto, or to such Lender immediately before it changed its lending office; (c) Taxes attributable to such Recipient's failure to comply with Section 3.2(e) hereof; and (d) any U.S. federal withholding Taxes imposed with respect to such Recipient pursuant to FATCA.

"FATCA" means Sections 1471 through 1474 of the Code as in effect on the Closing Date (or any amended or successor version that is substantively comparable to and not materially more onerous to comply with) and any current or future regulations or official interpretations thereof and any agreements entered into pursuant to Section 1471(b)(1) of the Code, any intergovernmental agreement entered into in connection with the implementation of such sections of the Code, and any fiscal or regulatory legislation, rules, or practices adopted pursuant to such intergovernmental agreement.

"Federal Funds Effective Rate" means, for any day, the rate per annum (rounded upward to the nearest one one-hundredth of one percent (1/100 of 1%)) announced by the Federal Reserve Bank of New York (or any successor) on such day as being the weighted average of the rates on overnight federal funds transactions arranged by federal funds brokers on the previous trading day, as computed and announced by such Federal Reserve Bank (or any successor) in substantially the same manner as such Federal Reserve Bank computes and announces the weighted average it refers to as the "Federal Funds Effective Rate" as of the Closing Date.

"Financial Officer" means any of the following officers: chief executive officer, president, chief financial officer or treasurer. Unless otherwise qualified, all references to a Financial Officer in this Agreement shall refer to a Financial Officer of the Administrative Borrower.

"Fixed Rate Loan" means a Eurodollar Loan or an Alternate Currency Loan.

"Flood Insurance Laws" means, collectively (a) the National Flood Insurance Reform Act of 1994 (which comprehensively revised the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973), as now or hereafter in effect or any successor statute thereto, (b) the Flood Insurance Reform Act of 2004, as now or hereafter in effect or any successor statute thereto, and (c) the Biggert-Waters Flood Insurance Reform Act of 2012, as now or hereafter in effect or any successor statute thereto.

"Foreign Borrower" means each of the Foreign Subsidiaries of DMC Global set forth on Schedule 2 hereto, together with any other Wholly-Owned Subsidiary of DMC Global that shall also be a Foreign Subsidiary of DMC Global that, on or after the Closing Date, shall have satisfied the requirements of Section 2.15(a) hereof.

"Foreign Borrower Revolving Credit Note" means a Foreign Borrower Revolving Credit Note, substantially in the form of the attached Exhibit B (or as otherwise required by the Administrative Agent after consultation with foreign counsel to the Administrative Agent in order to comply with applicable Law or customary practice in any such jurisdiction), executed and delivered by a Foreign Borrower pursuant to Section 2.5(b) hereof.

"Foreign Funding Agent" means a financial institution to be determined; provided that the Foreign Funding Agent may delegate its administrative duties with respect to funding to certain of its affiliates as set forth in Section 2.17 hereof. As of the Closing Date, there shall be no Foreign Funding Agent.

"Foreign Guarantor of Payment" means each of the Companies set forth on Schedule 3 hereto that shall have been designated a "Foreign Guarantor of Payment", that are each executing and delivering a Guaranty of Payment, or any other Foreign Subsidiary that shall execute and deliver a Guaranty of Payment to the Administrative Agent subsequent to the Closing Date.

"Foreign Lender" means (a) if the applicable Borrower is a U.S. Person, a Lender that is not a U.S. Person, and (b) if the applicable Borrower is not a U.S. Person, a Lender that is resident

or organized under the laws of a jurisdiction other than that in which such Borrower is resident for tax purposes.

"Foreign Subsidiary" means a Subsidiary that is organized under the laws of any jurisdiction other than the United States, any state thereof or the District of Columbia.

"Fronting Exposure" means, at any time there is a Defaulting Lender, (a) with respect to an Issuing Lender, such Defaulting Lender's outstanding Letter of Credit Exposure (to the extent of such Defaulting Lender's Applicable Commitment Percentage of the Revolving Credit Commitment) with respect to Letters of Credit issued by such Issuing Lender, other than Letter of Credit Exposure as to which such Defaulting Lender's participation obligation has been reallocated to other Lenders or Cash Collateralized in accordance with the terms hereof; and (b) with respect to a Swing Line Lender, such Defaulting Lender's Swing Line Exposure (to the extent of such Defaulting Lender's Applicable Commitment Percentage of the Revolving Credit Commitment) made by such Swing Line Lender, other than Swing Loans as to which such Defaulting Lender's participation obligation has been reallocated to other Lenders.

"GAAP" means generally accepted accounting principles in the United States as then in effect, which shall include the official interpretations thereof by the Financial Accounting Standards Board, applied on a basis consistent with the past accounting practices and procedures of DMC Global.

"General Intangibles" means (a) general intangibles, as that term is defined in the U.C.C.; and (b) choses in action, causes of action, intellectual property, customer lists, corporate or other business records, inventions, designs, patents, patent applications, service marks, registrations, trade names, trademarks, copyrights, licenses, goodwill, computer software, rights to indemnification and tax refunds.

"Governmental Authority" means the government of the United States or any other nation, or of any political subdivision thereof, whether state or local, and any agency, department, authority, instrumentality, regulatory body, court, central bank or other entity exercising executive, legislative, judicial, taxing, regulatory or administrative powers or functions of or pertaining to government (including any supra-national bodies such as the European Union or the European Central Bank), any securities exchange and any self-regulatory organization exercising such functions, and any group or body charged with setting financial accounting or regulatory capital rules or standards (including, without limitation, the Financial Accounting Standards Board, the Bank for International Settlements or the Basel Committee on Banking Supervision or any successor or similar authority to any of the foregoing).

"Guarantor" means a Person that shall have pledged its credit or property in any manner for the payment or other performance of the indebtedness, contract or other obligation of another and includes (without limitation) any guarantor (whether of payment or of collection), surety, co-maker, endorser or Person that shall have agreed conditionally or otherwise to make any purchase, loan or investment in order thereby to enable another to prevent or correct a default of any kind.

"Guarantor of Payment" means a Domestic Guarantor of Payment or Foreign Guarantor of Payment, or any other Person that shall execute and deliver a Guaranty of Payment to the Administrative Agent subsequent to the Closing Date.

"Guaranty of Payment" means each Guaranty of Payment executed and delivered on or after the Closing Date in connection with this Agreement by the Guarantors of Payment, as the same may from time to time be amended, restated or otherwise modified and which in case of a Foreign Guarantor of Payment shall be subject to applicable Capital Maintenance Rules.

"Guaranty of Payment Joinder" means each Guaranty of Payment Joinder, executed and delivered by a Domestic Guarantor of Payment for the purpose of adding such Domestic Guarantor of Payment as a party to a previously executed Guaranty of Payment.

"Hedge Agreement" means any (a) hedge agreement, interest rate swap, cap, collar or floor agreement, or other interest rate management device entered into by a Company with any Person in connection with any Indebtedness of such Company, or (b) currency swap agreement, forward currency purchase agreement or similar arrangement or agreement designed to protect against fluctuations in currency exchange rates entered into by a Company.

"Indebtedness" means, for any Company, without duplication, (a) all obligations to repay borrowed money, direct or indirect, incurred, assumed, or guaranteed, (b) all obligations in respect of the deferred purchase price of property or services (other than trade accounts payable in the ordinary course of business), (c) all obligations under conditional sales or other title retention agreements, (d) all obligations (contingent or otherwise) under any letter of credit or banker's acceptance, (e) all net obligations under any currency swap agreement, interest rate swap, cap, collar or floor agreement or other interest rate management device or any Hedge Agreement, (f) all synthetic leases, (g) all Capitalized Lease Obligations, (h) all obligations of such Company with respect to asset securitization financing programs, (i) all obligations to advance funds to, or to purchase assets, property or services from, any other Person in order to maintain the financial condition of such Person, (j) all indebtedness of the types referred to in subparts (a) through (i) above of any partnership or joint venture (other than a joint venture that is itself a corporation or limited liability company) in which such Company is a general partner or joint venturer, unless such indebtedness is expressly made non-recourse to such Company, (k) any other transaction (including forward sale or purchase agreements) having the commercial effect of a borrowing of money entered into by such Company to finance its operations or capital requirements, and (l) any guaranty of any obligation described in subparts (a) through (k) above.

"Indemnified Taxes" means (a) Taxes, other than Excluded Taxes, imposed on or with respect to any payment made by or on account of any obligation of any Credit Party under any Loan Document, and (b) to the extent not otherwise described in the foregoing subpart (a), Other Taxes.

"Intellectual Property Security Agreement" means each Intellectual Property Security Agreement, executed and delivered by a Domestic Credit Party, wherein such Credit Party, as the case may be, has granted to the Administrative Agent, for the benefit of the Lenders, a security

interest in all intellectual property owned by such Domestic Credit Party, as the same may from time to time be amended, restated or otherwise modified.

"Interest Adjustment Date" means the last day of each Interest Period.

"Interest Period" means, with respect to a Fixed Rate Loan, the period commencing on the date such Fixed Rate Loan is made and ending on the last day of such period, as selected by Administrative Borrower (or the appropriate Foreign Borrower) pursuant to the provisions hereof, and, thereafter, each subsequent period commencing on the last day of the immediately preceding Interest Period and ending on the last day of such period, as selected by the Administrative (or the appropriate Foreign Borrower) pursuant to the provisions hereof. The duration of each Interest Period for any Fixed Rate Loan shall be one month, two months, three months, or six months, in each case as the Administrative Borrower (or the appropriate Foreign Borrower) may select upon notice, as set forth in Section 2.6 hereof, provided that, (a) if the Administrative Borrower (or the appropriate Foreign Borrower) shall fail to so select the duration of any Interest Period for a Eurodollar Loan at least three Business Days prior to the Interest Adjustment Date applicable to such Eurodollar Loan, such Borrower shall be deemed to have continued such Eurodollar Loan with a new Interest Period of the same duration at the end of the then current Interest Period; (b) the Administrative Borrower (or the appropriate Foreign Borrower) may not select any Interest Period for a Fixed Rate Loan that shall end after any date when principal shall be due on such Fixed Rate Loan; and, (c) if the Administrative Borrower (or the appropriate Foreign Borrower) shall fail to select a new Interest Period with respect to an outstanding Alternate Currency Loan at least three Business Days prior to the Interest Adjustment Date applicable to such Alternative Currency Loan, such Alternate Currency Loan shall be repaid on the last day of the applicable Interest Period.

"Inventory" means inventory, as that term is defined in the U.C.C.

"Investment Property" means investment property, as that term is defined in the U.C.C., unless the Uniform Commercial Code as in effect in another jurisdiction would govern the perfection and priority of a security interest in investment property, and, in such case, "investment property" shall be defined in accordance with the law of that jurisdiction as in effect from time to time.

"IRS" means the United States Internal Revenue Service.

"Issuing Lender" means (a) as to any US Letter of Credit transaction hereunder, the US Issuing Lender as issuer of such US Letter of Credit, (b) as to any Alternate Currency Letter of Credit transaction hereunder, the Alternate Currency Swing Line Lender as issuer of such Alternate Currency Letter of Credit, or (c) in the event that the US Issuing Lender or the Alternate Currency Issuing Lender, as applicable, either shall be unable to issue or the Administrative Agent shall agree that another Revolving Lender may issue, such Letter of Credit, such other Revolving Lender as shall be acceptable to the Administrative Agent in its reasonable discretion and shall agree to issue the Letter of Credit in its own name, but in each instance on behalf of the Revolving Lenders hereunder, with such other Lender being an Additional Issuing Lender.

"KeyBank" means KeyBank National Association, and its successors and assigns.

"Laws" means, collectively, all international, foreign, federal, state and local statutes, treaties, rules, guidelines, regulations, ordinances, codes and administrative or judicial precedents or authorities having the force of law, and all applicable administrative orders, directed duties, requests, licenses, authorizations and permits of, and agreements with, any Governmental Authority having the force of law.

"Lender" means that term as defined in the first paragraph of this Agreement and, as the context requires, shall include the Issuing Lenders and the Swing Line Lenders.

"Lender Credit Exposure" means, for any Lender, at any time, the aggregate of such Lender's respective pro rata shares of the Revolving Credit Exposure and the Capex Exposure.

"Letter of Credit" means a US Letter of Credit or Alternate Currency Letter of Credit.

"Letter of Credit Commitment" means the commitment of the Issuing Lenders, on behalf of the Revolving Lenders, to issue Letters of Credit in an aggregate face amount of up to Twenty-Five Million Dollars (\$25,000,000) (or the Dollar Equivalent thereof).

"Letter of Credit Exposure" means, at any time, the Dollar Equivalent of the sum of (a) the aggregate undrawn amount of all issued and outstanding Letters of Credit, and (b) the aggregate of the draws made on Letters of Credit that have not been reimbursed by the Borrowers or converted to a Revolving Loan pursuant to Section 2.2(b)(vi) hereof.

"Letter of Credit Fee" means, with respect to any Letter of Credit, for any day, an amount equal to (a) the undrawn portion of the face amount of such Letter of Credit, multiplied by (b) the Applicable Margin for Fixed Rate Loans in effect on such day divided by three hundred sixty (360).

"Letter of Credit Request" means a Letter of Credit Request in the form of the attached Exhibit F.

"Leverage Ratio" means, as determined on a Consolidated basis, the ratio of (a) Consolidated Funded Indebtedness (as of the end of the most recently completed fiscal quarter of DMC Global); to (b) Consolidated EBITDA (for the most recently completed four fiscal quarters of DMC Global).

"LIBOR Fixed Rate" means, with respect to an Alternate Currency Loan denominated in Euros, Pounds Sterling or any other currency that is dealt with in the London interbank deposit market, for any Interest Period, a rate per annum equal to the quotient obtained by dividing (a) the rate of interest, reasonably determined by the Administrative Agent in accordance with its usual procedures (which determination shall be conclusive absent manifest error) as of approximately 11:00 A.M. (London time) two Business Days prior to the beginning of such Interest Period pertaining to such Alternate Currency Loan (or, with respect to an Alternate Currency Loan funded in Pounds Sterling, on the first day of such Interest Period), as listed as the London interbank offered rate, as published by Thomson Reuters or Bloomberg, for deposits in the relevant Alternate Currency in immediately available funds with a maturity comparable to such Interest Period, provided that,

in the event that such rate is not, for any reason, available from Thomson Reuters or Bloomberg then the LIBOR Fixed Rate shall be determined by the Administrative Agent to be the arithmetic average of the rates per annum at which deposits in such Alternate Currency would be offered by first class banks in the London interbank market to the Administrative Agent (or an affiliate of the Administrative Agent, in the Administrative Agent's discretion) at approximately 11:00 a.m. (London time) two Business Days prior to the first day of the applicable Interest Period for a period equal to such Interest Period; by (b) 1.00 minus the Reserve Percentage.

"Lien" means any mortgage, pledge, hypothecation, collateral assignment, deposit arrangement, encumbrance, lien (statutory or other), charge, or preference, priority or other security interest or preferential arrangement of any kind or nature whatsoever (including any conditional sale or other title retention agreement, any easement, right of way or other encumbrance on title to real property, and any financing lease having substantially the same economic effect as any of the foregoing).

"Loan" means a Revolving Loan, a Swing Loan or a Capex Loan.

"Loan Documents" means, collectively, this Agreement, each Note, each Guaranty of Payment, each Guaranty of Payment Joinder, all documentation relating to each Letter of Credit, each Security Document, each Additional Borrower Assumption Agreement, the Administrative Agent Fee Letter and the Closing Fee Letter, as any of the foregoing may from time to time be amended, restated or otherwise modified or replaced, and any other document delivered pursuant thereto which states therein that such document is a "Loan Document".

"Local Time" means (a) with respect to Alternate Currency Loans and Letters of Credit that are denominated in Alternate Currencies and actually funded or issued, as applicable, by a Lender organized in a jurisdiction other than the United States of America, the local time in the principal financial center where such Alternate Currency is cleared and settled, as determined by the Administrative Agent, for the applicable Alternate Currency and (b) in each other context, Eastern time.

"Mandatory Prepayment" means that term as defined in Section 2.12(e) hereof.

"Master Letter of Credit Agreement" means, with respect to the issuance of Letters of Credit, a letter of credit agreement in the form being used by the applicable Issuing Lender at such time, in each case in form and substance satisfactory to the Administrative Agent in its reasonable discretion.

"Material Adverse Effect" means a material adverse effect on (a) the business, assets, liabilities (actual or contingent), operations, or condition (financial or otherwise) of the Credit Parties, taken as a whole, (b) the rights and remedies of the Administrative Agent or the Lenders under any Loan Document, (c) the ability of the Credit Parties to perform their obligations under any Loan Document, or (d) the legality, validity, binding effect or enforceability against the Credit Parties of any Loan Document.

"Material Agreement" means (a) any contract, agreement or other arrangement (other than the Loan Documents) to which any Company is a party as to which the breach, nonperformance, cancellation or failure to renew by any party thereto could reasonably be expected to result in a Material Adverse Effect, and (b) any Material Indebtedness Agreement.

"Material Indebtedness Agreement" means any debt instrument, lease (capital, operating or otherwise), guaranty, contract, commitment, agreement or other arrangement evidencing or entered into in connection with any Indebtedness of any Company or the Companies the outstanding principal amount or available commitment of which is equal to or in excess, in the aggregate, of the amount of Five Million Dollars (\$5,000,000).

"Material Recovery Determination Notice" means that term as defined in Section 2.12(e)(ii) hereof.

"Material Recovery Event" means (a) any casualty loss in respect of assets of a Company covered by casualty insurance, and (b) any compulsory transfer or taking under threat of compulsory transfer of any asset of a Company by any Governmental Authority; provided that, in the case of either subpart (a) or (b) hereof, the proceeds received by the Companies from such loss, transfer or taking exceeds One Million Dollars (\$1,000,000).

"Maximum Amount" means, for each Lender, the amount set forth opposite such Lender's name under the column headed "Maximum Amount" as set forth on Schedule 1 hereto, subject to (a) decreases pursuant to Section 2.10(a) hereof, (b) increases pursuant to Section 2.10(b) hereof, (c) decreases of the Capex Term Loan by virtue of principal payments made, and (d) assignments of interests pursuant to Section 12.9 hereof; provided that the Maximum Amount for a Swing Line Lender shall exclude the Swing Line Commitment (other than its pro rata share), and the Maximum Amount of an Issuing Lender shall exclude the Letter of Credit Commitment (other than its pro rata share thereof).

"Maximum Capex Draw Amount" means Twenty-Five Million Dollars (\$25,000,000).

"Maximum Rate" means that term as defined in Section 2.4(f) hereof.

"Maximum Revolving Amount" means Fifty Million Dollars (\$50,000,000), as such amount may be increased pursuant to Section 2.10(b) hereof or reduced pursuant to Section 2.10(a) hereof.

"Minimum Collateral Amount" means, at any time, (a) with respect to Cash Collateral consisting of cash or deposit account balances, an amount equal to one hundred three percent (103%) of the Fronting Exposure of the Issuing Lender with respect to Letters of Credit issued and outstanding at such time, and (b) otherwise, an amount determined by the Administrative Agent and the Issuing Lender in their sole discretion.

"Moody's" means Moody's Investors Service, Inc., and any successor to such company.

"Mortgage" means each Open-End Mortgage, Assignment of Leases and Rents and Security Agreement (orded of trust or comparable document), relating to the Mortgaged Real Property, executed and delivered by a Credit Party, to further secure the Secured Obligations, as the same may from time to time be amended, restated or otherwise modified.

"Mortgaged Real Property" means each parcel of real estate owned by a Credit Party, as set forth on Schedule 5 hereto, together with all improvements and buildings thereon and all appurtenances, easements or other rights thereto belonging, and being defined collectively as the "Property" in each of the Mortgages.

"Multiemployer Plan" means a Pension Plan that is subject to the requirements of Subtitle E of Title IV of ERISA.

"Non-Consenting Lender" means that term as defined in Section 12.3(c) hereof.

"Non-Defaulting Lender" means, at any time, each Lender that is not a Defaulting Lender at such time.

"Note" means a Revolving Credit Note, a Swing Line Note or a Capex Note, or any other promissory note delivered pursuant to this Agreement.

"Notice of Loan" means a Notice of Loan in the form of the attached Exhibit E.

"Obligations" means, collectively, (a) all Indebtedness and other obligations now owing or hereafter incurred by one or more Borrowers to the Administrative Agent, the Foreign Funding Agent, any Swing Line Lender, any Issuing Lender, or any Lender pursuant to this Agreement and the other Loan Documents, and includes the principal of and interest on all Loans, and all obligations of the Borrowers or any other Credit Party pursuant to Letters of Credit; (b) each extension, renewal, consolidation or refinancing of any of the foregoing, in whole or in part; (c) the commitment and other fees, and any prepayment fees, payable pursuant to this Agreement or any other Loan Document; (d) all fees and charges owing by any Company in connection with Letters of Credit; (e) every other liability, now or hereafter owing to the Administrative Agent or any Lender by any Company pursuant to this Agreement or any other Loan Document; and (f) all Related Expenses.

"Operating Leases" means all real or personal property leases under which any Company is bound or obligated as a lessee or sublessee and which, under GAAP, are not required to be capitalized on a balance sheet of such Company; provided that Operating Leases shall not include any such lease under which any Company is also bound as the lessor or sublessor.

"Organizational Documents" means, with respect to any Person (other than an individual), such Person's Articles (Certificate) of Incorporation, operating agreement or equivalent formation documents, and Regulations (Bylaws), or equivalent governing documents, and any amendments to any of the foregoing.

"Other Connection Taxes" means, with respect to any Recipient, Taxes imposed as a result of a present or former connection between such Recipient and the jurisdiction imposing such Taxes (other than connections arising from such Recipient having executed, delivered, become a party to, performed its obligations under, received payments under, received or perfected a security interest under, engaged in any other transaction pursuant to or enforced any Loan Document, or sold or assigned an interest in any Loan, Letter of Credit or any Loan Document).

"Other Taxes" means all present or future stamp, court or documentary, intangible, recording, filing or similar Taxes that arise from any payment made hereunder or under any other Loan Document, or from the execution, delivery, performance, or enforcement or registration of, from the receipt or perfection of a security interest under, or otherwise with respect to, this Agreement or any other Loan Document, except any such Taxes that are Other Connection Taxes imposed with respect to an assignment (other than an assignment made pursuant to Section 3.6 or 12.3(c) hereof).

"Overall Commitment Percentage" means, for any Lender, the percentage determined by dividing (a) the sum, based upon such Lender's Applicable Commitment Percentages, of (i) the principal outstanding on the Capex Loans and under the Capex Commitment, (ii) the aggregate principal amount of Revolving Loans outstanding, (iii) the Swing Line Exposure, and (iv) the Letter of Credit Exposure; by (b) the sum of (i) the aggregate principal amount of all Loans outstanding, plus (ii) the Letter of Credit Exposure.

"Participant" means that term as defined in Section 12.9(d) hereof.

"Participant Register" means that term as defined in Section 12.9(d) hereof.

"Patriot Act" means the Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of 2001, USA Patriot Act, Title III of Pub. L. 107-56, signed into law October 26, 2001, as amended from time to time.

"PBGCo" means the Pension Benefit Guaranty Corporation, and its successor.

"Pension Plan" means an ERISA Plan that is a "pension plan" (within the meaning of ERISA Section 3(2)).

"Person" means any individual, sole proprietorship, partnership, joint venture, unincorporated organization, corporation, limited liability company, unlimited liability company, institution, trust, estate, Governmental Authority or any other entity.

"Platform" means Debt Domain, Intralinks, Syndtrak or a substantially similar electronic transmission system selected by the Administrative Agent.

"Pledge Agreement" means each of the Pledge Agreements, relating to the Pledged Securities, executed and delivered by a Borrower or a Guarantor of Payment, as applicable, in favor of the Administrative Agent, for the benefit of the Lenders, as any of the foregoing may from time to time be amended, restated or otherwise modified.

"Pledged Notes" means the promissory notes payable to a Domestic Credit Party, as described on Schedule 7.4 hereto, and any additional or future promissory notes that may hereafter from time to time be payable to one or more Domestic Credit Parties; provided that Schedule 7.4 shall not include, and the delivery requirements of Section 7.4 hereof shall not apply to, any such promissory note the original principal amount of which is less than Two Hundred Fifty Thousand Dollars (\$250,000) so long as the aggregate principal amount of all promissory notes below such threshold amount does not exceed One Million Dollars (\$1,000,000).

"Pledged Securities" means all of the shares of capital stock or other equity interests of a direct Subsidiary of a Credit Party, whether now owned or hereafter acquired or created, and all proceeds thereof; provided that Pledged Securities shall exclude (a) shares of capital stock or other equity interests of any Foreign Subsidiary that is not a first-tier Foreign Subsidiary, and (b) shares of voting capital stock or other voting equity interests in any first-tier Foreign Subsidiary in excess of sixty-five percent (65%) of the total outstanding shares of voting capital stock or other voting equity interest of such first-tier Foreign Subsidiary. (Schedule 4 hereto lists, as of the Closing Date, all of the Pledged Securities.)

"Prime Rate" means the interest rate established from time to time by the Administrative Agent as the Administrative Agent's prime rate, whether or not such rate shall be publicly announced; the Prime Rate may not be the lowest interest rate charged by the Administrative Agent for commercial or other extensions of credit. Each change in the Prime Rate shall be effective immediately from and after such change.

"Proceeds" means (a) proceeds, as that term is defined in the U.C.C., and any other proceeds, and (b) whatever is received upon the sale, exchange, collection or other disposition of Collateral or proceeds, whether cash or non-cash. Cash proceeds include, without limitation, moneys, checks and Deposit Accounts. Proceeds include, without limitation, any Account arising when the right to payment is earned under a contract right, any insurance payable by reason of loss or damage to the Collateral, and any return or unearned premium upon any cancellation of insurance. Except as expressly authorized in this Agreement, the right of the Administrative Agent and the Lenders to Proceeds specifically set forth herein, or indicated in any financing statement, shall never constitute an express or implied authorization on the part of the Administrative Agent or any Lender to a Company's sale, exchange, collection or other disposition of any or all of the collateral securing the Secured Obligations.

"Recipient" means, as applicable (a) the Administrative Agent, (b) any Lender, or (c) any Issuing Lender.

"Register" means that term as described in Section 12.9(c) hereof.

"Regularly Scheduled Payment Date" means the last day of each March, June, September and December of each year.

"Related Expenses" means any and all costs, liabilities and expenses (including, without limitation, losses, damages, penalties, claims, actions, reasonable attorneys' fees, legal expenses, judgments, suits and disbursements) (a) incurred by the Administrative Agent, or imposed upon or asserted against the Administrative Agent or any Lender, in any attempt by the Administrative Agent and the Lenders to (i) obtain, preserve, perfect or enforce any Loan Document or any security interest evidenced by any Loan Document; (ii) obtain payment, performance or observance of any and all of the Secured Obligations; or (iii) maintain, insure, audit, collect, preserve, repossess or dispose of any of the collateral securing the Secured Obligations or any part thereof, including, without limitation, costs and expenses for appraisals, assessments and audits of any Company or any such collateral; or (b) incidental or related to subpart (a) above, including, without limitation, interest thereupon from the date incurred, imposed or asserted until paid at the Default Rate.

"Related Parties" means, with respect to any Person, such Person's Affiliates and the partners, directors, officers, employees, agents, trustees, administrators, managers, advisors and representatives of such Person and of such Person's Affiliates.

"Related Writing" means each Loan Document and any other assignment, mortgage, security agreement, guaranty agreement or subordination agreement executed and delivered by any Credit Party, or any of its officers, to the Administrative Agent or the Lenders pursuant to or otherwise in connection with this Agreement; provided that no Bank Product Agreement or Hedge Agreement shall constitute a Related Writing hereunder.

"Reportable Event" means a "reportable event" as that term is defined in ERISA Title IV, Section 4043(c).

"Required Lenders" means the holders, based upon each Lender's Applicable Commitment Percentages, of at least fifty-one percent (51%) of an amount (the "Total Amount") equal to the sum of:

- (a) (i) during the Commitment Period applicable to the Revolving Credit Commitment, the Maximum Revolving Amount, or (ii) after the Commitment Period applicable to the Revolving Credit Commitment, the Revolving Credit Exposure;
- (b) (i) during the Commitment Period applicable to the Capex Draw Commitment, the Maximum Capex Draw Amount, or (ii) after such Commitment Period, the principal outstanding under the Capex Term Loan Commitment; and
- (c) the principal outstanding on the Additional Term Loan Facility;

provided that (A) the portion of the Total Amount held or deemed to be held by any Defaulting Lender shall be excluded for purposes of making a determination of Required Lenders, and (B) if there shall be two or more unaffiliated Lenders (that are not Defaulting Lenders), Required Lenders shall constitute at least two unaffiliated Lenders (that are not Defaulting Lenders).

"Reserve Percentage" means, for any day, that percentage (expressed as a decimal) that is in effect on such day, as prescribed by the Board of Governors of the Federal Reserve System (or any successor) for determining the maximum reserve requirement (including, without limitation, all basic, supplemental, marginal and other reserves and taking into account any transitional adjustments or other scheduled changes in reserve requirements) for a member bank of the Federal Reserve System in Cleveland, Ohio, in respect of Eurocurrency Liabilities. The Eurodollar Rate and the Alternate Currency Rate shall be adjusted automatically on and as of the effective date of any change in the Reserve Percentage.

"Restricted Payment" means, with respect to any Company, (a) any Capital Distribution, (b) any amount paid by such Company in repayment, redemption, retirement or repurchase, directly or indirectly, of any Subordinated Indebtedness, or (c) any amount paid by such Company in respect of any management, consulting or other similar arrangement with any equity holder (other than a Company) of a Company or an Affiliate of a Company.

"Revolving Credit Commitment" means the obligation hereunder, during the applicable Commitment Period, of (a) the Revolving Lenders (and each Revolving Lender) to make Revolving Loans, (b) the Issuing Lenders to issue and each Revolving Lender to participate in, Letters of Credit pursuant to the Letter of Credit Commitment, and (c) the Swing Line Lenders to make, and each Revolving Lender to participate in, Swing Loans pursuant to the Swing Line Commitment; up to an aggregate principal amount outstanding at any time equal to the Maximum Revolving Amount.

"Revolving Credit Exposure" means, at any time, the Dollar Equivalent of the sum of (a) the aggregate principal amount of all Revolving Loans outstanding, (b) the Swing Line Exposure, and (c) the Letter of Credit Exposure.

"Revolving Credit Note" means a US Borrower Revolving Credit Note or a Foreign Borrower Revolving Credit Note.

"Revolving Lender" means a Lender with a percentage of the Revolving Credit Commitment as set forth on Schedule 1 hereto, or that acquires a percentage of the Revolving Credit Commitment pursuant to Section 2.10(b) or 12.9 hereof.

"Revolving Loan" means a loan made to the Borrowers by the Revolving Lenders in accordance with Section 2.2(a) hereof.

"Sanctions" means any sanctions administered or enforced from time to time by (a) the U.S. government, including those administered by the U.S. Department of the Treasury's Office of Foreign Assets Control or the U.S. Department of State, or (b) the United Nations Security Council, the European Union or Her Majesty's Treasury of the United Kingdom, or other relevant sanctions authorities.

"Secured Obligations" means, collectively, (a) the Obligations, (b) all obligations and liabilities of the Companies owing to a Lender (or an entity that is an Affiliate of a then existing Lender) under Hedge Agreements, and (c) the Bank Product Obligations owing to a Lender (or an

entity that is an Affiliate of a then existing Lender) under Bank Product Agreements; provided that Secured Obligations of a Credit Party shall not include Excluded Swap Obligations owing from such Credit Party.

"Securities Account" means a securities account, as that term is defined in the U.C.C.

"Securities Account Control Agreement" means each Securities Account Control Agreement (or similar agreement with respect to a Securities Account) among a Domestic Credit Party, the Administrative Agent and a Securities Intermediary, to be in form and substance satisfactory to the Administrative Agent in its reasonable discretion, as the same may from time to time be amended, restated or otherwise modified.

"Securities Intermediary" means a clearing corporation or a Person, including, without limitation, a bank or broker, that in the ordinary course of its business maintains Securities Accounts for others and is acting in that capacity.

"Security Agreement" means each Security Agreement, executed and delivered by a Domestic Guarantor of Payment in favor of the Administrative Agent, for the benefit of the Lenders, and any other Security Agreement executed on or after the Closing Date, as the same may from time to time be amended, restated or otherwise modified.

"Security Agreement Joinder" means each Security Agreement Joinder, executed and delivered by a Domestic Guarantor of Payment for the purpose of adding such Domestic Guarantor of Payment as a party to a previously executed Security Agreement.

"Security Document" means each Security Agreement, each Security Agreement Joinder, each Pledge Agreement, each Intellectual Property Security Agreement, each Collateral Access Agreement, each Control Agreement, each U.C.C. Financing Statement or similar filing as to a jurisdiction located outside of the United States filed in connection herewith or perfecting any interest created in any of the foregoing documents, and any other document pursuant to which any Lien is granted by a Company or any other Person to the Administrative Agent, for the benefit of the Lenders, as security for the Secured Obligations, or any part thereof, as any of the foregoing may from time to time be amended, restated or otherwise modified or replaced.

"Specific Commitment" means the Revolving Credit Commitment or the Capex Commitment.

"Standard & Poor's" means S&P Global Ratings, a business unit of Standard & Poor's Financial Services LLC, a subsidiary of S&P Global Inc., and any successor thereto.

"Subordinated Indebtedness" means Indebtedness that shall have been subordinated (by written terms or written agreement being, in either case, in form and substance satisfactory to the Administrative Agent in its reasonable discretion) in favor of the prior payment in full of the Obligations (other than contingent indemnification obligations as to which no claim has been asserted).

"Subsidiary" means (a) a corporation more than fifty percent (50%) of the Voting Power of which is owned, directly or indirectly, by a Borrower or by one or more other subsidiaries of such Borrower or by such Borrower and one or more subsidiaries of such Borrower, (b) a partnership, limited liability company or unlimited liability company of which a Borrower, one or more other subsidiaries of such Borrower or such Borrower and one or more subsidiaries of such Borrower, directly or indirectly, is a general partner or managing member, as the case may be, or otherwise has an ownership interest greater than fifty percent (50%) of all of the ownership interests in such partnership, limited liability company or unlimited liability company, or (c) any other Person (other than a corporation, partnership, limited liability company or unlimited liability company) in which a Borrower, one or more other subsidiaries of such Borrower or such Borrower and one or more subsidiaries of such Borrower, directly or indirectly, has at least a majority interest in the Voting Power or the power to elect or direct the election of a majority of directors or other governing body of such Person. Unless otherwise specified, references to Subsidiary shall mean a Subsidiary of DMC Global.

"Subsidiary Borrower" means a Borrower other than DMC Global.

"Swap Obligations" means, with respect to any Company, any obligation to pay or perform under any agreement, contract or transaction that constitutes a "swap" within the meaning of section 1a(47) of the Commodity Exchange Act.

"Swing Line Commitment" means (a) with respect to US Swing Loans, the commitment of the US Swing Line Lender to make US Swing Loans to the Borrowers, on a discretionary basis, up to the aggregate amount at any time outstanding of Seven Million Five Hundred Thousand Dollars (\$7,500,000), and (b) with respect to Alternate Currency Swing Loans, the commitment of the Alternate Currency Swing Line Lender to make Alternate Currency Swing Loans to the Foreign Borrowers, on a discretionary basis, up to the aggregate amount at any time outstanding of Zero Dollars (\$0) (or the Dollar Equivalent thereof).

"Swing Line Exposure" means, at any time, the aggregate principal amount of all Swing Loans outstanding.

"Swing Line Lender" means the US Swing Line Lender and the Alternate Currency Swing Line Lender.

"Swing Line Note" means the Swing Line Note, in the form of the attached Exhibit C, executed and delivered pursuant to Section 2.5(c) hereof.

"Swing Loan" means a US Swing Loan or an Alternate Currency Swing Loan.

"Swing Loan Maturity Date" means, with respect to any Swing Loan, the earlier of (a) fifteen (15) days after the date such Swing Loan is made, or (b) the last day of the Commitment Period.

"Taxes" means all present or future taxes, levies, imposts, duties, deductions, withholdings (including backup withholding), assessments, fees or other charges imposed by any Governmental Authority, including any interest, additions to tax or penalties applicable thereto.

"Total Commitment Amount" means the principal amount of the Dollar Equivalent of Seventy-Five Million Dollars (\$75,000,000), as such amount may be increased pursuant to Section 2.10(b) hereof, or decreased pursuant to Section 2.10(a) hereof; provided that, for the purposes of determining the Total Commitment Amount, the Administrative Agent may, in its discretion, calculate the Dollar Equivalent of any Alternate Currency Loan on any Business Day selected by the Administrative Agent.

"Trade Date" means that term as defined in Section 12.9(b)(i)(B) hereof.

"U.C.C." means the Uniform Commercial Code, as in effect from time to time in the State of New York; provided that, if perfection or the effect of perfection or non-perfection or the priority of any security interest in any Collateral is governed by the Uniform Commercial Code as in effect in a jurisdiction other than the State of New York, "U.C.C." means the Uniform Commercial Code as in effect from time to time in such other jurisdiction for purposes of the provisions hereof relating to such perfection, effect of perfection or non-perfection or priority.

"U.C.C. Financing Statement" means a financing statement filed or to be filed in accordance with the Uniform Commercial Code, as in effect from time to time, in the relevant state or states.

"U.S. Person" means any Person that is a "United States Person" as defined in Section 7701(a)(30) of the Code.

"U.S. Tax Compliance Certificate" means that term as defined in Section 3.2(e) hereof.

"United States" means the United States of America.

"US Borrower" means that term as defined in the first paragraph of this Agreement.

"US Borrower Revolving Credit Note" means a US Borrower Revolving Credit Note, in the form of the attached Exhibit A, executed and delivered by US Borrowers pursuant to Section 2.5(a) hereof.

"US Issuing Lender" means (a) KeyBank or any of its Affiliates that is an Additional Fronting Lender with respect to US Letters of Credit, or (b) any other Additional Fronting Lender with respect to US Letters of Credit issued.

"US Letter of Credit" means a commercial documentary letter of credit or standby letter of credit that shall be issued by the US Issuing Lender for the account of a US Borrower or Domestic Guarantor of Payment, including amendments thereto, if any, and shall have an expiration date no later than one year after its date of issuance (provided that such US Letter of Credit may provide for the renewal thereof for additional one year periods).

"US Swing Line Lender" means KeyBank.

"US Swing Loan" means a loan that shall be denominated in Dollars made to the US Borrowers by the US Swing Line Lender under the Swing Line Commitment, in accordance with Section 2.2(c) hereof.

"Voting Power" means, with respect to any Person, the exclusive ability to control, through the ownership of shares of capital stock, partnership interests, membership interests or otherwise, the election of members of the board of directors or other similar governing body of such Person. The holding of a designated percentage of Voting Power of a Person means the ownership of shares of capital stock, partnership interests, membership interests or other interests of such Person sufficient to control exclusively the election of that percentage of the members of the board of directors or similar governing body of such Person.

"Waterfall" means that term as defined in Section 9.8(b)(ii) hereof.

"Welfare Plan" means an ERISA Plan that is a "welfare plan" within the meaning of ERISA Section 3(l).

"Wholly-Owned Subsidiary" means any Person, the equity interests of which are one hundred percent (100%) owned (other than, with respect to the ownership of equity interests of Foreign Subsidiaries, such equity interests as are necessary to qualify directors where required by applicable Law or to satisfy other requirements of applicable Law) are at the time owned by DMC Global, directly, or indirectly through other Persons one hundred percent (100%) of whose equity interests are at the time owned, directly or indirectly, by DMC Global.

"Write-Down and Conversion Powers" means, with respect to any EEA Resolution Authority, the write-down and conversion powers of such EEA Resolution Authority from time to time under the Bail-In Legislation for the applicable EEA Member Country, which write-down and conversion powers are described in the EU Bail-In Legislation Schedule.

Section 1.2. Accounting Terms.

(a) Any accounting term not specifically defined in this Article I shall have the meaning ascribed thereto by GAAP.

(b) If any change in the rules, regulations, pronouncements, opinions or other requirements of the Financial Accounting Standards Board (or any successor thereto or agency with similar function) is made with respect to GAAP, or if DMC Global adopts the International Financial Reporting Standards, and such change or adoption results in a change in the calculation of any component (or components in the aggregate) of the financial covenants set forth in Section 5.7 hereof or the related financial definitions, at the option of the Administrative Agent, the Required Lenders or the Administrative Borrower, the parties hereto will enter into good faith negotiations to amend such financial covenants and financial definitions in such manner as the parties shall agree,

each acting reasonably, in order to reflect fairly such change or adoption so that the criteria for evaluating the financial condition of the Borrowers shall be the same in commercial effect after, as well as before, such change or adoption is made (in which case the method and calculating such financial covenants and definitions hereunder shall be determined in the manner so agreed); provided that, until so amended, such calculations shall continue to be computed in accordance with GAAP as in effect prior to such change or adoption.

Section 1.3. Terms Generally. The foregoing definitions shall be applicable to the singular and plural forms of the foregoing defined terms. Unless otherwise defined in this Article I, terms that are defined in the U.C.C. are used herein as so defined.

ARTICLE II. AMOUNT AND TERMS OF CREDIT

Section 2.1. Amount and Nature of Credit

(a) Subject to the terms and conditions of this Agreement, the Lenders, during the applicable Commitment Periods and to the extent hereinafter provided, shall make Loans to the Borrowers, participate in Swing Loans made by the Swing Line Lenders to the Borrowers, and issue or participate in Letters of Credit at the request of the Borrowers, in such aggregate amount as the Borrowers shall request pursuant to the Commitment; provided that in no event shall the aggregate principal amount of all Loans and Letters of Credit outstanding under this Agreement be in excess of the Total Commitment Amount.

(b) Each Lender, for itself and not one for any other, agrees to make Loans, participate in Swing Loans, and issue or participate in Letters of Credit, during the Commitment Period, on such basis that, immediately after the completion of any borrowing by the Borrowers or the issuance of a Letter of Credit:

(i) the Dollar Equivalent of the aggregate outstanding principal amount of Loans made by such Lender (other than Swing Loans made by a Swing Line Lender), when combined with such Lender's pro rata share, if any, of the Letter of Credit Exposure and the Swing Line Exposure, shall not be in excess of the Maximum Amount for such Lender; and

(ii) with respect to each Specific Commitment, the aggregate outstanding principal amount of Loans (other than Swing Loans) made by such Lender with respect to such Specific Commitment shall represent that percentage of the aggregate principal amount then outstanding on all Loans (other than Swing Loans) within such Specific Commitment that shall be such Lender's Applicable Commitment Percentage.

Within each Specific Commitment, each borrowing (other than Swing Loans which shall be risk participated on a pro rata basis) from the Lenders shall be made pro rata according to the respective Applicable Commitment Percentages of the Lenders.

(c) The Loans may be made as Revolving Loans as described in Section 2.2(a) hereof, as Capex Draw Loans as described in Section 2.3(a) hereof, as the Capex Term Loan as described in Section 2.3(b) hereof, and as Swing Loans as described in Section 2.2(c) hereof, and Letters of Credit may be issued in accordance with Section 2.2(b) hereof.

Section 2.2. Revolving Credit Commitment.

(a) Revolving Loans. Subject to the terms and conditions of this Agreement, during the Commitment Period applicable to the Revolving Credit Commitment, the Revolving Lenders shall make a Revolving Loan or Revolving Loans to a US Borrower or a Foreign Borrower in such amount or amounts as the Administrative Borrower, through an Authorized Officer, may from time to time request, but not exceeding in aggregate principal amount at any time outstanding hereunder the Revolving Credit Commitment, when such Revolving Loans are combined with the Letter of Credit Exposure and the Swing Line Exposure; provided that (i) Foreign Borrowers shall only be able to request Alternate Currency Loans and (ii) the Borrowers shall not request any Alternate Currency Loan (and the Lenders shall not be obligated to make an Alternate Currency Loan) if, after giving effect thereto, the Alternate Currency Exposure would exceed the Alternate Currency Maximum Amount. The Borrowers shall have the option, subject to the terms and conditions set forth herein, to borrow Revolving Loans maturing on the last day of the applicable Commitment Period, by means of any combination of Base Rate Loans, Eurodollar Loans or Alternate Currency Loans. With respect to each Alternate Currency Loan, subject to the other provisions of this Agreement, a US Borrower or the appropriate Foreign Borrower, as applicable, shall receive all of the proceeds of such Alternate Currency Loan in one Alternate Currency and repay such Alternate Currency Loan in the same Alternate Currency. Subject to the provisions of this Agreement, the Borrowers shall be entitled to borrow Revolving Loans, repay the same in whole or in part and re-borrow Revolving Loans hereunder at any time and from time to time during the Commitment Period applicable to the Revolving Credit Commitment. The aggregate outstanding amount of all Revolving Loans shall be payable in full on the last day of the Commitment Period.

(b) Letters of Credit.

(i) US Letters of Credit. Subject to the terms and conditions of this Agreement, during the Commitment Period applicable to the Revolving Credit Commitment, the US Issuing Lender shall, in its own name, on behalf of the Revolving Lenders, issue such Letters of Credit for the account of a US Borrower or a Domestic Guarantor of Payment, as the Administrative Borrower may from time to time request. The Administrative Borrower shall not request any Letter of Credit (and the US Issuing Lender shall not be obligated to issue any US Letter of Credit) if, after giving effect thereto, (A) the Letter of Credit Exposure would exceed the Letter of Credit Commitment, or (B) the Revolving Credit Exposure would exceed the Revolving Credit Commitment. The issuance of each US Letter of Credit shall confer upon each Revolving Lender the benefits and liabilities of a participation consisting of an undivided pro rata interest in the US Letter of Credit to the extent of such Revolving Lender's Applicable Commitment Percentage.

(ii) Alternate Currency Letters of Credit. Subject to the terms and conditions of this Agreement, during the Commitment Period applicable to the Revolving Credit Commitment, the Alternate Currency Issuing Lender shall, in its own name, on behalf of the Revolving Lenders, issue such Alternate Currency Letters of Credit for the account of a Borrower or a Guarantor of Payment, as the applicable Borrower may from time to time request. No Borrower shall request any Alternate Currency Letter of Credit (and an Alternate Currency Issuing Lender shall not be obligated to issue any Alternate Currency Letter of Credit) if, after giving effect thereto, (A) the Letter of Credit Exposure would exceed the Letter of Credit Commitment, (B) the Revolving Credit Exposure would exceed the Revolving Credit Commitment, or (C) the Alternate Currency Exposure would exceed the Alternate Currency Maximum Amount. The issuance of each Alternate Currency Letter of Credit shall confer upon each Revolving Lender the benefits and liabilities of a participation consisting of an undivided pro rata interest in the Alternate Currency Letter of Credit to the extent of such Revolving Lender's Applicable Commitment Percentage.

(iii) Request for Letter of Credit. To request a Letter of Credit, a Borrower, through an Authorized Officer, shall (in all cases) deliver to the Administrative Agent (and to the applicable Issuing Lender, if such Issuing Lender is a Lender other than the applicable Agent) a Letter of Credit Request not later than 11:00 A.M. (Local Time) three Business Days prior to the date of the proposed issuance of the Letter of Credit. Prior to the issuance of such Letter of Credit, the Administrative Borrower, and any Borrower or Guarantor of Payment for whose account the Letter of Credit is to be issued, shall execute and deliver to the Issuing Lender issuing such Letter of Credit an appropriate application and agreement, being in the standard form of such Issuing Lender for such letters of credit, as amended to conform to the provisions of this Agreement if required by the Administrative Agent. The applicable Agent shall give the applicable Issuing Lender and each Revolving Lender notice of each such request for a Letter of Credit.

(iv) Commercial Documentary Letters of Credit Fees. With respect to each Letter of Credit that shall be a commercial documentary letter of credit and the drafts thereunder, whether issued for the account of a Borrower or a Guarantor of Payment, the US Borrowers, and any Foreign Borrower or Guarantor of Payment for whose account such Letter of Credit is to be issued, agree to (A) pay to the applicable Agent, for the pro rata benefit of the Revolving Lenders, a non-refundable commission based upon the face amount of such Letter of Credit, which shall be paid quarterly in arrears, on each Regularly Scheduled Payment Date, in an amount equal to the aggregate sum of the Letter of Credit Fee for such Letter of Credit for each day of such quarter; (B) pay to the Administrative Agent, for the sole benefit of the Issuing Lender issuing such Letter of Credit, an additional Letter of Credit fee, which shall be paid on the date that such Letter of Credit is issued, amended or renewed, at the rate of one-eighth percent (1/8%) of the face amount of such Letter of Credit; and (C) pay to the Issuing Lender issuing such Letter of Credit, such other issuance, amendment, renewal, negotiation, draw, acceptance, telex, courier, postage and similar transactional fees as are customarily charged by such Issuing Lender in respect of the issuance and administration of similar letters of credit under its fee schedule as in effect from time to time.

(v) Standby Letters of Credit Fees. With respect to each Letter of Credit that shall be a standby letter of credit and the drafts thereunder, if any, whether issued for the account of a Borrower or a Guarantor of Payment, the US Borrowers, and any Foreign Borrower or Guarantor of Payment for whose account such Letter of Credit is to be issued agree to (A) pay to the applicable Agent, for the pro rata benefit of the Revolving Lenders, a non-refundable commission based upon the face amount of such Letter of Credit, which shall be paid quarterly in arrears, on each Regularly Scheduled Payment Date, in an amount equal to the aggregate sum of the Letter of Credit Fee for such Letter of Credit for each day of such quarter; (B) pay to the Administrative Agent, for the sole benefit of the Issuing Lender issuing such Letter of Credit, an additional Letter of Credit fee, which shall be paid on each date that such Letter of Credit is issued, amended or renewed at the rate of one-eighth percent (1/8%) of the face amount of such Letter of Credit; and (C) pay to the Issuing Lender issuing such Letter of Credit, such other issuance, amendment, renewal, negotiation, draw, acceptance, telex, courier, postage and similar transactional fees as are customarily charged by such Issuing Lender in respect of the issuance and administration of similar letters of credit under its fee schedule as in effect from time to time.

(vi) Refunding of Letters of Credit with Revolving Loans. Whenever a Letter of Credit shall be drawn, the applicable Borrowers shall immediately reimburse the Issuing Lender that issued such Letter of Credit for the amount drawn. In the event that the amount drawn shall not have been reimbursed by the Borrowers within one Business Day of the drawing of such Letter of Credit, at the sole option of the Administrative Agent (and the applicable Issuing Lender, if such Issuing Lender is a Lender other than the applicable Agent), (A) with respect to US Letters of Credit, the US Borrowers shall be deemed to have requested a Revolving Loan that is a Base Rate Loan, and (B) with respect to Alternate Currency Letters of Credit, the applicable Borrower shall be deemed to have requested an Alternate Currency Loan in the Alternate Currency that is the Alternate Currency of such Letter of Credit, with a one-month Interest Period. Such Revolving Loan shall be (1) subject to the provisions of Sections 2.2(a) and 2.6 hereof (other than the requirement set forth in Section 2.6(d) hereof), in the amount drawn, and (2) evidenced by the Revolving Credit Notes (or, if a Lender has not requested a Revolving Credit Note, by the records of the Administrative Agent and such Lender). Each Revolving Lender agrees to make a Revolving Loan on the date of such notice, subject to no conditions precedent whatsoever. Each Revolving Lender acknowledges and agrees that its obligation to make a Revolving Loan pursuant to Section 2.2(a) hereof when required by this Section 2.2(b)(vi) shall be absolute and unconditional and shall not be affected by any circumstance whatsoever, including, without limitation, the occurrence and continuance of a Default or Event of Default, and that its payment to the Administrative Agent, for the account of the Issuing Lender that issued such Letter of Credit, of the proceeds of such Revolving Loan shall be made without any offset, abatement, recoupment, counterclaim, withholding or reduction whatsoever and whether or not the Revolving Credit Commitment shall have been reduced or terminated. The Borrowers irrevocably authorize and instruct the Administrative Agent to apply the proceeds of any borrowing pursuant to this Section 2.2(b)(vi) to reimburse, in full (other than such Issuing Lender's pro rata share of such borrowing), such Issuing Lender for the amount drawn on such Letter of Credit. Each Revolving Lender is hereby authorized to

record on its records relating to its Revolving Credit Note(or, if such Revolving Lender has not requested a Revolving Credit Note, its records relating to Revolving Loans) such Revolving Lender's pro rata share of the amounts paid and not reimbursed on the Letters of Credit.

(vii) Participation in Letters of Credit If, for any reason, the Administrative Agent (and the applicable Issuing Lender if the Issuing Lender is the Foreign Funding Agent or a Lender other than the Administrative Agent) shall be unable to or, in the opinion of the Administrative Agent and the applicable issuing Lender (if the Issuing Lender is a Lender other than the applicable Agent) it shall be impracticable to, convert any amount drawn under a Letter of Credit to a Revolving Loan pursuant to the preceding subsection, or if the amount not reimbursed is a Letter of Credit drawn in an Alternate Currency, the Administrative Agent and the applicable issuing Lender (if the Issuing Lender is a Lender other than the applicable Agent) shall have the right to request that each Revolving Lender fund a participation in the amount due (or the Dollar Equivalent with respect to a Letter of Credit in an Alternate Currency) with respect to such Letter of Credit, and the Administrative Agent shall promptly notify each Revolving Lender thereof (by facsimile or email, in each case confirmed by telephone, or by telephone confirmed in writing). Upon such notice, but without further action, the applicable Issuing Lender hereby agrees to grant to each Revolving Lender, and each Revolving Lender hereby agrees to acquire from such Issuing Lender, an undivided participation interest in the amount due with respect to such Letter of Credit in an amount equal to such Revolving Lender's Applicable Commitment Percentage of the principal amount due with respect to such Letter of Credit. In consideration and in furtherance of the foregoing, each Revolving Lender hereby absolutely and unconditionally agrees, upon receipt of notice as provided above, to pay to the Administrative Agent, for the account of such Issuing Lender, such Revolving Lender's ratable share of the amount due with respect to such Letter of Credit (determined in accordance with such Revolving Lender's Applicable Commitment Percentage). Each Revolving Lender acknowledges and agrees that its obligation to acquire participations in the amount due under any Letter of Credit that is drawn but not reimbursed by the Borrowers pursuant to this Section 2.2(b)(vii) shall be absolute and unconditional and shall not be affected by any circumstance whatsoever, including, without limitation, the occurrence and continuance of a Default or Event of Default, and that each such payment shall be made without any offset, abatement, recoupment, counterclaim, withholding or reduction whatsoever and whether or not the Revolving Credit Commitment shall have been reduced or terminated. Each Revolving Lender shall comply with its obligation under this Section 2.2(b)(vii) by wire transfer of immediately available funds (in Dollars, and in the case of a Letter of Credit issued and drawn in an Alternate Currency, the Dollar Equivalent for amounts drawn in such Alternate Currency), in the same manner as provided in Section 2.6 hereof with respect to Revolving Loans. Each Revolving Lender is hereby authorized to record on its records such Revolving Lender's pro rata share of the amounts paid and not reimbursed on the Letters of Credit. In order to calculate the aggregate amount of Letters of Credit outstanding (or Alternate Currency Letters of Credit outstanding) at any time, the Administrative Agent may, in its discretion, on any Business Day selected by the Administrative Agent, calculate the Dollar Equivalent of each Alternate Currency Letter of Credit. Each Issuing Lender hereby agrees

to promptly provide the Administrative Agent with all information requested by the Administrative Agent with respect to a Letter of Credit issued by such Issuing Lender.

(c) Swing Loans.

(i) US Swing Loans. Subject to the terms and conditions of this Agreement, during the Commitment Period applicable to the Revolving Credit Commitment, the US Swing Line Lender shall make a US Swing Loan or US Swing Loans to the US Borrowers in such amount or amounts as the Administrative Borrower, through an Authorized Officer, may from time to time request and to which the US Swing Line Lender may agree; provided that the Administrative Borrower shall not request any US Swing Loan if, after giving effect thereto, (A) the Revolving Credit Exposure would exceed the Revolving Credit Commitment, or (B) the Swing Line Exposure would exceed the Swing Line Commitment. Each US Swing Loan shall be due and payable on the Swing Loan Maturity Date applicable thereto. Each US Swing Loan shall be made in Dollars.

(ii) Alternate Currency Swing Loans. Subject to the terms and conditions of this Agreement, during the Commitment Period applicable to the Revolving Credit Commitment, the Alternate Currency Swing Line Lender shall make an Alternate Currency Swing Loan or Alternate Currency Swing Loans to the Foreign Borrowers in such amount or amounts as the applicable Foreign Borrower, through an Authorized Officer, may from time to time request and to which the Alternate Currency Swing Line Lender may agree; provided that no Foreign Borrower shall request any Alternate Currency Swing Loan if, after giving effect thereto, (A) the Revolving Credit Exposure would exceed the Revolving Credit Commitment, (B) the Swing Line Exposure would exceed the Swing Line Commitment, or (C) the Alternate Currency Exposure would exceed the Alternate Currency Maximum Amount. Each Alternate Currency Swing Loan shall be due and payable on the Swing Loan Maturity Date applicable thereto. Each Alternate Currency Swing Loan shall be made in an Alternate Currency. Prior to the making of any Alternate Currency Swing Line Loan, Alternate Currency Swing Line Lender shall confirm with the Administrative Agent that such Alternate Currency Swing Line Loan will not violate the availability requirements as set forth in this subpart (ii).

(iii) Refunding of Swing Loans. If the applicable Swing Line Lender so elects, by giving notice to the Administrative Borrower, the Administrative Agent, the Foreign Funding Agent and the Revolving Lenders, the Borrowers agree that the Administrative Agent shall have the right, in its sole discretion, in consultation with the Foreign Funding Agent with respect to Alternate Currency Swing Loans, and the applicable Swing Line Lender (if such Swing Line Lender is a Lender other than the applicable Agent), to require that the then outstanding Swing Loans be refinanced as one or more Revolving Loans. For clarification, the Administrative Borrower shall also have the ability to request that outstanding Swing Loans be refinanced as one or more Revolving Loans. Such Revolving Loan shall be, unless otherwise requested by and available to the applicable Borrowers hereunder, (A) with respect to US Swing Loans, a Revolving Loan that is a Base Rate Loan, and (B) with respect to Alternate Currency Swing Loans, an Alternate Currency Loan in the

Alternate Currency that is the Alternate Currency of such Swing Loan, with a one-month Interest Period. Upon receipt of such notice by the Administrative Borrower and the Revolving Lenders, the applicable Borrowers shall be deemed, on such day, to have requested a Revolving Loan in the principal amount of such Swing Loan in accordance with Sections 2.2(a) and 2.6 hereof (other than the requirement set forth in Section 2.6(d) hereof). Such Revolving Loan shall be evidenced by the applicable Revolving Credit Notes (or, if a Revolving Lender has not requested the applicable Revolving Credit Note, by the records of the Administrative Agent and such Revolving Lender). Each Revolving Lender agrees to make a Revolving Loan on the date of such notice, subject to no conditions precedent whatsoever. Each Revolving Lender acknowledges and agrees that such Revolving Lender's obligation to make a Revolving Loan pursuant to Section 2.2(a) hereof when required by this Section 2.2(c)(iii) is absolute and unconditional and shall not be affected by any circumstance whatsoever, including, without limitation, the occurrence and continuance of a Default or Event of Default, and that its payment to the applicable Agent, for the account of the Swing Line Lender that made such Swing Loan, of the proceeds of such Revolving Loan shall be made without any offset, abatement, recoupment, counterclaim, withholding or reduction whatsoever and whether or not the Revolving Credit Commitment shall have been reduced or terminated. The Borrowers irrevocably authorize and instruct the applicable Agent to apply the proceeds of any borrowing pursuant to this Section 2.2(c)(iii) to repay in full such Swing Loan. Each Revolving Lender is hereby authorized to record on its records relating to its applicable Revolving Credit Note (or, if such Revolving Lender has not requested the applicable Revolving Credit Note, its records relating to Revolving Loans) such Revolving Lender's pro rata share of the amounts paid to refund such Swing Loan.

(iv) Participation in Swing Loans. If, for any reason, any Swing Line Lender is unable to, or, in the opinion of the Administrative Agent, in consultation with the Foreign Funding Agent with respect to Alternate Currency Swing Loans, and the applicable Swing Line Lender (if such Swing Line Lender is a Lender other than the applicable Agent), it is impracticable to, convert any Swing Loan to a Revolving Loan pursuant to the preceding Section 2.2(c)(iii), then on any day that a Swing Loan is outstanding (whether before or after the maturity thereof), the Administrative Agent, in consultation with the Foreign Funding Agent with respect to Alternate Currency Swing Loans, and the applicable Swing Line Lender (if such Swing Line Lender is a Lender other than the applicable Agent) shall have the right to request that each Revolving Lender fund a participation in such Swing Loan, and the Administrative Agent shall promptly notify the Foreign Funding Agent and each Revolving Lender thereof (by facsimile or electronic communication, in each case confirmed by telephone, or by telephone confirmed in writing). Upon such notice, but without further action, the Swing Line Lender that made such Swing Loan hereby agrees to grant to each Revolving Lender, and each Revolving Lender hereby agrees to acquire from such Swing Line Lender, an undivided participation interest in the right to share in the payment of such Swing Loan in an amount equal to such Revolving Lender's Applicable Commitment Percentage of the principal amount of such Swing Loan. In consideration and in furtherance of the foregoing, each Revolving Lender hereby absolutely and unconditionally agrees, upon receipt of notice as provided above, to pay to the applicable Agent, for the benefit of the Swing Line Lender that made such Swing Loan, such Revolving

Lender's ratable share of such Swing Loan (determined in accordance with such Revolving Lender's Applicable Commitment Percentage). Each Revolving Lender acknowledges and agrees that its obligation to acquire participations in Swing Loans pursuant to this Section 2.2(c)(iv) is absolute and unconditional and shall not be affected by any circumstance whatsoever, including, without limitation, the occurrence and continuance of a Default or an Event of Default, and that each such payment shall be made without any offset, abatement, recoupment, counterclaim, withholding or reduction whatsoever, and whether or not the Revolving Credit Commitment shall have been reduced or terminated. Each Revolving Lender shall comply with its obligation under this Section 2.2(c)(iv) by wire transfer of immediately available funds, in the same manner as provided in Section 2.6 hereof with respect to the applicable Revolving Loans to be made by such Revolving Lender.

Section 2.3. Capex Commitment.

(a) Capex Draw Loans. Subject to the terms and conditions of this Agreement, during the Commitment Period applicable to the Capex Draw Commitment, the Capex Lenders shall make a Capex Draw Loan or Capex Draw Loans to one or more US Borrowers in such amount or amounts as the Administrative Borrower, through an Authorized Officer, may from time to time request; provided that the aggregate principal amount of all Capex Draw Loans made during the applicable Commitment Period shall not exceed the Capex Draw Commitment. The US Borrowers shall have the option, subject to the terms and conditions set forth herein, to borrow Capex Draw Loans, maturing on the last day of the Commitment Period applicable to the Capex Draw Commitment, by means of any combination of Base Rate Loans or Eurodollar Loans. Once Capex Draw Loans are made, such Capex Draw Loans may not be repaid and re-borrowed. For clarification, amounts converted into a Capex Term Loan pursuant to Section 2.3(b) hereof may not be re-borrowed as additional Capex Draw Loans.

(b) Capex Term Loan. On the Capex Conversion Date, all Capex Draw Loans outstanding on such date shall be refinanced by the Capex Lenders with the Capex Term Loan. On the Capex Conversion Date, the Capex Draw Commitment shall be automatically terminated, and, on and after the Capex Conversion Date, Capex Draw Loans shall no longer be available. The Capex Term Loan shall be payable in consecutive quarterly installments in an amount equal to the Capex Term Loan Payment Amount, commencing on the Capex Term Loan First Payment Date and continuing on each Regularly Scheduled Payment Date thereafter, with the balance thereof payable in full on March 7, 2023. The Capex Term Loan may be a mixture of a Base Rate Loan and Eurodollar Loans. Once the Capex Term Loan is made, any portion of the Capex Term Loan repaid may not be re-borrowed.

Section 2.4. Interest.

(a) Revolving Loans.

(i) Base Rate Loan. The US Borrowers shall pay interest on the unpaid principal amount of a Revolving Loan that is a Base Rate Loan outstanding from time to time from

the date thereof until paid at the Derived Base Rate from time to time in effect. Interest on such Base Rate Loan shall be payable, commencing March 31, 2018, and continuing on each Regularly Scheduled Payment Date thereafter and at the maturity thereof.

(ii) Eurodollar Loans. The US Borrowers shall pay interest on the unpaid principal amount of each Revolving Loan that is a Eurodollar Loan outstanding from time to time, with the interest rate to be fixed in advance on the first day of the Interest Period applicable thereto through the last day of the Interest Period applicable thereto (but subject to changes in the Applicable Margin for Fixed Rate Loans), at the Derived Eurodollar Rate. Interest on such Eurodollar Loan shall be payable on each Interest Adjustment Date with respect to an Interest Period (provided that, if an Interest Period shall exceed three months, the interest must also be paid every three months, commencing three months from the beginning of such Interest Period).

(iii) Alternate Currency Loans. The appropriate Borrower or Borrowers shall pay interest on the unpaid principal amount of each Alternate Currency Loan outstanding from time to time, with the interest rate to be fixed in advance on the first day of the Interest Period applicable thereto through the last day of the Interest Period applicable thereto (but subject to changes in the Applicable Margin for Fixed Rate Loans), at the Derived Alternate Currency Rate. Interest on such Alternate Currency Loan shall be payable on each Interest Adjustment Date with respect to an Interest Period (provided that, if an Interest Period shall exceed three months, the interest must also be paid every three months, commencing three months from the beginning of such Interest Period).

(b) Swing Loans.

(i) US Swing Loans. The US Borrowers shall pay interest to the Administrative Agent, for the sole benefit of the US Swing Line Lender (and any Revolving Lender that shall have funded a participation in such Swing Loan), on the unpaid principal amount of each US Swing Loan outstanding from time to time from the date thereof until paid at the Derived Base Rate from time to time in effect. Interest on each US Swing Loan shall be payable on the Swing Loan Maturity Date applicable thereto. Each US Swing Loan shall bear interest for a minimum of one day.

(ii) Alternate Currency Swing Loans. The Foreign Borrowers shall pay interest to the Foreign Funding Agent, for the sole benefit of the Alternate Currency Swing Line Lender (and any Revolving Lender that shall have funded a participation in such Alternate Currency Swing Loan), on the unpaid principal amount of each Alternate Currency Swing Loan outstanding from time to time from the date thereof until paid at the Derived Alternate Currency Rate from time to time in effect. Interest on each Alternate Currency Swing Loan shall be payable on the Swing Loan Maturity Date applicable thereto. Each Alternate Currency Swing Loan shall bear interest for a minimum of one day.

(c) Capex Draw Loans.

(i) Base Rate Loan. DMC Global shall pay interest on the unpaid principal amount of a Capex Draw Loan that is a Base Rate Loan outstanding from time to time, from the date thereof until paid (or until converted into the Capex Term Loan, whichever is sooner) at the Derived Base Rate from time to time in effect. Interest on such Base Rate Loan shall be payable, commencing March 31, 2018, and continuing on each Regularly Scheduled Payment Date thereafter and until paid or converted into the Capex Term Loan, whichever is sooner.

(ii) Eurodollar Loans. DMC Global shall pay interest on the unpaid principal amount of each Capex Draw Loan that is a Eurodollar Loan outstanding from time to time from the date thereof until paid (or until converted into the Capex Term Loan, whichever is sooner), with the interest rate to be fixed in advance on the first day of the Interest Period applicable thereto through the last day of the Interest Period applicable thereto (but subject to changes in the Applicable Margin for Fixed Rate Loans), at the Derived Eurodollar Rate. Interest on such Eurodollar Loan shall be payable on each Interest Adjustment Date with respect to an Interest Period (provided that, if an Interest Period shall exceed three months, the interest must also be paid every three months, commencing three months from the beginning of such Interest Period).

(d) Capex Term Loan.

(i) Base Rate Loan. With respect to any portion of the Capex Term Loan that is a Base Rate Loan, DMC Global shall pay interest on the unpaid principal amount thereof outstanding from time to time, from the date thereof until paid, commencing on the first Regularly Scheduled Payment Date following the Capex Conversion Date, and continuing on each Regularly Scheduled Payment Date thereafter and at the maturity thereof, at the Derived Base Rate from time to time in effect.

(ii) Eurodollar Loans. With respect to any portion of the Capex Term Loan that is a Eurodollar Loan, DMC Global shall pay interest on the unpaid principal amount of such Eurodollar Loan outstanding from time to time, with the interest rate to be fixed in advance on the first day of the Interest Period applicable thereto through the last day of the Interest Period applicable thereto (but subject to changes in the Applicable Margin for Fixed Rate Loans), at the Derived Eurodollar Rate. Interest on such Eurodollar Loan shall be payable on each Interest Adjustment Date with respect to an Interest Period (provided that, if an Interest Period shall exceed three months, the interest must also be paid every three months, commencing three months from the beginning of such Interest Period).

(e) Default Rate. Anything herein to the contrary notwithstanding, if an Event of Default shall occur and be continuing, upon the election of the Administrative Agent or the Required Lenders and so long as such Event of Default is continuing (i) the principal of each Loan and the unpaid interest thereon shall bear interest, until paid, at the Default Rate, (ii) the fee for the aggregate undrawn amount of all issued and outstanding Letters of Credit shall be increased by two percent

(2%) in excess of the rate otherwise applicable thereto, and (iii) in the case of any other amount not paid when due from the Borrowers hereunder or under any other Loan Document, such amount shall bear interest at the Default Rate; provided that, during an Event of Default under Section 8.1 or 8.11 hereof, the applicable Default Rate shall apply without any election or action on the part of the Administrative Agent or any Lender.

(f) Limitation on Interest.

(i) Generally. In no event shall the rate of interest hereunder exceed the maximum rate allowable by law. Notwithstanding anything to the contrary contained in any Loan Document, the interest paid or agreed to be paid under the Loan Documents shall not exceed the maximum rate of non-usurious interest permitted by applicable Law (the "Maximum Rate"). If the Administrative Agent or any Lender shall receive interest in an amount that exceeds the Maximum Rate, the excess interest shall be applied to the principal of the Loans or, if it exceeds such unpaid principal, refunded to the Administrative Borrower for distribution to the Borrowers, as appropriate. In determining whether the interest contracted for, charged, or received by the Administrative Agent or a Lender exceeds the Maximum Rate, such Person may, to the extent permitted by applicable Law, (A) characterize any payment that is not principal as an expense, fee, or premium rather than interest, (B) exclude voluntary prepayments and the effects thereof, and (C) amortize, prorate, allocate, and spread in equal or unequal parts the total amount of interest throughout the contemplated term of the Obligations.

(ii) Foreign Jurisdiction Interest. If any provision of this Agreement or any other Loan Document would obligate any Foreign Borrower to make any payment of interest or other amount payable to (including for the account of) any Lender in an amount, or calculated at a rate, that would be prohibited by law or would result in a receipt by such Lender of interest at a criminal rate then, notwithstanding such provision, such amount or rate shall be deemed to have been adjusted with retroactive effect to the maximum amount or rate of interest, as the case may be, as would not be so prohibited by law or so result in a receipt by such Lender of interest at a criminal rate, such adjustment to be effected, to the extent necessary, as follows: (A) first, by reducing the amount or rate of interest required to be paid to such Lender under this Article II; and (B) thereafter, by reducing any fees, commissions, premiums and other amounts required to be paid to such Lender that would constitute interest for purposes of the applicable statute. Notwithstanding the foregoing, and after giving effect to all adjustments contemplated thereby, if a Lender shall have received an amount in excess of the maximum amount permitted by such statute, then the Lender shall pay an amount equal to such excess to such Foreign Borrower. Any amount or rate of interest referred to in this Article II with respect to the foreign extensions of credit shall be determined in accordance with generally accepted actuarial practices and principles as an effective annual rate of interest over the term that such extensions of credit remain outstanding on the assumption that any charges, fees or expenses that fall within the meaning of "interest" shall, if they relate to a specific period of time, be pro-rated over that period of time and otherwise be pro-rated over the Commitment Period and, in the event of a

dispute, a certificate of an actuary appointed by the Administrative Agent shall be conclusive for the purposes of such determination.

(g) Additional Alternate Currencies.

(i) One or more Borrowers may from time to time request that Fixed Rate Loans be made or Letters of Credit be issued in a currency other than those specifically listed in the definition of "Alternate Currency", so long as such requested currency is a lawful currency (other than Dollars) (A) that is readily available and freely transferable and convertible into Dollars, and (B) for which no central bank or other governmental authorization in the country of issue of such currency is required to give authorization for the use of such currency by any Lender for making Revolving Loans unless such authorization has been obtained and remains in full force and effect. In the case of any such request with respect to the making of Fixed Rate Loans, such request shall be subject to the approval of the Administrative Agent and the Required Lenders. In the case of any such request with respect to the issuance of Letters of Credit, such request shall be subject to the approval of the Administrative Agent and the applicable Issuing Lender.

(ii) Any request pursuant to subpart (i) above shall be made to the Administrative Agent not later than 11:00 A.M. (Eastern time) at least twenty (20) Business Days prior to the date of the desired Credit Event (or such other time or date as may be agreed to in writing by the Administrative Agent). In the case of any such request pertaining to Fixed Rate Loans, the Administrative Agent shall promptly notify each applicable Lender thereof, and in the case of any such request pertaining to Letters of Credit, the Administrative Agent shall promptly notify the applicable Issuing Lender thereof. Each such Lender (in the case of any such request pertaining to Fixed Rate Loans) or the applicable Issuing Lender (in the case of a request pertaining to Letters of Credit) shall notify the Administrative Agent in writing, not later than 11:00 A.M. (Eastern time) at least ten (10) Business Days after receipt of such request whether it consents, in its sole discretion, to the making of Fixed Rate Loans or the issuance of Letters of Credit, as the case may be, in such requested currency.

(iii) Any failure by a Lender or an Issuing Lender, as the case may be, to respond to such request within the time period specified in the preceding subpart (ii) shall be deemed to be a refusal by such Lender or such Issuing Lender, as the case may be, to permit Fixed Rate Loans to be made or Letters of Credit to be issued in such requested currency. If the Administrative Agent, the applicable Lenders and the applicable Issuing Lender consent to making Fixed Rate Loans or issuing Letters of Credit in such requested currency, and the Administrative Agent reasonably determines that an interest rate is available to be used for such requested currency, then the Administrative Agent shall so notify the Administrative Borrower and the Lenders. To the extent that the Administrative Agent determines that a technical amendment is necessary to institute the availability of such currency, the Administrative Agent and the Borrowers may amend this Agreement to the extent necessary or appropriate, in the reasonable opinion of the Administrative Agent, to add the applicable interest rate for such currency. After the Administrative Agent provides notice to the Administrative Borrower and the Lenders of the approval of a new currency as set forth in

this subpart (iii), then such currency shall thereupon be deemed for all purposes to be an Alternate Currency hereunder for purposes of Fixed Rate Loans and the issuance of Letters of Credit. If the Administrative Agent shall fail to obtain consent to any request for an additional currency under this Section 2.4(g), the Administrative Agent shall promptly so notify the Administrative Borrower (and such currency shall not be an Alternate Currency hereunder).

Section 2.5. Evidence of Indebtedness.

(a) US Borrower Revolving Loans. Upon the request of a Revolving Lender, to evidence the obligation of each US Borrower to repay the portion of the Revolving Loans made by such Revolving Lender and to pay interest thereon, the US Borrowers shall execute a US Borrower Revolving Credit Note, payable to the order of such Revolving Lender in the principal amount equal to its Applicable Commitment Percentage of the Revolving Credit Commitment, or, if less, the aggregate unpaid principal amount of Revolving Loans made by such Revolving Lender to such US Borrower; provided that the failure of a Revolving Lender to request a Revolving Credit Note shall in no way detract from the Borrowers' obligations to such Revolving Lender hereunder.

(b) Foreign Borrower Revolving Loans. Upon the request of a Revolving Lender, to evidence the obligation of each Foreign Borrower to repay the portion of the Revolving Loans made by such Revolving Lender to such Foreign Borrower and to pay interest thereon, each such Foreign Borrower shall execute a Foreign Borrower Revolving Credit Note, payable to the order of such Revolving Lender in the principal amount equal to its Applicable Commitment Percentage of the Revolving Credit Commitment, or, if less, the aggregate unpaid principal amount of Revolving Loans made by such Revolving Lender to such Foreign Borrower; provided that the failure of a Revolving Lender to request a Foreign Borrower Revolving Credit Note shall in no way detract from such Foreign Borrower's obligations to such Revolving Lender hereunder.

(c) Swing Loans. Upon the request of the Swing Line Lender, to evidence the obligation of the Borrowers to repay the Swing Loans and to pay interest thereon, the Borrowers shall execute a Swing Line Note, payable to the order of the Swing Line Lender in the principal amount of the Swing Line Commitment, or, if less, the aggregate unpaid principal amount of Swing Loans made by the Swing Line Lender; provided that the failure of the Swing Line Lender to request a Swing Line Note shall in no way detract from the Borrowers' obligations to the Swing Line Lender hereunder.

(d) Capex Loans. Upon the request of a Capex Lender, to evidence the obligation of the US Borrowers to repay the portion of the Capex Loans made by such Capex Lender and to pay interest thereon, the US Borrowers shall execute a Capex Note, payable to the order of such Capex Lender in the principal amount of its Applicable Commitment Percentage of the Capex Commitment (or, after the Capex Conversion Date, the aggregate unpaid principal amount of Capex Loans made by such Capex Lender); provided that the failure of a Capex Lender to request a Capex Note shall in no way detract from the US Borrowers' obligations to such Capex Lender hereunder.

Section 2.6. Notice of Loans and Credit Events; Funding of Loans

(a) Notice of Loans and Credit Events. The Administrative Borrower shall provide to the Administrative Agent, or with respect to a proposed Swing Loan borrowing by a Foreign Borrower, to the Foreign Funding Agent (with a copy to the Administrative Agent), in each case through an Authorized Officer, a Notice of Loan prior to (i) 12:00 P.M. (Local Time) on the proposed date of borrowing of, or conversion of a Loan to, a Base Rate Loan, (ii) 12:00 P.M. (Local Time) three Business Days prior to the proposed date of borrowing of, continuation of, or conversion of a Loan to, a Eurodollar Loan, (iii) 12:00 P.M. (Local Time) three Business Days prior to the proposed date of borrowing of an Alternate Currency Loan, and (iv) 2:00 P.M. (Local Time) on the proposed date of borrowing of a Swing Loan (or such later time as agreed to from time to time by the applicable Swing Line Lender). An Authorized Officer of the Administrative Borrower or a Foreign Borrower may verbally request a Loan, so long as a Notice of Loan is received by the end of the same Business Day, and, if the Administrative Agent, the Foreign Funding Agent or any Lender provides funds or initiates funding based upon such verbal request, the Borrowers shall bear the risk with respect to any information regarding such funding that is later determined to have been incorrect. The Borrowers shall comply with the notice provisions set forth in Section 2.2(b) hereof with respect to Letters of Credit.

(b) Funding of Loans.

(i) Generally. Promptly upon the receipt of a Notice of Loan with respect to a Revolving Loan, and, in any event, by 2:00 P.M. (Eastern time) on the date such Notice of Loan is received, the applicable Agent (the Administrative Agent with respect to Revolving Loans and Swing Loans to a US Borrower and US Swing Loans, and the Foreign Funding Agent with respect to Swing Loans to a Foreign Borrower) shall notify the Revolving Lenders of the date, amount, type of currency and Interest Period (if applicable) of such Loan. On the date that the Credit Event set forth in such Notice of Loan is to occur, each such Revolving Lender shall provide to the applicable Agent, not later than 4:00 P.M. (Eastern time), the amount in Dollars, or, with respect to an Alternate Currency, in the applicable Alternate Currency, in federal or other immediately available funds, required of it. If the applicable Agent shall elect to advance the proceeds of such Loan prior to receiving funds from such Revolving Lender, such Agent shall have the right, upon prior notice to the appropriate Borrowers, to debit any account of the appropriate Borrowers or otherwise receive such amount from the appropriate Borrowers, promptly after demand, in the event that such Revolving Lender shall fail to reimburse such Agent in accordance with this Section 2.6(b)(i). The applicable Agent shall also have the right to receive interest from such Revolving Lender at the Federal Funds Effective Rate in the event that such Revolving Lender shall fail to provide its portion of the Loan on the date requested and such Agent shall elect to provide such funds.

(ii) Notice of Funding and Exposure to the Administrative Agent The Foreign Funding Agent shall promptly (on the same day as the funding occurs) notify the Administrative Agent of any funding of a Revolving Loan made by it or Swing Loan (other than a US Swing Loan). At the request of the Administrative Agent, the Foreign Funding

Agent shall promptly (on the same day if requested prior to 1:00 P.M. Eastern time) provide to the Administrative Agent the amount of the Alternate Currency Exposure.

(c) Conversion and Continuation of Loans.

(i) At the request of the Administrative Borrower to the Administrative Agent, subject to the notice and other provisions of this Agreement, the Lenders shall convert a Base Rate Loan to one or more Eurodollar Loans at any time and shall convert a Eurodollar Loan to a Base Rate Loan on any Interest Adjustment Date applicable thereto. Swing Loans may be converted by the applicable Swing Line Lender to Revolving Loans in accordance with Section 2.2(c)(iii) hereof.

(ii) No Alternate Currency Loan may be converted to a Base Rate Loan or Eurodollar Loan and no Base Rate Loan or Eurodollar Loan may be converted to an Alternate Currency Loan.

(ii) At the request of the appropriate Borrowers to the applicable Agent, subject to the notice and other provisions of this Agreement, the Lenders shall continue one or more Fixed Rate Loans as of the end of the applicable Interest Period as a new Fixed Rate Loan with a new Interest Period; provided that if the appropriate Borrower shall fail to so select the duration of any Interest Period with respect to a Eurodollar Loan at least three Business Days prior to the Interest Adjustment Date applicable to such Eurodollar Loan, the Borrower shall be deemed to have continued such Eurodollar Loan with a new Interest Period of the same duration at the end of the then current Interest Period.

(d) Minimum Amount. Each request for:

(i) a Base Rate Loan shall be in an amount of not less than Fifty Thousand Dollars (\$50,000), increased by increments of Fifty Thousand Dollars (\$50,000);

(ii) a Fixed Rate Loan shall be in an amount of not less than One Hundred Thousand Dollars (\$100,000), increased by increments of One Hundred Thousand Dollars (\$100,000) (or, with respect to a Fixed Rate Loan not denominated in Dollars, such approximately comparable amount as shall result in an amount rounded to the nearest whole number); and

(iii) a Swing Loan shall be in an amount of not less than One Hundred Thousand Dollars (\$100,000) (or, with respect to a Swing Loan not denominated in Dollars, such approximately comparable amount as shall result in an amount rounded to the nearest whole number).

(e) Interest Periods. The Borrowers shall not request that Fixed Rate Loans be outstanding for more than six different Interest Periods at the same time, or such higher number of Interest Periods as agreed to in writing by the Administrative Agent.

(f) Capex Loans. In addition to the requirements set forth in subsection (a) above, with respect to the borrowing of a Capex Draw Loan, the Administrative Borrower shall provide to the Administrative Agent, concurrently with the delivery of the Notice of Loan, a reasonably detailed summary of expenses supporting the use of proceeds of such Capex Draw Loan, which use of proceeds shall comply with the requirements of Section 5.18 hereof.

Section 2.7. Payment on Loans and Other Obligations

(a) Payments Generally. Each payment made hereunder or under any other Loan Document by a Credit Party shall be made without any offset, abatement, recoupment, counterclaim, withholding or reduction whatsoever.

(b) Payments in Alternate Currency. With respect to any Loan payable in an Alternate Currency, all payments (including prepayments) to any Lender of the principal of or interest on such Loan shall be made in the same Alternate Currency as the original Loan. For clarification, the amount outstanding on any Loan payable in an Alternate Currency for purposes of repayment on the last day of the applicable Interest Period shall be measured in the Alternate Currency and not by the Dollar Equivalent of such amount. With respect to any Letter of Credit issued in an Alternate Currency, all payments to the Issuing Lender issuing such Letter of Credit (and to any Lender that shall have funded its participation in such Letter of Credit) shall be made in the Dollar Equivalent (as determined on the date of drawing of such Letter of Credit) of the amount of such Letter of Credit. With respect to any fees or other amounts payable for the sole benefit of an Issuing Lender issuing an Alternate Currency Letter of Credit, all payments of such amounts shall be made in the same currency in which such Letter of Credit was issued (or such other currency agreed to by the applicable Issuing Lender). All payments pursuant to this Section 2.7(b) shall be remitted by the appropriate Borrower to the applicable Agent, at the address of such Agent for notices referred to in Section 11.4 hereof (or at such other office or account as designated in writing by such Agent to the Administrative Borrower), for the account of the Revolving Lenders (or the appropriate Issuing Lender or the appropriate Swing Line Lender, as appropriate) not later than 1:00 P.M. (Eastern time) on the due date thereof in same day funds. Any such payments received by the applicable Agent after 1:00 P.M. (Eastern time) shall be deemed to have been made and received on the next Business Day.

(c) Payments in Dollars from Borrowers. With respect to (i) any Loan (other than an Alternate Currency Loan), or (ii) any other payment to the Administrative Agent and the Lenders that shall not be covered by subsection (b) above, all such payments (including prepayments) to the Administrative Agent of the principal of or interest on such Loan or other payment, including but not limited to principal, interest, fees or any other amount owed by the Borrowers under this Agreement, shall be made in Dollars. All payments described in this subsection (c) shall be remitted to the Administrative Agent, at the address of the Administrative Agent for notices referred to in Section 11.4 hereof for the account of the Lenders (or the appropriate Issuing Lender or the appropriate Swing Line Lender) not later than 1:00 P.M. (Eastern time) on the due date thereof in immediately available funds. Any such payments received by the Administrative Agent (or such Issuing Lender or such Swing Line Lender) after 1:00 P.M. (Eastern time) shall be deemed to have been made and received on the next Business Day.

(d) Payments to Lenders. Upon the applicable Agent's receipt of payments hereunder, such Agent shall immediately distribute to the appropriate Lenders (except with respect to Swing Loans, which shall be paid to the Swing Line Lender making such Swing Loans and any Lender that has funded a participation in such Swing Loans, or, with respect to Letters of Credit, certain of which payments shall be paid to the Issuing Lender issuing such Letter of Credit) their respective ratable shares, if any, of the amount of principal, interest, and commitment and other fees received by such Agent for the account of such Lender. Payments received by the applicable Agent in Dollars shall be delivered to the Lenders in Dollars in immediately available funds. Payments received by the applicable Agent in any Alternate Currency shall be delivered to the Lenders in such Alternate Currency in same day funds. Each appropriate Lender shall record any principal, interest or other payment, the principal amounts of Base Rate Loans, Fixed Rate Loans, Swing Loans and Letters of Credit, the type of currency for each Loan, all prepayments and the applicable dates, including Interest Periods, with respect to the Loans made, and payments received by such Lender, by such method as such Lender may generally employ; provided that failure to make any such entry shall in no way detract from the obligations of the Borrowers under this Agreement or any Note. The aggregate unpaid amount of Loans, types of Loans, Interest Periods and similar information with respect to the Loans and Letters of Credit set forth on the records of the Administrative Agent and the Foreign Funding Agent shall be rebuttably presumptive evidence with respect to such information, including the amounts of principal, interest and fees owing to each Lender; provided that, if the records of the Administrative Agent and the Foreign Funding Agent shall differ, the records of the Administrative Agent shall control.

(e) Timing of Payments. Whenever any payment to be made hereunder, including, without limitation, any payment to be made on any Loan, shall be stated to be due on a day that is not a Business Day, such payment shall be made on the next Business Day and such extension of time shall in each case be included in the computation of the interest payable on such Loan; provided that, with respect to a Fixed Rate Loan, if the next Business Day shall fall in the succeeding calendar month, such payment shall be made on the preceding Business Day and the relevant Interest Period shall be adjusted accordingly.

(f) Notice to the Administrative Agent of Payments. The Foreign Funding Agent shall promptly (on the same day that the payments are received) notify the Administrative Agent of any payments received by the Foreign Funding Agent.

Section 2.8. Prepayment.

(a) Right to Prepay.

(i) The Borrowers shall have the right at any time or from time to time to prepay, on a pro rata basis for all of the appropriate Lenders (except with respect to Swing Loans, which shall be paid to the appropriate Swing Line Lender and any Revolving Lender that has funded a participation in such Swing Loan), all or any part of the principal amount of the Loans then outstanding, as designated by the Administrative Borrower or applicable Foreign Borrower. Such payment shall include interest accrued on the amount so prepaid

to the date of such prepayment and any amount payable under Article III hereof with respect to the amount being prepaid. Prepayments shall be without any premium or penalty other than any amounts due pursuant to Article III hereof. Each prepayment of the Capex Term Loan and any Additional Term Loan Facility shall be applied to the principal installments thereof in the inverse order of their respective maturities

(ii) The Borrowers shall have the right, at any time or from time to time, to prepay, for the benefit of the appropriate Swing Line Lender (and any Revolving Lender that has funded a participation in such Swing Loan), all or any part of the principal amount of the Swing Loans then outstanding, as designated by the Administrative Borrower or applicable Foreign Borrower, plus interest accrued on the amount so prepaid to the date of such prepayment.

(b) Notice of Prepayment. The Borrowers shall give the Administrative Agent and, if applicable, the Foreign Funding Agent, written notice of voluntary prepayments pursuant to this Section 2.8 of (i) a Base Rate Loan or Swing Loan by no later than 1:00 P.M. (Local Time) on the Business Day on which such prepayment is to be made, and (ii) a Fixed Rate Loan by no later than 1:00 P.M. (Local Time) three Business Days before the Business Day on which such prepayment is to be made; provided that any such notice of prepayment (other than in respect of a Swing Loan) may state that such notice is conditioned upon (A) the effectiveness of other credit facilities and/or (B) Borrower's receipt of proceeds from another transaction, in which case such notice may be revoked by Borrowers (by written notice to the Administrative Agent and, if applicable, the Foreign Funding Agent, on or prior to the specified effective date of such notice) if such condition is not satisfied.

(c) Minimum Amount. Each prepayment of a Fixed Rate Loan shall be in the principal amount of not less than the lesser of One Hundred Thousand Dollars (\$100,000) or the principal amount of such Loan (or, with respect to an Alternate Currency Loan, the Dollar Equivalent (rounded to a comparable amount) of such amount), or, with respect to a Swing Loan, the principal balance of such Swing Loan, except in the case of a mandatory payment pursuant to Section 2.12 or Article III hereof.

Section 2.9. Commitment and Other Fees.

(a) Commitment Fee for Revolving Credit Commitment. The Borrowers shall pay to the Administrative Agent, for the ratable account of the Revolving Lenders, as a consideration for the Revolving Credit Commitment, a commitment fee, for each day from the Closing Date through the last day of the Commitment Period, in an amount equal to (i) (A) the Maximum Revolving Amount at the end of such day, minus (B) the Revolving Credit Exposure (exclusive of the Swing Line Exposure) at the end of such day, multiplied by (ii) the Applicable Commitment Fee Rate in effect on such day divided by three hundred sixty (360). The commitment fee shall be payable quarterly in arrears, commencing on March 31, 2018 and continuing on each Regularly Scheduled Payment Date thereafter, and on the last day of the Commitment Period.

(b) Commitment Fee for Capex Draw Commitment. DMC Global shall pay to the Administrative Agent, for the ratable account of the Capex Lenders, as a consideration for the Capex Draw Commitment, a commitment fee, for each day from the Closing Date through the Capex Conversion Date, in an amount equal to (i) (A) the Maximum Capex Draw Amount at the end of such day, minus (B) the Capex Draw Exposure at the end of such day, multiplied by (ii) the Applicable Commitment Fee Rate in effect on such day divided by three hundred sixty (360). The commitment fee shall be payable quarterly in arrears, commencing on March 31, 2018 and continuing on each Regularly Scheduled Payment Date thereafter, and on the last day of the Commitment Period.

(c) Administrative Agent Fee. The Borrowers shall pay to the Administrative Agent, for its sole benefit, the fees set forth in the Administrative Agent Fee Letter.

(d) Appraisal Fees. The Borrowers shall promptly reimburse the Administrative Agent, for its sole benefit, for all costs and expenses relating to any appraisal or other collateral assessment expenses that may be conducted from time to time by or on behalf of the Administrative Agent, the scope and frequency of which shall be in the reasonable discretion of the Administrative Agent; provided that, other than during the continuance of an Event of Default, the Borrowers need not reimburse the Administrative Agent for more than one such appraisal or collateral assessment during the Commitment Period.

(e) Authorization to Debit Account. Each Credit Party hereby agrees that the Administrative Agent has the right to debit from any Deposit Account of one or more Credit Parties, amounts owing to the Administrative Agent and the Lenders by any Borrower under this Agreement and the Loan Documents for payment of fees, expenses and other amounts owing in connection therewith.

Section 2.10. Modifications to Commitment.

(a) Optional Reduction of Commitments.

(i) Revolving Credit Commitment. The Borrowers may at any time and from time to time permanently reduce in whole or ratably in part the Maximum Revolving Amount to an amount not less than the then existing Revolving Credit Exposure, by giving the Administrative Agent not fewer than three Business Days' written notice of such reduction, provided that any such partial reduction shall be in an aggregate amount, for all of the Lenders, of not less than One Million Dollars (\$1,000,000), increased in increments of Two Hundred Fifty Thousand Dollars (\$250,000). The Administrative Agent shall promptly notify each Revolving Lender of the date of each such reduction and such Revolving Lender's proportionate share thereof. After each such partial reduction, the commitment fees payable hereunder shall be calculated upon the Maximum Revolving Amount as so reduced. If the Borrowers reduce in whole the Revolving Credit Commitment, on the effective date of such reduction (the Borrowers having prepaid in full the unpaid principal balance, if any, of the Revolving Loans, together with all interest (if any) and commitment and other fees accrued and unpaid with respect thereto, and provided that no Letter of Credit Exposure or Swing

Line Exposure shall exist), all of the Revolving Credit Notes shall be delivered to the Administrative Agent marked "Canceled" and the Administrative Agent shall redeliver such Revolving Credit Notes to the Administrative Borrower. Any partial reduction in the Maximum Revolving Amount shall be effective during the remainder of the Commitment Period applicable to the Revolving Credit Commitment. Upon each decrease of the Maximum Revolving Amount, the Total Commitment Amount shall be decreased by the same amount.

(ii) Capex Draw Commitment. DMC Global may at any time and from time to time permanently reduce in whole or ratably in part the Maximum Capex Draw Amount to an amount not less than the then existing Capex Draw Exposure, by giving the Administrative Agent not fewer than three Business Days' written notice of such reduction, provided that any such partial reduction shall be in an aggregate amount, for all of the Lenders, of not less than One Million Dollars (\$1,000,000), increased in increments of Two Hundred Fifty Thousand Dollars (\$250,000). The Administrative Agent shall promptly notify each Capex Lender of the date of each such reduction and such Capex Lender's proportionate share thereof. After each such partial reduction, the commitment fees payable hereunder shall be calculated upon the Maximum Capex Draw Amount as so reduced. If DMC Global reduces in whole the Capex Draw Commitment, on the effective date of such reduction (DMC Global having prepaid in full the unpaid principal balance, if any, of the Capex Loans, together with all interest (if any) and commitment and other fees accrued and unpaid with respect thereto), all of the Capex Notes shall be delivered to the Administrative Agent marked "Canceled" and the Administrative Agent shall redeliver such Capex Notes to the Administrative Borrower. Any partial reduction in the Maximum Capex Amount shall be effective during the remainder of the Commitment Period applicable to the capex Draw Commitment. Upon each decrease of the Maximum Capex Draw Amount, the Total Commitment Amount shall be decreased by the same amount.

(b) Increase in Commitment.

(i) At any time during the Commitment Increase Period, the Borrowers may request that the Administrative Agent increase the Total Commitment Amount by (A) increasing the Maximum Revolving Amount, or (B) adding an additional term loan facility (the "Additional Term Loan Facility") (which Additional Term Loan Facility shall be subject to subsection (c) below); provided that the aggregate amount of all increases made pursuant to this subsection (b) shall not exceed One Hundred Million Dollars (\$100,000,000). Each such request for an increase shall be in an amount of at least Ten Million Dollars (\$10,000,000), increased by increments of One Million Dollars (\$1,000,000), and may be made by either (1) increasing, for one or more Lenders, with their prior written consent, their respective Revolving Credit Commitments (2) adding a new commitment for one or more Lenders, with their prior written consent, with respect to the Additional Term Loan Facility, or (3) including one or more Additional Lenders, each with a new commitment under the Revolving Credit Commitment or the Additional Term Loan Facility, as a party to this Agreement (each an "Additional Commitment" and, collectively, the "Additional Commitments").

(ii) During the Commitment Increase Period, all of the Lenders agree that the Administrative Agent, in its sole discretion, may permit one or more Additional Commitments upon satisfaction of the following requirements: (A) each Additional Lender, if any, shall execute an Additional Lender Assumption Agreement, (B) each Additional Commitment from an Additional Lender, if any, shall be in an amount of at least Five Million Dollars (\$5,000,000), (C) the Administrative Agent shall provide to the Borrowers and each Lender a revised Schedule 1 to this Agreement, including revised Applicable Commitment Percentages for each of the Lenders, if appropriate, at least three Business Days prior to the date of the effectiveness of such Additional Commitments (each an "Additional Lender Assumption Effective Date"), (D) the applicable Borrowers shall (1) deliver to the Administrative Agent the resolutions of the board of directors (or other governing body) of such Borrower, in form and substance reasonably satisfactory to the Administrative Agent, evidencing approval of such increase and the consummation of the transactions contemplated thereby and (2) if requested by the Administrative Agent, deliver to the Administrative Agent an opinion of counsel with respect to such increase, in form and substance reasonably satisfactory to the Administrative Agent, and (E) the applicable Borrowers shall execute and deliver to the Administrative Agent and the Lenders such replacement or additional Notes as shall be required by the Administrative Agent (if Notes have been requested by such Lender or Lenders). The Lenders hereby authorize the Administrative Agent to execute each Additional Lender Assumption Agreement on behalf of the Lenders.

(iii) On each Additional Lender Assumption Effective Date with respect to the Specific Commitment being increased, as appropriate, the Lenders shall make adjustments among themselves with respect to the Loans then outstanding and amounts of principal, interest, commitment fees and other amounts paid or payable with respect thereto as shall be necessary, in the opinion of the Administrative Agent, in order to reallocate among such Lenders such outstanding amounts, based on the revised Applicable Commitment Percentages and to otherwise carry out fully the intent and terms of this Section 2.10(b) (and the appropriate Borrowers shall pay to the Lenders any amounts that would be payable pursuant to Section 3.3 hereof if such adjustments among the Lenders would cause a prepayment of one or more Fixed Rate Loans). In connection therewith, it is understood and agreed that the Maximum Amount of any Lender will not be increased (or decreased except pursuant to subsection (a) above) without the prior written consent of such Lender. The Borrowers shall not request any increase in the Total Commitment Amount pursuant to this subsection (b) if a Default or an Event of Default shall then exist, or, after giving pro forma effect to any such increase, would exist. At the time of any such increase, at the request of the Administrative Agent, the Credit Parties and the Lenders shall enter into an amendment to evidence such increase and to address related provisions as deemed necessary or appropriate by the Administrative Agent. Upon the addition of the Additional Term Loan Facility and upon each increase of the Maximum Revolving Amount, the Total Commitment Amount shall be increased by the same amount.

(c) Additional Term Loan Facility.

(i) Each Additional Term Loan Facility (i) shall rank pari passu in right of payment with the Revolving Loans and the Capex Term Loan, (ii) shall not mature earlier than the last day of the Commitment Period applicable to the Revolving Credit Commitment (but may have amortization prior to such date), and (iii) shall be treated substantially the same as (and in any event no more favorably than) the Revolving Loan and the Capex Term Loan.

(ii) An Additional Term Loan Facility may be added hereunder pursuant to an amendment or restatement (an "Additional Term Loan Facility Amendment") of this Agreement and, as appropriate, the other Loan Documents, executed by the Borrowers, as appropriate, each Lender providing a commitment with respect to such Additional Term Loan Facility, each Additional Lender providing a commitment with respect to such Additional Term Loan Facility, and the Administrative Agent. Notwithstanding anything herein to the contrary, an Additional Term Loan Facility Amendment may, without the consent of any other Lenders, effect such amendments to this Agreement and the other Loan Documents as may be necessary or appropriate, in the reasonable opinion of the Administrative Agent, to effect the provisions of this Section 2.10(b) and (c) (including, without limitation, amendments to the definitions in this Agreement and Section 9.8 hereof for the purpose of treating such Additional Term Loan Facility pari passu with the other Loans).

Section 2.11. Computation of Interest and Fees.

(a) Generally. Other than with respect to Base Rate Loans and certain Alternate Currency Loans identified in the next sentence, interest on Loans, Letter of Credit fees, Related Expenses and commitment and other fees and charges hereunder shall be computed on the basis of a year having three hundred sixty (360) days and calculated for the actual number of days elapsed. With respect to Base Rate Loans and to the extent required by a foreign jurisdiction in connection with the making of Loans in a specific Alternate Currency, interest on the applicable Loan shall be computed on the basis of a year having three hundred sixty-five (365) days or three hundred sixty-six (366) days, as the case may be, and calculated for the actual number of days elapsed.

(b) Interest Act (Canada). For purposes of disclosure pursuant to the *Interest Act* (Canada), the annual rates of interest or fees to which the rates of interest or fees provided in this Agreement and the other Loan Documents (and stated herein or therein, as applicable, to be computed on the basis of a three hundred sixty (360) day year or any other period of time less than a calendar year) are equivalent to the rates so determined multiplied by the actual number of days in the applicable calendar year and divided by three hundred sixty (360) or such other period of time, respectively.

Section 2.12. Mandatory Payments.

(a) Revolving Credit Exposure. If, at any time, the Revolving Credit Exposure shall exceed the Revolving Credit Commitment, the US Borrowers (and the appropriate Foreign Borrowers) shall, as promptly as practicable, but in no event later than the next Business Day, pay an aggregate principal amount of the Revolving Loans sufficient to bring the Revolving Credit Exposure within the Revolving Credit Commitment.

(b) Swing Line Exposure. If, at any time, the Swing Line Exposure shall exceed the Swing Line Commitment, the US Borrowers (and the appropriate Foreign Borrowers) shall, as promptly as practicable, but in no event later than the next Business Day, pay an aggregate principal amount of the Swing Loans sufficient to bring the Swing Line Exposure within the Swing Line Commitment.

(c) Capex Draw Exposure. If, at any time, the Capex Draw Exposure shall exceed the Capex Draw Commitment, DMC Global shall, as promptly as practicable, but in no event later than the next Business Day, pay an aggregate principal amount of the Capex Draw Loans sufficient to bring the Capex Draw Exposure within the Capex Draw Commitment.

(d) Alternate Currency Exposure. If, at any time, the Alternate Currency Exposure shall exceed the Alternate Currency Maximum Amount, the US Borrowers (and the appropriate Foreign Borrowers) shall, as promptly as practicable, but in no event later than the next Business Day, pay an aggregate principal amount of the Alternate Currency Loans sufficient to bring the Alternate Currency Exposure within the Alternate Currency Maximum Amount.

(e) Mandatory Prepayments. The Borrowers shall, until the Capex Term Loan and the Additional Term Loan Facility, if any, is paid in full, make Mandatory Prepayments (each a "Mandatory Prepayment") in accordance with the following provisions:

(i) Sale of Assets. Upon a Company's receipt of proceeds in respect of the sale or other disposition of any assets by a Company (permitted pursuant to Section 5.12 hereof) to any Person (other than a Credit Party) other than in the ordinary course of business, and, to the extent such proceeds are in excess of One Million Dollars (\$1,000,000) during any fiscal year of DMC Global and are not to be reinvested in fixed assets or other similar assets within one hundred eighty (180) days of such sale or other disposition, the Borrowers shall make a Mandatory Prepayment, on the date of such receipt of proceeds (or, if the Borrowers intend to reinvest such proceeds within such one hundred eighty (180) day period but on a later date within such period decide not to do so, on such later date), in an amount equal to one hundred percent (100%) of the proceeds of such disposition net of amounts required to pay taxes and reasonable costs applicable to such sale or disposition.

(ii) Material Recovery Event. Within ten days after the occurrence of a Material Recovery Event, the Administrative Borrower shall furnish to the Administrative Agent written notice thereof. Within thirty (30) days after the Companies' receipt of proceeds in respect of such Material Recovery Event, the Administrative Borrower shall notify the

Administrative Agent of the Borrowers' determination as to whether or not to replace, rebuild or restore the affected property (a "Material Recovery Determination Notice"). If the Borrowers decide not to replace, rebuild or restore such property, or if the Borrowers have not delivered the Material Recovery Determination Notice within thirty (30) days after such Material Recovery Event, then the proceeds of insurance received in connection with such Material Recovery Event shall be paid as a Mandatory Prepayment. If the Borrowers decide to replace, rebuild or restore such property, then any such replacement, rebuilding or restoration must be (A) commenced within six months of the date of the Companies' receipt of proceeds in respect of such Material Recovery Event, and (B) substantially completed within twelve (12) months of such commencement date or such longer period of time necessary to complete the work with reasonable diligence and approved in writing by the Administrative Agent, in its reasonable discretion, with such casualty insurance proceeds and other funds available to the appropriate Companies for replacement, rebuilding or restoration of such property. Any amounts of such insurance proceeds in connection with such Material Recovery Event not applied to the costs of replacement or restoration by the end of such twelve (12) month period shall be applied as a Mandatory Prepayment.

(iii) Additional Indebtedness. If, at any time, any of the Companies shall incur Indebtedness other than Indebtedness permitted pursuant to Section 5.8 hereof (which other Indebtedness not permitted pursuant to Section 5.8 hereof shall not be incurred without the prior written consent of the Administrative Agent and the Required Lenders), the Borrowers shall make a Mandatory Prepayment, on the date that such Indebtedness is incurred, in an amount equal to one hundred percent (100%) of the net cash proceeds of such Indebtedness, net of costs and expenses related thereto.

(iv) Additional Equity. Within thirty (30) days after DMC Global's receipt of net cash proceeds in respect of any equity offering (other than the offering or exercise of stock options or other equity awards pursuant to management incentive plans or an equity offering to finance, or the use of stock to pay all or part of the purchase price for, an Acquisition permitted under Section 5.13 hereof) by DMC Global, the Borrowers shall make a Mandatory Prepayment in an amount equal to one hundred percent (100%) of the net cash proceeds of such equity offering.

(f) Application of Mandatory Prepayments.

(i) Involving a Company Prior to an Event of Default So long as no Event of Default shall have occurred and be continuing, each Mandatory Prepayment required to be made pursuant to subsection (e) hereof shall be applied (A) first, to the Capex Term Loan, until paid in full, and (B) second, to any Additional Term Loan Facility, until paid in full.

(ii) Involving a Company After an Event of Default If a Mandatory Prepayment is required to be made pursuant to subsection (e) hereof at any time that an Event of Default shall have occurred and is continuing, then such Mandatory Prepayment shall be paid by the Administrative Borrower to the Administrative Agent to be applied to the following, on a pro rata basis among: (A) the Maximum Revolving Amount (with payments to be made

in the following order: Revolving Loans, Swing Loans, and to be held by the Administrative Agent in a special account as security for any Letter of Credit Exposure pursuant to subpart (iii) below), (B) the unpaid principal balance of the Capex Loans, and (C) the unpaid principal balance of the Additional Term Loan Facility.

(iii) Involving Letters of Credit. Any amounts to be distributed for application to a Revolving Lender's liabilities with respect to any Letter of Credit Exposure as a result of a Mandatory Prepayment shall be held by the Administrative Agent in an interest bearing trust account (the "Special Trust Account") as collateral security for such liabilities until a drawing on any Letter of Credit, at which time such amounts, together with interest accrued thereon, shall be released by the Administrative Agent and applied to such liabilities. If any such Letter of Credit shall expire without having been drawn upon in full, the amounts held in the Special Trust Account with respect to the undrawn portion of such Letter of Credit, together with interest accrued thereon, shall be applied by the Administrative Agent in accordance with the provisions of subsections (i) and (ii) above.

(g) Mandatory Payments Generally. Unless otherwise designated by the Administrative Borrower, each Mandatory Prepayment made with respect to a Specific Commitment pursuant to subsection (a) (c) or (e) hereof shall be applied in the following order: (i) first, to the outstanding Base Rate Loans, (ii) second, to the outstanding Eurodollar Loans, and (iii) to outstanding Alternate Currency Loans; provided that, in each case, if the outstanding principal amount of any Fixed Rate Loan shall be reduced to an amount less than the minimum amount set forth in Section 2.6(d) hereof as a result of such prepayment, then such Fixed Rate Loan shall be converted into a Base Rate Loan on the date of such prepayment. Any prepayment of a Fixed Rate Loan pursuant to this Section 2.12 shall be subject to the prepayment provisions set forth in Article III hereof. Each Mandatory Prepayment made with respect to the Capex Term Loan or the Additional Term Loan Facility shall be applied to the payments of principal in the inverse order of their respective maturities.

Section 2.13. Cash Collateral. At any time that there shall exist a Defaulting Lender, within one Business Day following the written request of the Administrative Agent or the Issuing Lender (with a copy to the Administrative Agent), the Borrowers shall Cash Collateralize each Issuing Lender's Fronting Exposure with respect to such Defaulting Lender (determined after giving effect to Section 12.10(a)(iv) hereof and any Cash Collateral provided by such Defaulting Lender) in an amount not less than the Minimum Collateral Amount.

(a) Grant of Security Interest. The Borrowers, and to the extent provided by any Defaulting Lender, such Defaulting Lender, hereby grant to the Administrative Agent, for the benefit of each Issuing Lender, and agrees to cooperate with the Administrative Agent's reasonable requests to take actions to maintain, a first priority security interest in all such Cash Collateral as security for the Defaulting Lender's obligation to fund participations in respect of the Letter of Credit Exposure, to be applied pursuant to subsection (b) below. If, at any time, the Administrative Agent determines that Cash Collateral is subject to any right or claim of any Person other than the Administrative Agent and an Issuing Lender as herein provided, or that the total amount of such Cash Collateral is less than the Minimum Collateral Amount, the Borrowers will, promptly upon demand by the Administrative Agent, pay or provide to the Administrative Agent additional Cash

Collateral in an amount sufficient to eliminate such deficiency (after giving effect to any Cash Collateral provided by such Defaulting Lender).

(b) Application. Notwithstanding anything to the contrary contained in this Agreement, Cash Collateral provided under this Section 2.13 or Section 12.10 in respect of Letters of Credit shall be applied to the satisfaction of the Defaulting Lender's obligation to fund participations in respect of the Letter of Credit Exposure (including, as to Cash Collateral provided by a Defaulting Lender, any interest accrued on such obligation) for which the Cash Collateral was so provided, prior to any other application of such property as may otherwise be provided for herein.

(c) Termination of Requirement. Cash Collateral (or the appropriate portion thereof) provided to reduce each Issuing Lender's Fronting Exposure shall no longer be required to be held as Cash Collateral pursuant to this Section 2.13 following (i) the elimination of the applicable Fronting Exposure (including by the termination of Defaulting Lender status of the applicable Lender), or (ii) the determination by the Administrative Agent and such Issuing Lender that there exists excess Cash Collateral; provided that (A) subject to Section 12.10 hereof, the Person providing Cash Collateral and such Issuing Lender may agree that Cash Collateral shall be held to support future anticipated Fronting Exposure or other obligations, and (B) the extent that such Cash Collateral was provided by the Borrowers, such Cash Collateral shall remain subject to any security interest granted pursuant to the Loan Documents.

Section 2.14. Liability of Borrowers.

(a) Joint and Several Liability. Each Borrower hereby authorizes the Administrative Borrower or any other Borrower to request Loans or Letters of Credit hereunder. Each Borrower acknowledges and agrees that the Administrative Agent and the Lenders are entering into this Agreement at the request of each Borrower and with the understanding that each Borrower is and shall remain fully liable, jointly and severally, for payment in full of the Obligations, as set forth in the Loan Documents and any other amount payable under this Agreement and the other Loan Documents. Each Borrower agrees that it is receiving or will receive a direct pecuniary benefit for each Loan made or Letter of Credit issued hereunder.

(b) Appointment of Administrative Borrower. Each Borrower hereby irrevocably appoints the Administrative Borrower or any other Borrower as the borrowing agent and attorney-in-fact for all Borrowers, which appointment shall remain in full force and effect unless and until the Administrative Agent shall have received prior written notice signed by each Borrower that such appointment has been revoked and that another Borrower has been appointed the Administrative Borrower. Each Borrower exempts the Administrative Borrower from the restrictions of self-dealing and multi-representation pursuant to section 181 of the German Civil Code and similar restrictions applicable to it under any other applicable law (in each case to the extent legally possible). Each Borrower hereby irrevocably appoints and authorizes the Administrative Borrower or any other Borrower to (i) provide the Administrative Agent (and the Foreign Funding Agent, as applicable) with all notices with respect to Loans and Letters of Credit obtained for the benefit of any Borrower and all other notices and instructions under this Agreement, (ii) take such action as the Administrative Borrower or such Borrower deems appropriate on its behalf to obtain Loans and

Letters of Credit, and (iii) exercise such other powers as are reasonably incidental thereto to carry out the purposes of this Agreement. It is understood that the handling of the Collateral of the Borrowers in a combined fashion, as more fully set forth herein, is done solely as an accommodation to the Borrowers in order to utilize the collective borrowing powers of the Borrowers in the most efficient and economical manner and at their request, and that neither the Administrative Agent nor any Lender shall incur liability to any Borrower as a result of such handling of the Collateral of the Borrowers in a combined fashion. Each Borrower expects to derive benefit, directly or indirectly, from the handling of the Collateral in a combined fashion since the successful operation of each Borrower is dependent on the continued successful performance of the integrated group.

(c) Maximum Liability of Each Subsidiary Borrower and Rights of Contribution Anything in this Agreement or any other Loan Document to the contrary notwithstanding, in no event shall the maximum liability of any Subsidiary Borrower exceed the maximum amount that (after giving effect to the incurring of the obligations hereunder and to any rights to contribution of such Borrower from other Affiliates of such Borrower) would not render the rights to payment of the Administrative Agent and the Lenders hereunder void, voidable or avoidable under any applicable fraudulent transfer law (including with respect to Section 2.14(d) hereof) or, in case of a Subsidiary Borrower incorporated or established in Germany, would not contravene applicable Capital Maintenance Rules. The Borrowers hereby agree as among themselves that, in connection with the payments made hereunder, each Subsidiary Borrower shall have a right of contribution from each other Borrower in accordance with applicable law. Such contribution rights shall be waived until such time as the Secured Obligations have been irrevocably paid in full (other than contingent indemnification obligations as to which no claim has been asserted), and no Borrower shall exercise any such contribution rights until the Secured Obligations have been irrevocably paid in full (other than contingent indemnification obligations as to which no claim has been asserted).

(d) Swap Obligations Keepwell Provision. Each Borrower, that is an "eligible contract participant" as defined in the Commodity Exchange Act, hereby jointly and severally, absolutely, unconditionally and irrevocably, undertakes to provide such funds or other support as may be needed from time to time by each other Credit Party in order for such Credit Party to honor its obligations under the Loan Documents in respect of the Swap Obligations. The obligations of each such Borrower under this Section 2.14(d) shall remain in full force and effect until all Secured Obligations are paid in full (other than contingent indemnification obligations as to which no claim has been asserted). The Borrowers intend that this Section 2.14(d) constitute, and this Section 2.14(d) shall be deemed to constitute, a "keepwell, support, or other agreement" for the benefit of each other Credit Party for all purposes of Section 1a(18)(A)(v)(II) of the Commodity Exchange Act.

(e) Waivers of Each Borrower. In the event that any obligation of any Borrower under this Agreement is deemed to be an agreement by such Borrower to answer for the debt or default of another Credit Party or as an hypothecation of property as security therefor, each Borrower represents and warrants that (i) no representation has been made to such Borrower as to the creditworthiness of such other Credit Party, and (ii) such Borrower has established adequate means of obtaining from such other Credit Party on a continuing basis, financial or other information pertaining to such other Credit Party's financial condition. Each Borrower expressly waives, except as expressly required under this Agreement, diligence, demand, presentment, protest and notice of

every kind and nature whatsoever, consents to the taking by the Administrative Agent and the Lenders of any additional security of another Credit Party for the obligations secured hereby, or the alteration or release in any manner of any security of another Credit Party now or hereafter held in connection with the Obligations, and consents that the Administrative Agent, the Lenders and any other Credit Party may deal with each other in connection with such obligations or otherwise, or alter any contracts now or hereafter existing between them, in any manner whatsoever, including without limitation the renewal, extension, acceleration or changes in time for payment of any such obligations or in the terms or conditions of any security held. The Administrative Agent and the Lenders are hereby expressly given the right, at their option, to proceed in the enforcement of any of the Obligations independently of any other remedy or security they may at any time hold in connection with such obligations secured and it shall not be necessary for the Administrative Agent and the Lenders to proceed upon or against or exhaust any other security or remedy before proceeding to enforce their rights against such Borrower. Each Borrower further waives any right of subrogation, collection, reimbursement, exoneration, contribution, indemnification, setoff or other recourse in respect of sums paid to the Administrative Agent and the Lenders by any other Credit Party until such time as the Commitment has been terminated and the Secured Obligations have been repaid in full (other than contingent indemnification obligations as to which no claim has been asserted).

(f) Liability of Foreign Borrowers and Foreign Guarantors of Payment. Anything herein to the contrary notwithstanding, (i) no Foreign Borrower or Foreign Guarantor of Payment shall at any time be liable for the Indebtedness of US Borrower under this Agreement (exclusive of Indebtedness of the Foreign Borrowers that is guaranteed by the US Borrower under this Agreement), and (ii) no Collateral granted by a Foreign Borrower or Foreign Guarantor of Payment shall at any time secure any Indebtedness of the US Borrower under this Agreement (exclusive of Indebtedness of the Foreign Borrowers that is guaranteed by the US Borrower under this Agreement).

Section 2.15. Addition of a Borrower.

(a) Addition of a Domestic Subsidiary Borrower. At the request of the Administrative Borrower (with at least seven days prior written notice to the Administrative Agent and the Lenders), a Wholly-Owned Subsidiary of DMC Global that is a Domestic Subsidiary (that shall not then be a Domestic Subsidiary Borrower) may become a Domestic Subsidiary Borrower hereunder, provided that all of the following requirements shall have been met to the satisfaction of the Administrative Agent:

(i) Additional Borrower Assumption Agreement. Each Borrower and such Domestic Subsidiary shall have executed and delivered to the Administrative Agent a fully executed Additional Borrower Assumption Agreement. The Administrative Agent is hereby authorized by the Lenders to enter into such Additional Borrower Assumption Agreement on behalf of the Lenders.

(ii) Notes as Requested. Each US Borrower and such Domestic Subsidiary shall have executed and delivered to (A) each Revolving Lender requesting a replacement Revolving Credit Note such Revolving Lender's replacement Revolving Credit Note, and

(B) the Swing Line Lender a replacement Swing Line Note, if requested by the Swing Line Lender.

(iii) Security Documents. Such Domestic Subsidiary shall have executed and delivered to the Administrative Agent, for the benefit of the Lenders, such Security Documents as are substantially equivalent to the Security Documents entered into by the then-existing Domestic Subsidiary Borrowers hereunder.

(iv) Lien Searches. With respect to such Domestic Subsidiary, the Borrowers shall have caused to be delivered to the Administrative Agent (A) the results of Uniform Commercial Code lien searches substantially equivalent to the Uniform Commercial Code lien searches delivered in respect of the then-existing Domestic Subsidiary Borrowers hereunder, in such new Domestic Subsidiary Borrower's jurisdiction of organization, (B) the results of federal and state tax lien and judicial lien searches and pending litigation and bankruptcy searches, substantially equivalent to the applicable lien searches delivered in respect of the then-existing Domestic Subsidiary Borrowers hereunder, in the appropriate jurisdictions, as applicable, and (C) Uniform Commercial Code termination statements reflecting termination of all Uniform Commercial Code Financing Statements previously filed by any Person and not expressly permitted pursuant to Section 5.9 hereof.

(v) Officer's Certificate, Resolutions, Organizational Documents, Legal Opinion. The Borrowers shall have provided (A) to the Administrative Agent such corporate governance and authorization documents and an opinion of counsel substantially equivalent to those delivered in respect of the then-existing Domestic Subsidiary Borrowers hereunder, and any other documents and items as may be deemed necessary or advisable by the Administrative Agent, all of the foregoing to be in form and substance reasonably satisfactory to the Administrative Agent, and (B) to each Lender any documentation and other information reasonably requested by such Lender that is required by regulatory authorities under applicable "know your customer" and anti-money-laundering rules and regulations.

(vi) Miscellaneous. The US Borrowers and such Domestic Subsidiary shall have provided to the Administrative Agent such other items and shall have satisfied such other conditions as may be required by the Administrative Agent, provided that such items and conditions are reasonably equivalent to the items required of and conditions imposed on the then-existing Domestic Subsidiary Borrowers hereunder.

(b) Addition of a Foreign Borrower. At the request of the Administrative Borrower (with at least fifteen (15) days prior written notice to the Administrative Agent and with the consent of the Administrative Agent and the Lenders), a Wholly-Owned Subsidiary of DMC Global that is a Foreign Subsidiary that shall not then be a Foreign Borrower may become a Foreign Borrower hereunder, provided that all of the following requirements shall have been met to the satisfaction of the Administrative Agent:

(i) Request to Designate a Foreign Borrower. The Administrative Borrower shall have provided to the Administrative Agent a written request that such Foreign Subsidiary be designated as a Foreign Borrower pursuant to the terms of this Agreement.

(ii) Additional Borrower Assumption Agreement. Each Borrower and such Foreign Subsidiary shall have executed and delivered to the Administrative Agent a fully executed Additional Borrower Assumption Agreement. The Administrative Agent is hereby authorized by the Lenders to enter into such Additional Borrower Assumption Agreement on behalf of the Lenders.

(iii) Notes as Requested. Each applicable Foreign Borrower shall have executed and delivered to each applicable Lender appropriate Notes (for such Lenders requesting Notes).

(iv) Lien Searches. With respect to such Foreign Subsidiary, the Borrowers shall have caused to be delivered to the Administrative Agent (if required by the Administrative Agent) results of lien searches (or other similar searches requested by the Administrative Agent) substantially equivalent to the lien searches delivered in respect of the then-existing Foreign Borrowers hereunder, in the appropriate jurisdictions.

(v) Security Documents. Such Foreign Subsidiary shall have executed and delivered to Lender, for the benefit of Lender, such Security Documents as are substantially equivalent to the Security Documents entered into by the then-existing Foreign Borrowers hereunder.

(vi) Officer's Certificate, Resolutions, Organizational Documents, Legal Opinion. The Borrowers shall have provided to the Administrative Agent such corporate governance and authorization documents and an opinion of counsel substantially equivalent to those delivered in respect of the then-existing Foreign Borrowers hereunder, and any other documents and items as may be deemed necessary or advisable by the Administrative Agent (including an amendment to this Agreement if required by the Administrative Agent), all of the foregoing to be in form and substance reasonably satisfactory to the Administrative Agent. If such amendment is required in order to implement administrative and similar provisions, including foreign provisions to accomplish the addition of such Foreign Borrower, then the Foreign Funding Agent and the Lenders authorize the Administrative Agent to execute such amendment on their behalf.

(vii) Miscellaneous. The US Borrowers and such Foreign Subsidiary shall have provided (A) to the Administrative Agent such other items and shall have satisfied such other conditions as may be required by the Administrative Agent, provided that such items and conditions are reasonably equivalent to the items required of and conditions imposed on the then-existing Foreign Borrowers hereunder, and (B) and each Lender any documentation and other information reasonably requested by such Lender that is required by regulatory authorities under applicable "know your customer" and anti-money-laundering rules and regulations..

(c) Additional Credit Party Bound by Provisions. Upon satisfaction by the Administrative Borrower and any such Subsidiary of the requirements set forth in subsections (a) or (b) above, as applicable, the Administrative Agent shall promptly notify the Administrative Borrower and the Lenders, whereupon such Subsidiary shall be designated a "US Borrower" or "Foreign Borrower", as applicable, pursuant to the terms and conditions of this Agreement, and such Subsidiary shall become bound by all representations, warranties, covenants, provisions and conditions of this Agreement and each other Loan Document applicable to the US Borrowers or Foreign Borrowers, as the case may be, as if such US Borrower or Foreign Borrower had been the original party making such representations, warranties and covenants; provided that any representations and warranties made or deemed made by such US Borrower or Foreign Borrower, as applicable, shall be deemed to have been made only as of the date of such designation and such later dates that such representations and warranties are expressly deemed to be remade hereunder.

(d) Alternative Structures. The Administrative Agent, the Lenders and Borrowers agree that, if the addition of a Foreign Borrower or Foreign Guarantor of Payment pursuant to this Section 2.15 would result in a requirement by such Foreign Borrower or Foreign Guarantor of Payment to pay to any Lenders additional amounts pursuant to Section 3.2 hereof, then the Administrative Agent, the Lenders and the Borrowers agree to use reasonable efforts to designate a different lending office or otherwise propose an alternate structure that would avoid the need for, or reduce the amount of, such additional amounts so long as the same would not, in the judgment of the Administrative Agent and the Lenders, be otherwise disadvantageous to the Administrative Agent and the Lenders.

Section 2.16. Addition of a Foreign Guarantor of Payment With respect to a Foreign Subsidiary that is a direct or indirect equity holder of a Foreign Borrower, on or after the Closing Date, the Administrative Agent shall at all times, in the discretion of the Administrative Agent or the Required Lenders, have the right to require that such Foreign Subsidiary execute and deliver a Guaranty of Payment (and (i) any documentation and other information requested by any Lender that is required by regulatory authorities under applicable "know your customer" and anti-money-laundering rules and regulations and (ii) any other documentation, including an opinion of local counsel, required by the Administrative Agent with respect to enforceability of such Guaranty of Payment in the applicable foreign jurisdiction, provided that such other documentation is substantially equivalent to the documentation required of then-existing Foreign Subsidiaries that are Guarantors of Payment hereunder) with respect to the Obligations of such Foreign Borrower.

Section 2.17. Special Provisions Relating to the Foreign Funding Agent The Foreign Funding Agent shall be the funding agent with respect to Alternate Currency Swing Loans, in each case made to one or more Foreign Borrowers. The Foreign Funding Agent, may, upon written notice to the Administrative Agent, designate one or more of its Affiliates to perform the functions of the Foreign Funding Agent hereunder. Notwithstanding any such designation or anything else herein to the contrary, (A) the Administrative Agent shall be entitled to deal directly with the applicable financial institution, in its capacity as the Foreign Funding Agent, and (B) all communications, notices or other information from the Administrative Agent to the Foreign Funding Agent may be delivered directly to the applicable financial institution, in its capacity as the Foreign Funding Agent.

ARTICLE III. ADDITIONAL PROVISIONS RELATING TO
FIXED RATE LOANS; INCREASED CAPITAL; TAXES

Section 3.1. Requirements of Law.

(a) If any Change in Law shall:

(i) impose, modify or deem applicable any reserve, special deposit, compulsory loan, insurance charge or similar requirement against assets of, deposits with or for the account of, or credit extended or participated in by, any Lender (except any reserve requirement reflected in the Eurodollar Rate or Alternate Currency Rate) or the Issuing Lender;

(ii) subject any Recipient to any Taxes (other than (A) Indemnified Taxes, (B) Taxes described in subparts (b) through (d) of the definition of Excluded Taxes and (C) Connection Income Taxes) on any Loan, Letter of Credit, or commitment or other obligation hereunder, or its deposits, reserves, other liabilities or capital attributable thereto; or

(iii) impose on any Lender or the Issuing Lender or the London interbank market any other condition, cost or expense (other than Taxes) affecting this Agreement or Loans made by such Lender or any Letter of Credit or participation therein;

and the result of any of the foregoing is to increase the cost to such Lender of making, converting into, continuing or maintaining Fixed Rate Loans or issuing or participating in Letters of Credit, or to reduce any amount receivable hereunder in respect thereof, then, in any such case, the US Borrowers (and any Foreign Borrower to which such Loan was made) shall pay to such Lender, promptly after receipt of a written request therefor, any additional amounts necessary to compensate such Lender for such increased cost or reduced amount receivable. If any Lender becomes entitled to claim any additional amounts pursuant to this subsection (a), such Lender shall promptly notify the Administrative Borrower (with a copy to the Administrative Agent) of the event with reasonable detail by reason of which it has become so entitled.

(b) If any Lender shall have determined that, after the Closing Date, any Change in Law regarding capital adequacy or liquidity, or liquidity requirements, or in the interpretation or application thereof by a Governmental Authority or compliance by such Lender or any corporation controlling such Lender with any request or directive regarding capital adequacy or liquidity (whether or not having the force of law) from any Governmental Authority shall have the effect of reducing the rate of return on such Lender's or such corporation's capital as a consequence of its obligations hereunder, or under or in respect of any Letter of Credit, to a level below that which such Lender or such corporation could have achieved but for such Change in Law (taking into consideration the policies of such Lender or such corporation with respect to capital adequacy and liquidity), then from time to time, upon submission by such Lender to the Administrative Borrower

(with a copy to the Administrative Agent) of a written request therefor (which shall include the method for calculating such amount and reasonable detail with respect to such calculation), the Borrowers US Borrowers (and any Foreign Borrower to which such Loan was made) shall promptly pay or cause to be paid to such Lender such additional amount or amounts as will compensate such Lender or such corporation for such reduction.

(c) For purposes of this Section 3.1 and Section 3.5(a) hereof, the Dodd-Frank Act, any requests, rules, guidelines or directives concerning capital adequacy promulgated by the Bank for International Settlements, or the Basel Committee on Banking Regulations and Supervisory Practices (or any successor or similar authority) under Basel III, and any rules, regulations, orders, requests, guidelines and directives adopted, promulgated or implemented in connection with any of the foregoing, regardless of the date adopted, issued, promulgated or implemented, are deemed to have been introduced and adopted after the Closing Date.

(d) A certificate as to any additional amounts payable pursuant to this Section 3.1 submitted by any Lender to the Administrative Borrower (with a copy to the Administrative Agent) shall be rebuttably presumptive evidence as to such additional amounts. In determining any such additional amounts, such Lender may use any method of averaging and attribution that it (in its sole discretion) shall deem applicable. The obligations of the Borrowers pursuant to this Section 3.1 shall survive the termination of this Agreement and the payment of the Loans and all other amounts payable hereunder.

(e) If payment in respect of any Alternate Currency Loan or other Obligation shall be due in a currency other than Dollars and/or at a place of payment other than New York, New York, and if, by reason of any Change in Law subsequent to the Closing Date, disruption of currency or foreign exchange markets, war or civil disturbance or similar event, payment of such Obligations in such currency or such place of payment shall be impossible or, in the reasonable judgment of the Administrative Agent, such Alternate Currency is no longer available or readily convertible to Dollars, then, at the election of the Administrative Agent, the Borrowers shall make payment of such Obligations in the Dollar Equivalent and/or in New York, New York. The Borrowers shall indemnify the Administrative Agent and the Lenders, against any currency exchange losses or reasonable out-of-pocket expenses that it shall sustain as a result of such alternative payment.

Section 3.2. Taxes.

(a) Payments Free of Taxes; Obligation to Withhold: Payments on Account of Taxes

(i) Any and all payments by or on account of any obligation of any Credit Party under any Loan Document shall be made without deduction or withholding for any Taxes, except as required by applicable Laws. If any applicable Laws (as determined in the reasonable discretion of the Administrative Agent) require the deduction or withholding of any Tax from any such payment by the Administrative Agent or a Credit Party, then the Administrative Agent or such Credit Party shall be entitled to make such deduction or withholding, upon the basis of the information and documentation to be delivered pursuant to subsection (e) below.

(ii) If any Credit Party or the Administrative Agent shall be required by the Code or any other Applicable Law to withhold or deduct any Taxes, including United States federal backup withholding, United States withholding taxes and non-United States withholding taxes, from any payment, then (A) such Credit Party or the Administrative Agent as required by the Code or such Laws shall withhold or make such deductions as are determined by it to be required based upon the information and documentation it has received pursuant to subsection (e) below, (B) such Credit Party or the Administrative Agent, to the extent required by the Code or such Laws, shall timely pay the full amount withheld or deducted to the relevant Governmental Authority in accordance with the Code or such Laws, and (C) to the extent that the withholding or deduction is made on account of Indemnified Taxes, the sum payable by the applicable Credit Party shall be increased as necessary so that, after any required withholding or the making of all required deductions (including deductions and withholdings applicable to additional sums payable under this Section 3.2), the applicable Recipient receives an amount equal to the sum it would have received had no such withholding or deduction been made.

(b) Payment of Other Taxes by the Credit Parties Without limiting the provisions of subsection (a) above, the Credit Parties shall timely pay to the relevant Governmental Authority in accordance with applicable Law, or, at the option of the Administrative Agent, timely reimburse it for the payment of, any Other Taxes.

(c) Tax Indemnifications.

(i) Each of the Credit Parties shall, and does hereby, jointly and severally indemnify each Recipient, and shall make payment in respect thereof within ten (10) days after demand therefor, for the full amount of any Indemnified Taxes (including Indemnified Taxes imposed or asserted on or attributable to amounts payable under this Section 3.2) payable or paid by such Recipient, or required to be withheld or deducted from a payment to such Recipient, and any penalties, interest and reasonable expenses arising therefrom or with respect thereto, whether or not such Indemnified Taxes were correctly or legally imposed or asserted by the relevant Governmental Authority. A certificate as to the amount of such payment or liability delivered to the Administrative Borrower by a Lender or the Issuing Lender (with a copy to the Administrative Agent), or by the Administrative Agent on its own behalf or on behalf of a Lender or the Issuing Lender, shall be conclusive absent manifest error.

(ii) Each Lender and the Issuing Lender shall, and does hereby, severally indemnify, and shall make payment in respect thereof within ten (10) days after demand therefor, (A) the Administrative Agent against any Indemnified Taxes attributable to such Lender or the Issuing Lender (but only to the extent that any Credit Party has not already indemnified the Administrative Agent for such Indemnified Taxes and, without limiting the obligation of the Credit Parties to do so), (B) the Administrative Agent and the Credit Parties, as applicable, against any Taxes attributable to such Lender's failure to comply with the provisions of Section 12.9(d) hereof relating to the maintenance of a Participant Register,

and (C) the Administrative Agent and the Credit Parties, as applicable, against any Excluded Taxes attributable to such Lender or the Issuing Lender, in each case, that are payable or paid by the Administrative Agent or a Credit Party in connection with any Loan Document, and any reasonable expenses arising therefrom or with respect thereto, whether or not such Taxes were correctly or legally imposed or asserted by the relevant Governmental Authority. A certificate as to the amount of such payment or liability delivered to any Lender by the Administrative Agent shall be conclusive absent manifest error. Each Lender and the Issuing Lender hereby authorize the Administrative Agent to set off and apply any and all amounts at any time owing to such Lender or the Issuing lender, as the case may be, under this Agreement or any other Loan Document against any amount due to the Administrative Agent under this subpart (ii).

(d) Evidence of Payments. As soon as practicable after any payment of Taxes by any Credit Party to a Governmental Authority, as provided in this Section 3.2, the Borrower shall deliver to the Administrative Agent the original or a certified copy of a receipt issued by such Governmental Authority evidencing such payment, a copy of any return reporting such payment or other evidence of such payment reasonably satisfactory to the Administrative Agent.

(e) Status of Lenders: Tax Documentation.

(i) Any Lender that is entitled to an exemption from or reduction of withholding Tax with respect to payments made under any Loan Document shall deliver to the Administrative Borrower and the Administrative Agent, at the time or times reasonably requested by the Administrative Borrower or the Administrative Agent, such properly completed and executed documentation reasonably requested by the Administrative Borrower or the Administrative Agent as will permit such payments to be made without withholding or at a reduced rate of withholding. In addition, any Lender, if reasonably requested by the Administrative Borrower or the Administrative Agent, shall deliver such other documentation prescribed by applicable Law or reasonably requested by the Administrative Borrower or the Administrative Agent as will enable the Administrative Borrower or the Administrative Agent to determine whether or not such Lender is subject to backup withholding or information reporting requirements. Notwithstanding anything to the contrary in the preceding two sentences, the completion, execution and submission of such documentation (other than such documentation set forth in Section 3.2(e)(ii)(A), (ii)(B) and (ii)(D) below) shall not be required if, in the Lender's reasonable judgment, such completion, execution or submission would subject such Lender to any material unreimbursed cost or expense, or would materially prejudice the legal or commercial position of such Lender.

(ii) Without limiting the generality of the foregoing, in the event that a Borrower is a U.S. Person,

(A) any Lender that is a U.S. Person shall deliver to the Borrower and the Administrative Agent on or prior to the date on which such Lender becomes a Lender under this Agreement (and from time to time thereafter upon the reasonable

written request of the Borrower or the Administrative Agent), executed copies of IRS Form W-9 certifying that such Lender is exempt from U.S. federal backup withholding tax;

(B) any Foreign Lender shall, to the extent it is legally entitled to do so, deliver to the Administrative Borrower and the Administrative Agent (in such number of copies as shall be requested by the recipient) on or prior to the date on which such Foreign Lender becomes a Lender under this Agreement (and from time to time thereafter upon the reasonable request of the Administrative Borrower or the Administrative Agent), whichever of the following is applicable:

(1) in the case of a Foreign Lender claiming the benefits of an income tax treaty to which the United States is a party (y) with respect to payments of interest under any Loan Document, executed copies of IRS Form W-8BEN-E (or W-8BEN, as applicable) establishing an exemption from, or reduction of, U.S. federal withholding Tax pursuant to the "interest" article of such tax treaty, and (z) with respect to any other applicable payments under any Loan Document, IRS Form W-8BEN-E (or W-8BEN, as applicable) establishing an exemption from, or reduction of, U.S. federal withholding Tax pursuant to the "business profits" or "other income" article of such tax treaty;

(2) executed originals of IRS Form W-8ECI;

(3) in the case of a Foreign Lender claiming the benefits of the exemption for portfolio interest under Section 881(c) of the Code, (y) a certificate substantially in the form of Exhibit J-1 to the effect that such Foreign Lender is not a "bank" within the meaning of Section 881(c)(3)(A) of the Code, a "10 percent shareholder" of a Borrower within the meaning of Section 881(c)(3)(B) of the Code, or a "controlled foreign corporation" described in Section 881(c)(3)(C) of the Code (a "U.S. Tax Compliance Certificate"), and (z) executed copies of IRS Form W-8BEN-E (or W-8BEN, as applicable); or

(4) to the extent a Foreign Lender is not the beneficial owner, executed copies of IRS Form W-8IMY, accompanied by IRS Form W-8ECI, IRS Form W-8BEN-E (or W-8BEN, as applicable), a U.S. Tax Compliance Certificate substantially in the form of Exhibit J-2 or Exhibit J-3, IRS Form W-9, and other certification documents from each beneficial owner, as applicable; provided that if, the Foreign Lender is a partnership and one or more direct or indirect partners of such Foreign Lender are claiming the portfolio interest exemption, such Foreign Lender may provide a U.S. Tax Compliance Certificate, substantially in the form of Exhibit J-4 hereto on behalf of each such direct and indirect partner;

(C) any Foreign Lender shall, to the extent it is legally entitled to do so, deliver to the Administrative Borrower and the Administrative Agent (in such number of copies as shall be requested by the recipient) on or prior to the date on which such Foreign Lender becomes a Lender under this Agreement (and from time to time thereafter upon the reasonable request of the Administrative Borrower or the Administrative Agent), executed copies (or originals, as required) of any other form prescribed by applicable Law as a basis for claiming exemption from or a reduction in U.S. federal withholding Tax, duly completed, together with such supplementary documentation as may be prescribed by applicable Law to permit the Administrative Borrower or the Administrative Agent to determine the withholding or deduction required to be made; and

(D) if a payment made to a Lender under any Loan Document would be subject to U.S. federal withholding Tax imposed by FATCA if such Lender were to fail to comply with the applicable reporting requirements of FATCA (including those contained in Section 1471(b) or 1472(b) of the Code, as applicable), such Lender shall deliver to the Borrower and the Administrative Agent at the time or times prescribed by Law and at such time or times reasonably requested by the Borrower or the Administrative Agent such documentation prescribed by applicable Law (including as prescribed by Section 1471(b)(3)(C)(i) of the Code) and such additional documentation reasonably requested by the Borrower or the Administrative Agent as may be necessary for the Borrower and the Administrative Agent to comply with their obligations under FATCA and to determine that such Lender has complied with such Lender's obligations under FATCA or to determine the amount to deduct and withhold from such payment. Solely for purposes of this subpart (D), "FATCA" shall include any amendments made to FATCA after the date of this Agreement.

(iii) Each Lender agrees that if, any form or certification it previously delivered pursuant to this Section 3.2 expires or becomes obsolete or inaccurate in any respect, it shall update such form or certification or promptly notify the Administrative Borrower and the Administrative Agent in writing of its legal inability to do so.

(f) Treatment of Certain Refunds. Unless required by applicable Laws, at no time shall the Administrative Agent have any obligation to file for or otherwise pursue on behalf of a Lender or the Issuing Lender, or have any obligation to pay to any Lender or the Issuing Lender, any refund of Taxes withheld or deducted from funds paid for the account of such Lender or the Issuing Lender, as the case may be. If any Recipient determines, in its sole but reasonable discretion, that it has received a refund of any Taxes as to which it has been indemnified by any Credit Party or with respect to which any Credit Party has paid additional amounts pursuant to this Section 3.2, it shall pay to such Credit Party an amount equal to such refund (but only to the extent of indemnity payments made, or additional amounts paid, by such Credit Party under this Section 3.2 with respect to the Taxes giving rise to such refund); net of all out-of-pocket expenses (including Taxes) incurred by such Recipient, as the case may be, and without interest (other than any interest paid by the relevant Governmental Authority with respect to such refund), provided that each Credit Party, upon the request of the Recipient, agrees to repay the amount paid over to such Credit Party (plus any penalties,

interest or other charges imposed by the relevant Governmental Authority) to the Recipient in the event the Recipient is required to repay such refund to such Governmental Authority. Notwithstanding anything to the contrary in this subsection, in no event will the applicable Recipient be required to pay any amount to such Credit Party pursuant to this subsection the payment of which would place the Recipient in a less favorable net after-Tax position than such Recipient would have been in if the Tax subject to indemnification and giving rise to such refund had not been deducted, withheld or otherwise imposed and the indemnification payments or additional amounts with respect to such Tax had never been paid. This subsection shall not be construed to require any Recipient to make available its tax returns (or any other information relating to its taxes that it deems confidential) to any Credit Party or any other Person. For purposes of this Section 3.2(f), a "refund" includes any credit that reduces a Recipient's tax liability and produces a tax savings actually realized by such Recipient.

(g) Survival. Each party's obligations under this Section 3.2 shall survive the resignation or replacement of the Administrative Agent or any assignment of rights by, or the replacement of, a Lender or the Issuing Lender, the termination of the Commitment and the repayment, satisfaction or discharge of all other Obligations.

Section 3.3. Funding Losses. The US Borrowers (and the appropriate Foreign Borrower) agree to indemnify each Lender, promptly after receipt of a written request therefor, and to hold each Lender harmless from, any loss or expense that such Lender may sustain or incur as a consequence of (a) default by a Borrower in making a borrowing of, conversion into or continuation of Fixed Rate Loans after such Borrower has given a notice (including a written or verbal notice that is subsequently revoked) requesting the same in accordance with the provisions of this Agreement, (b) default by a Borrower in making any prepayment of or conversion from Fixed Rate Loans after such Borrower has given a notice (including a written or verbal notice that is subsequently revoked) thereof in accordance with the provisions of this Agreement, (c) the making of a prepayment of a Fixed Rate Loan on a day that is not the last day of an Interest Period applicable thereto, (d) any conversion of a Fixed Rate Loan to a Base Rate Loan on a day that is not the last day of an Interest Period applicable thereto, or (e) any compulsory assignment of such Lender's interests, rights and obligations under this Agreement pursuant to Section 12.3(c) or 12.10 hereof. Such indemnification shall be in an amount equal to the excess, if any, of (i) the amount of interest that would have accrued on the amounts so prepaid, or not so borrowed, converted or continued, for the period from the date of such prepayment or of such failure to borrow, convert or continue to the last day of such Interest Period (or, in the case of a failure to borrow, convert or continue, the Interest Period that would have commenced on the date of such failure) in each case at the applicable rate of interest for such Loans provided for herein (excluding, however, the Applicable Margin included therein, if any) over (ii) the amount of interest (as reasonably determined by such Lender) that would have accrued to such Lender on such amount by placing such amount on deposit for a comparable period with leading banks in the appropriate London interbank market, along with any administration fee charged by such Lender. A certificate as to any amounts payable pursuant to this Section 3.3 submitted to the Administrative Borrower (with a copy to the Administrative Agent) by any Lender, together with a reasonably detailed calculation and description of such amounts, shall be rebuttably presumptive evidence as to such amounts. The obligations of the Borrowers pursuant

to this Section 3.3 shall survive the termination of this Agreement and the payment of the Loans and all other amounts payable hereunder.

Section 3.4. Change of Lending Office. Each Lender agrees that, upon the occurrence of any event giving rise to the operation of Section 3.1 or 3.2(a) hereof with respect to such Lender, it will, if requested by the Administrative Borrower, use reasonable efforts (subject to overall policy considerations of such Lender) to designate another lending office (or an Affiliate of such Lender, if practical for such Lender) for any Loans affected by such event with the object of avoiding the consequences of such event; provided, that such designation is made on terms that, in the sole judgment of such Lender, cause such Lender and its lending office(s) to suffer no economic, legal or regulatory disadvantage; and provided, further, that nothing in this Section shall affect or postpone any of the obligations of any Borrower or the rights of any Lender pursuant to Section 3.1 or 3.2(a) hereof.

Section 3.5. Eurodollar Rate or Alternate Currency Rate Lending Unlawful; Inability to Determine Rate

(a) If any Lender shall determine (which determination shall, upon notice thereof to the Administrative Borrower and the Administrative Agent, be conclusive and binding on the Borrowers) that, after the Closing Date, (i) the introduction of or any change in or in the interpretation of any Law makes it unlawful, or (ii) any Governmental Authority asserts that it is unlawful, for such Lender to make or continue any Loan as, or to convert (if permitted pursuant to this Agreement) any Loan into, a Fixed Rate Loan, the obligations of such Lender to make, continue or convert into any such Fixed Rate Loan shall, upon such determination, be suspended until such Lender shall notify the Administrative Agent that the circumstances causing such suspension no longer exist, and all outstanding Fixed Rate Loans payable to such Lender shall automatically convert (if conversion is permitted under this Agreement) into a Base Rate Loan, or be repaid (if no conversion is permitted) at the end of the then current Interest Periods with respect thereto or sooner, if required by Law or such assertion.

(b) If the Administrative Agent or the Required Lenders determine that for any reason adequate and reasonable means do not exist for determining the Eurodollar Rate or Alternate Currency Rate for any requested Interest Period with respect to a proposed Fixed Rate Loan, or that the Eurodollar Rate or Alternate Currency Rate for any requested Interest Period with respect to a proposed Fixed Rate Loan does not adequately and fairly reflect the cost to the Lenders of funding such Loan, the Administrative Agent will promptly so notify the Administrative Borrower and each Lender. Thereafter, the obligation of the Lenders to make or maintain such Fixed Rate Loan shall be suspended until the Administrative Agent (upon the instruction of the Required Lenders) revokes such notice. Upon receipt of such notice, the Administrative Borrower may revoke any pending request for a borrowing of, conversion to or continuation of such Fixed Rate Loan or, failing that, will be deemed to have converted such request into a request for a borrowing of a Base Rate Loan in the amount specified therein.

(c) Notwithstanding the foregoing, in the event the Administrative Agent determines (which determination shall be conclusive absent manifest error) that (i) the circumstances set forth

in Section 3.5(b) have arisen and such circumstances are unlikely to be temporary, (ii) Thomson Reuters or Bloomberg (or any Person that takes over the administration of such rate) discontinues its administration and publication of interest settlement rates for deposits in Dollars, or (iii) the supervisor for the administrator of the interest settlement rate described in Section 3.5(b) or a Governmental Authority having jurisdiction over the Administrative Agent has made a public statement identifying a specific date after which such interest settlement rate shall no longer be used for determining interest rates for loans, then the Administrative Agent and the Administrative Borrower shall seek to jointly agree upon an alternate rate of interest to the Eurodollar Rate that gives due consideration to the then prevailing market convention for determining a rate of interest for syndicated loans in the United States at such time, and the Administrative Agent and the Administrative Borrower shall enter into an amendment to this Agreement to reflect such alternate rate of interest and such other related changes to this Agreement as may be applicable. Notwithstanding anything to the contrary in Section 12.3 hereof, such amendment shall become effective without any further action or consent of any other party to this Agreement so long as the Administrative Agent shall not have received, within five (5) Business Days of the date notice of such alternate rate of interest is provided to the Lenders, a written notice from the Required Lenders stating that such Required Lenders object to such amendment. Until an alternate rate of interest shall be determined in accordance with this Section 3.5(c), (x) any request pursuant that requests the conversion to, or continuation of any, Fixed Rate Loan shall be ineffective and any such Fixed Rate Loan shall be continued as or converted to, as the case may be, a Base Rate Loan, and (y) if any request is made for a Fixed Rate Loan, such Loan shall be made as a Base Rate Loan. If the alternate rate of interest determined pursuant to this Section 3.5(c) shall be less than zero, such rate shall be deemed to be zero for the purposes of this Agreement.

Section 3.6. Replacement of Lenders. The Administrative Borrower shall be permitted to replace any Lender that requests reimbursement for amounts owing pursuant to Section 3.1 or 3.2(a) hereof, or asserts its inability to make a Fixed Rate Loan pursuant to Section 3.5 hereof; provided that (a) such replacement does not conflict with any Law, (b) no Default or Event of Default shall have occurred and be continuing at the time of such replacement, (c) prior to any such replacement, such Lender shall have taken no action under Section 3.4 hereof so as to eliminate the continued need for payment of amounts owing pursuant to Section 3.1 or 3.2(a) hereof or, if it has taken any action, such request has still been made, (d) the replacement financial institution shall purchase, at par, all Loans and other amounts owing to such replaced Lender on or prior to the date of replacement and assume all commitments and obligations of such replaced Lender, (e) the appropriate Borrowers shall be liable to such replaced Lender under Section 3.3 hereof if any Fixed Rate Loan owing to such replaced Lender shall be purchased other than on the last day of the Interest Period relating thereto, (f) the replacement Lender, if not already a Lender, shall be an Eligible Assignee, (g) the replaced Lender shall be obligated to make such replacement in accordance with the provisions of Section 12.9 hereof (provided that the Borrowers (or the succeeding Lender, if such Lender is willing) shall be obligated to pay the assignment fee referred to therein), and (h) until such time as such replacement shall be consummated, the appropriate Borrowers shall pay all additional amounts (if any) required pursuant to Section 3.1 or 3.2(a) hereof, as the case may be; provided that a Lender shall not be required to make any such assignment if, prior thereto, as a result of a waiver by such Lender or otherwise, the circumstances entitling the Borrowers to replace such Lender cease to apply.

Section 3.7. Discretion of Lenders as to Manner of Funding Notwithstanding any provision of this Agreement to the contrary, each Lender shall be entitled to fund and maintain its funding of all or any part of such Lender's Loans in any manner such Lender deems to be appropriate; it being understood, however, that for the purposes of this Agreement all determinations hereunder shall be made as if such Lender had actually funded and maintained each Eurodollar Loan or Alternate Currency Loan during the applicable Interest Period for such Loan through the purchase of deposits having a maturity corresponding to such Interest Period and bearing an interest rate equal to the Eurodollar Rate or Alternate Currency Rate, as applicable, for such Interest Period. In addition, each Lender may, at its option, fund its portion of a Loan requested by a Foreign Borrower to the Administrative Agent by causing any foreign or domestic branch or affiliate of such Lender to provide such funding; provided that any exercise of such option shall not affect the obligation of such Foreign Borrower to repay such Loan in accordance with the terms of this Agreement, and such Lender and its affiliate or branch shall cooperate and communicate with the Administrative Agent in order to coordinate such arrangement.

ARTICLE IV. CONDITIONS PRECEDENT

Section 4.1. Conditions to Each Credit Event The obligation of the Lenders, the Issuing Lenders and the Swing Line Lenders to participate in any Credit Event shall be conditioned, in the case of each Credit Event, upon the following:

- (a) all conditions precedent as listed in Section 4.2 hereof required to be satisfied prior to the first Credit Event shall have been satisfied prior to or as of the first Credit Event;
- (b) the Administrative Borrower shall have submitted a Notice of Loan (or with respect to a Letter of Credit, complied with the provisions of Section 2.2(b)(iii) hereof) and otherwise complied with Section 2.6 hereof;
- (c) no Default or Event of Default shall then exist or immediately after such Credit Event would exist;
- (d) each of the representations and warranties contained in Article VI hereof shall be true and correct in all material respects (or, as to any representations and warranties which are subject to a materiality or Material Adverse Effect qualifier, true and correct in all material respects) as if made on and as of the date of such Credit Event, except to the extent that any thereof expressly relate to an earlier date, in which case they shall be true and correct in all material respects (or, as to any representations and warranties which are subject to a materiality or Material Adverse Effect qualifier, true and correct in all respects) as of such earlier date; and
- (e) with respect to each request by one or more Borrowers for an Alternate Currency Loan or for a Letter of Credit to be issued in an Alternate Currency, there shall not have occurred any change in any national or international financial, political or economic conditions or currency exchange rates or exchange controls that, in the reasonable opinion of the Administrative Agent

and the Required Lenders (and the Issuing Lender, with respect to any Letter of Credit to be issued in an Alternate Currency) would make it impracticable for such Loan or Letter of Credit to be denominated in the relevant Alternate Currency.

Each request by the Administrative Borrower or any other Borrower for a Credit Event shall be deemed to be a representation and warranty by the Borrowers as of the date of such request as to the satisfaction of the conditions precedent specified in subsections (c), (d) and (e) above.

Section 4.2. Conditions to the First Credit Event. The Borrowers shall cause the following conditions to be satisfied on or prior to the Closing Date. The obligation of the Lenders, the Issuing Lenders and the Swing Line Lenders to participate in the first Credit Event is subject to the Borrowers satisfying each of the following conditions prior to or concurrently with such Credit Event:

(a) Notes.

(i) The US Borrowers shall have executed and delivered to each Revolving Lender requesting a US Borrower Revolving Credit Note such Revolving Lender's US Borrower Revolving Credit Note.

(ii) The Foreign Borrowers shall have executed and delivered to each Revolving Lender requesting a Foreign Borrower Revolving Credit Note such Revolving Lender's Foreign Borrower Revolving Credit Note.

(iii) The Borrowers shall have executed and delivered to each Swing Line Lender requesting a Swing Line Note such Swing Line Lender's Swing Line Note.

(iv) DMC Global shall have executed and delivered to each Capex Lender requesting a Capex Note such Capex Lender's Capex Note.

(b) Guaranties of Payment. Other than as set forth in Section 4.3(b) hereto, each Guarantor of Payment shall have executed and delivered to the Administrative Agent, for the benefit of the Lenders, a Guaranty of Payment, in form and substance satisfactory to the Administrative Agent and the Lenders.

(c) Pledge Agreements. Each US Borrower that has a Subsidiary shall have (i) executed and delivered to the Administrative Agent, for the benefit of the Lenders, a Pledge Agreement, in form and substance satisfactory to the Administrative Agent, with respect to the Pledged Securities, (ii) executed and delivered to the Administrative Agent, for the benefit of the Lenders, appropriate transfer powers for each of the Pledged Securities that are certificated, (iii) delivered to the Administrative Agent, for the benefit of the Lenders, the Pledged Securities (to the extent such Pledged Securities are certificated), and (iv) delivered to the Administrative Agent any other documentation (including legal opinions from foreign counsel) reasonably required by the Administrative Agent regarding the perfection of the security interest of the Administrative Agent, for the benefit of the Lenders, in such Pledged Securities.

(d) Intellectual Property Security Agreements. Each Domestic Credit Party that owns intellectual property federally registered under the laws of the United States shall have executed and delivered to the Administrative Agent, for the benefit of the Lenders, an Intellectual Property Security Agreement, in form and substance satisfactory to the Administrative Agent and the Lenders.

(e) Real Estate Matters. With respect to each parcel of the Mortgaged Real Property (other than as identified in Section 4.3(a) hereof) owned by a Credit Party, the Borrowers shall have delivered to the Administrative Agent:

(i) the results of title and lien searches of such Mortgaged Real Property records for the county in which such Mortgaged Real Property is located;

(ii) evidence to the Administrative Agent's satisfaction in its sole discretion that no portion of such Mortgaged Real Property is located in a Special Flood Hazard Area or is otherwise classified as Class A or Class BX on the Flood Maps maintained by the Federal Emergency Management Agency;

(iii) an executed original of the Mortgage with respect to such Mortgaged Real Property; and

(iv) an opinion of counsel with respect to such Mortgaged Real Property, in form and substance satisfactory to Lender.

(f) Letter of Credit Documentation. The appropriate Borrowers shall have executed and delivered to the Administrative Agent (i) a Master Letter of Credit Agreement for the benefit of each Issuing Lender, in form and substance satisfactory to the applicable Fronting Lender and the Administrative Agent, (ii) any applicable Additional Issuing Lender Agreements, and (iii) any other documentation reasonably requested by the Administrative Agent and the applicable Issuing Lender with respect to the issuance of a Letter of Credit in a specific jurisdiction.

(g) Lien Searches. With respect to each Credit Party and its property, the Borrowers shall have caused to be delivered to the Administrative Agent (i) the results of Uniform Commercial Code lien searches (or other searches as appropriate in the applicable foreign jurisdiction), reasonably satisfactory to the Administrative Agent, (ii) the results of federal and state tax lien and judicial lien searches and pending litigation and bankruptcy searches (or other searches as appropriate in the applicable foreign jurisdiction), reasonably satisfactory to the Administrative Agent, and (iii) Uniform Commercial Code termination statements reflecting termination of all U.C.C. Financing Statements (or other searches as appropriate in the applicable foreign jurisdiction) previously filed by any Person and not expressly permitted pursuant to Section 5.9 hereof.

(h) Officer's Certificate, Resolutions, Organizational Documents. The Borrowers shall have delivered to the Administrative Agent an officer's certificate (or comparable domestic or foreign documents) certifying the names of the officers of each Credit Party authorized to sign the Loan Documents, together with the true signatures of such officers and certified copies of (i) the resolutions of the board of directors (or comparable domestic or foreign documents) of such Credit

Party evidencing approval of the execution, delivery and performance of the Loan Documents and the execution, delivery and performance of other Related Writings to which such Credit Party is a party, and the consummation of the transactions contemplated thereby, and (ii) the Organizational Documents of such Credit Party.

(i) Good Standing and Full Force and Effect Certificates The Borrowers shall have delivered to the Administrative Agent a good standing certificate or full force and effect certificate (or comparable domestic or foreign document, if neither certificate is available in the applicable jurisdiction), as the case may be, for each Credit Party, issued as of a recent date by the Secretary of State (or applicable government official or office) in the state or states (or other jurisdiction) where such Credit Party is (i) incorporated or formed and, (ii) with respect to each Domestic Credit Party, qualified as a foreign entity to the extent such Credit Party has material operations or assets in such foreign jurisdiction.

(j) Legal Opinions. The Borrowers shall have delivered to the Administrative Agent opinions of counsel for each Credit Party, in form and substance satisfactory to the Administrative Agent and the Lenders.

(k) Insurance Certificates. The Borrowers shall have delivered to the Administrative Agent certificates of insurance on ACORD 25 and 27 or 28 form and proof of endorsements satisfactory to the Administrative Agent and the Lenders, providing for adequate real property, personal property and liability insurance for each Company, with the Administrative Agent, on behalf of the Lenders, listed as, lender's loss payee and additional insured, as appropriate.

(l) Projection Model. The Borrowers shall have delivered to the Administrative Agent a five-year projection model of the Companies, in form and substance satisfactory to the Administrative Agent.

(m) Administrative Agent Fee Letter, Closing Fee Letter and Other Fees The Borrowers shall have (i) executed and delivered to the Administrative Agent, the Administrative Agent Fee Letter and paid to the Administrative Agent, for its sole account, the fees stated therein that are due and payable on the Closing Date, (ii) executed and delivered to the Administrative Agent, the Closing Fee Letter and paid to the Administrative Agent, for the benefit of the Lenders, the fees stated therein to be due and payable on the Closing Date, and (iii) paid all reasonable legal fees and reasonable expenses of the Administrative Agent in connection with the preparation and negotiation of the Loan Documents.

(n) Existing Credit Agreement. The Borrowers shall have delivered to the Administrative Agent an executed payoff letter with respect to the Second Amended and Restated Credit Agreement among DMC Global, the other borrowers and guarantors party thereto, the lenders party thereto and JPMorgan Chase Bank, N.A., as agent, dated as of February 23, 2015, as amended, and shall have terminated such agreement (other than contingent indemnification and similar obligations expressly stated in such agreement to survive the termination thereof), which termination shall be deemed to have occurred upon payment in full of all of the Indebtedness outstanding thereunder and termination of the commitments established therein.

(o) Closing Certificate. The Borrowers shall have delivered to the Administrative Agent and the Lenders an officer's certificate certifying that, as of the Closing Date, (i) all conditions precedent set forth in Sections 4.1 and 4.2 hereof have been satisfied, (ii) the Leverage Ratio (after giving effect to the initial Loans on the Closing Date) is no greater than 3.00 to 1.00, (iii) no Default or Event of Default exists or immediately after the first Credit Event will exist and (iv) each of the representations and warranties contained in Article VI hereof are true and correct as of the Closing Date.

(p) Letter of Direction. The Administrative Borrower shall have delivered to the Administrative Agent a letter of direction authorizing the Administrative Agent, on behalf of the Lenders, to disburse the proceeds of the Loans, which letter of direction includes the authorization to transfer funds under this Agreement and the wire instructions that set forth the locations to which such funds shall be sent.

(q) No Material Adverse Change. Other than as disclosed in any public filing, there shall not have occurred any change, development, or event that has or would reasonably be expected to have a material adverse effect on the operations, business, properties or condition (financial or otherwise) of the Companies, taken as a whole, since December 31, 2016.

(r) Miscellaneous. The Borrowers shall have provided to the Administrative Agent and the Lenders such other items and shall have satisfied such other conditions as may be reasonably required by the Administrative Agent or the Lenders.

Section 4.3. Post-Closing Conditions. On or before each of the dates specified in this Section 4.3 (unless a longer period is agreed to in writing by the Administrative Agent), the Borrowers shall satisfy each of the following items specified in the subsections below:

(a) Real Estate Matters. No later than fifteen (15) days after the Closing Date, with respect to the parcel of Mortgaged Real Property set forth on Schedule 5 hereto located in Pennsylvania, the Borrowers shall deliver to the Administrative Agent:

- (i) the results of title and lien searches of such Mortgaged Real Property records for the county in which such Mortgaged Real Property is located;
- (ii) evidence to the Administrative Agent's satisfaction in its sole discretion that no portion of such Mortgaged Real Property is located in a Special Flood Hazard Area or is otherwise classified as Class A or Class BX on the Flood Maps maintained by the Federal Emergency Management Agency;
- (iii) an executed original of the Mortgage with respect to such Mortgaged Real Property; and
- (iv) an opinion of counsel with respect to such Mortgaged Real Property, in form and substance satisfactory to Lender.

(b) Guaranties of Payment. No later than twenty (20) days after the Closing Date, each of Dynamic Materials Corporation (HK) Limited and Dynamic Materials Corporation (Shanghai) Trading Co. Ltd. shall have executed and delivered to the Administrative Agent, for the benefit of the Lenders, a Guaranty of Payment, in form and substance satisfactory to the Administrative Agent and the Lenders, along with any such other supporting documentation, corporate governance and authorization documents including a legal opinion, as reasonably requested by the Administrative Agent.

(c) Collateral Access Agreements. No later than sixty (60) days after the Closing Date, the US Borrowers shall deliver a Collateral Access Agreement, each in form and substance satisfactory to the Administrative Agent, for each location of a Domestic Credit Party where any of the collateral securing any part of the Obligations is located, unless (i) such location is owned by the Company that owns the collateral located there, or (ii) a Collateral Access Agreement would not otherwise be required pursuant to Section 5.21(e) hereof.

(d) Deposit Accounts. No later than sixty (60) days after the Closing Date, the Companies shall close each Deposit Account (other than with respect to Deposit Accounts permitted to remain open pursuant to the terms of Section 5.21(d) hereof) maintained by a Company at any financial institution other than the Administrative Agent.

(e) Pledge Agreements. No later than sixty (60) days after the Closing Date, each Foreign Borrower and Foreign Guarantor of Payment that has a Subsidiary (that is not a Dormant Subsidiary) shall have (i) executed and delivered to the Administrative Agent, for the benefit of the Lenders, a Pledge Agreement, in form and substance satisfactory to the Administrative Agent, with respect to the Pledged Securities, (ii) executed and delivered to the Administrative Agent, for the benefit of the Lenders, appropriate transfer powers for each of the Pledged Securities that are certificated, (iii) delivered to the Administrative Agent, for the benefit of the Lenders, the Pledged Securities (to the extent such Pledged Securities are certificated), and (iv) delivered to the Administrative Agent any other documentation (including legal opinions from foreign counsel) reasonably required by the Administrative Agent regarding the perfection of the security interest of the Administrative Agent, for the benefit of the Lenders, in such Pledged Securities.

ARTICLE V. COVENANTS

Section 5.1. Insurance. Each Company shall at all times maintain insurance upon its Inventory, Equipment and other personal and real property (including, if applicable, flood insurance as required pursuant to Section 5.29 hereof) in such form, written by such companies, in such amounts, for such periods, and against such risks as is generally consistent with insurance coverage maintained by the Companies on the Closing Date, with provisions satisfactory to the Administrative Agent for, with respect to Domestic Credit Parties, payment of all losses thereunder to the Administrative Agent, for the benefit of the Lenders, and such Company as their interests may appear (with lender's loss payable and additional insured endorsements, as appropriate, in favor of the Administrative Agent, for the benefit of the Lenders), and, if required by the Administrative

after the occurrence of an Event of Default, the Borrowers shall deposit the policies with the Administrative Agent. Any such Domestic Credit Party's policies of insurance shall provide for no fewer than thirty (30) days prior written notice of cancellation (or ten (10) days in the case of cancellation for non-payment) to the Administrative Agent and the Lenders. Any sums received by the Administrative Agent, for the benefit of the Lenders, in payment of insurance losses, returns, or unearned premiums under the policies shall be applied as set forth in Section 2.12(f) and (g) hereof. The Administrative Agent is hereby authorized to act as attorney-in-fact for the Companies, after the occurrence and during the continuance of an Event of Default, in obtaining, adjusting, settling and canceling such insurance and indorsing any drafts. In the event of failure to provide such insurance as herein provided, the Administrative Agent may, at its option, provide such insurance and the US Borrowers shall pay to the Administrative Agent, upon demand, the cost thereof. Should the US Borrowers fail to pay such sum to the Administrative Agent upon demand, interest shall accrue thereon, from the date of demand until paid in full, at the Default Rate. Within ten days of the Administrative Agent's written request, the US Borrowers shall furnish to the Administrative Agent such information about the insurance of the Companies as the Administrative Agent may from time to time reasonably request, which information shall be prepared in form and detail reasonable satisfactory to the Administrative Agent and certified by a Financial Officer as being true and correct in all material respects.

Section 5.2. Money Obligations. Each Company shall pay in full (a) prior in each case to the date when penalties would attach, all taxes, assessments and governmental charges and levies (except only those so long as and to the extent that the same shall be contested in good faith by appropriate and timely proceedings and for which adequate provisions have been established in accordance with GAAP) for which it may be or become liable or to which any or all of its properties may be or become subject; (b) in the case of each Domestic Credit Party, all of its material wage obligations to its employees in compliance with the Fair Labor Standards Act (29 U.S.C. §§ 206-207) or any comparable provisions, and, in the case of the Foreign Borrowers and the Foreign Guarantors of Payment, those obligations under foreign Laws with respect to employee source deductions, obligations and employer obligations to its employees; and (c) all of its other material obligations calling for the payment of money (except only those so long as and to the extent that the same shall be contested in good faith and for which adequate provisions have been established in accordance with GAAP) before such payment becomes overdue.

Section 5.3. Financial Statements and Information.

(a) Quarterly Financials. The Borrowers shall deliver to the Administrative Agent, within forty-five (45) days after the end of each of the first three quarterly periods of each fiscal year of DMC Global (or, if earlier, within five days after the date on which DMC Global shall be required to submit its Form 10-Q), balance sheets of the Companies as of the end of such period and statements of income (loss), stockholders' equity and cash flow for the quarter and fiscal year to date periods, all prepared on a Consolidated basis (in accordance with GAAP subject to year-end adjustments and the absence of footnotes), and certified by a Financial Officer as being true and correct in all material respects; provided that such financial statements shall be deemed to have been delivered on the date they are made available on the SEC EDGAR website or on DMC Global's website, whichever occurs first..

(b) Annual Audit Report. The Borrowers shall deliver to the Administrative Agent, within ninety (90) days after the end of each fiscal year of DMC Global (or, if earlier, within five days after the date on which DMC Global shall be required to submit its Form 10-K), an annual audit report of the Companies for that year prepared on a Consolidated (in accordance with GAAP) basis, and certified by an unqualified opinion of an independent public accountant of recognized national standing, which report shall include balance sheets and statements of income (loss), stockholders' equity and cash-flow for that period; provided that such financial statements shall be deemed to have been delivered on the date they are made available on the SEC EDGAR website or on DMC Global's website, whichever occurs first.

(c) Compliance Certificate. The Borrowers shall deliver to the Administrative Agent, concurrently with the delivery of the financial statements set forth in subsections (a) and (b) above, a Compliance Certificate.

(d) Management Reports. The Borrowers shall deliver to the Administrative Agent, concurrently with the delivery of the quarterly and annual financial statements set forth in subsections (a) and (b) above, a copy of any formal management report, letter or comparable analysis prepared by the Companies' accountants in respect of the systems, operations, financial condition or properties of the Companies.

(e) Annual Budget. The Borrowers shall deliver to the Administrative Agent, within thirty (30) days after the end of each fiscal year of DMC Global, an annual budget of the Companies for the then current fiscal year, to be in form and detail reasonably satisfactory to the Administrative Agent.

(f) Insurance Report. The Borrowers shall deliver to the Administrative Agent, within ninety (90) days after the end of each fiscal year of DMC Global, an insurance coverage report of the Companies, to be in form and detail reasonably satisfactory to the Administrative Agent.

(g) Stockholder and SEC Documents. The Borrowers shall deliver to the Administrative Agent and the Lenders, promptly after their preparation, copies of all proxy statements, financial statements and reports that DMC Global sends to its stockholders, and copies of all periodic and special reports and registration statements that DMC Global files with the SEC; provided that such reports, statements and other documents shall be deemed to have been delivered on the date they are made available on the SEC EDGAR website or on DMC Global's website, whichever occurs first.

(h) Financial Information of the Companies. The Administrative Borrower shall deliver to the Administrative Agent, within ten days of the written request of the Administrative Agent, such other information about the financial condition, properties and operations of any Company as the Administrative Agent may from time to time reasonably request, which information shall be submitted in form and detail reasonably satisfactory to the Administrative Agent and certified by a Financial Officer of the Company or Companies in question as being true and correct in all material respects.

Section 5.4. Financial Records. Each Company shall at all times maintain true and complete records and books of account, including, without limiting the generality of the foregoing, appropriate provisions for possible losses and liabilities, all in accordance with GAAP, and at all reasonable times (during normal business hours and upon reasonable notice to such Company) permit the Administrative Agent, or any representative of the Administrative Agent, to examine such Company's books and records and to make excerpts therefrom and transcripts thereof; provided that so long as no Event of Default is continuing, the Companies shall only be required to reimburse the Administrative Agent for the cost of one such inspection in any fiscal year.

Section 5.5. Franchises: Change in Business.

(a) Each Company (other than a Dormant Subsidiary) shall preserve and maintain at all times its existence, and its rights and franchises necessary for its business, except as otherwise permitted pursuant to Section 5.12 hereof.

(b) No Company shall engage in any business if, as a result thereof, the general nature of the business of the Companies taken as a whole would be substantially changed from the general nature of the business the Companies are engaged in on the Closing Date.

Section 5.6. ERISA Pension and Benefit Plan Compliance. No Company shall incur any material accumulated funding deficiency within the meaning of ERISA, or any material liability to the PBGC, established thereunder in connection with any ERISA Plan. The Borrowers shall furnish to the Administrative Agent and the Lenders (i) as soon as possible and in any event within thirty (30) days after any Company knows or has reason to know that any Reportable Event with respect to any ERISA Plan has occurred, a statement of a Financial Officer of such Company, setting forth details as to such Reportable Event and the action that such Company proposes to take with respect thereto, together with a copy of the notice of such Reportable Event given to the PBGC if a copy of such notice is available to such Company, and (ii) promptly after receipt thereof a copy of any notice such Company, or any member of the Controlled Group may receive from the PBGC or the IRS with respect to any ERISA Plan administered by such Company; provided that this latter subpart shall not apply to notices of general application promulgated by the PBGC or the IRS. The Borrowers shall promptly notify the Administrative Agent of any material taxes assessed, proposed to be assessed or that the Borrowers have reason to believe may be assessed against a Company by the IRS with respect to any ERISA Plan. As used in this Section 5.6(a), "material" means the measure of a matter of significance that shall be determined as being an amount equal to five percent (5%) of Consolidated Net Worth. As soon as practicable, and in any event within twenty (20) days, after any Company shall become aware that a material ERISA Event shall have occurred, such Company shall provide the Administrative Agent with notice of such ERISA Event with a certificate by a Financial Officer of such Company setting forth the details of the event and the action such Company or another Controlled Group member proposes to take with respect thereto. The Borrowers shall, at the request of the Administrative Agent, deliver or cause to be delivered to the Administrative Agent true and correct copies of any documents relating to the ERISA Plan of any Company.

Section 5.7. Financial Covenants.

(a) Leverage Ratio. The Borrowers shall not suffer or permit at any time the Leverage Ratio to exceed 3.00 to 1.00.

(b) Debt Service Coverage Ratio. The Borrowers shall not suffer or permit at any time the Debt Service Coverage Ratio to be less than 1.35 to 1.00.

Section 5.8. Borrowing. No Company shall create, incur or have outstanding any Indebtedness of any kind; provided that this Section 5.8 shall not apply to the following:

(a) the Loans, the Letters of Credit and any other Indebtedness under this Agreement;

(b) any loans granted to, or Capitalized Lease Obligations entered into by, any Company for the purchase or lease of fixed assets (and refinancings of such loans or Capitalized Lease Obligations), which loans and Capitalized Lease Obligations shall only be secured by the fixed assets being purchased or leased, so long as the aggregate principal amount of all such loans and Capitalized Lease Obligations for all Companies shall not exceed Ten Million Dollars (\$10,000,000) at any time outstanding;

(c) the Indebtedness existing on the Closing Date, in addition to the other Indebtedness permitted to be incurred pursuant to this Section 5.8, as set forth in Schedule 5.8 hereto (and any extension, renewal or refinancing thereof but only to the extent that the principal amount thereof does not increase after the Closing Date);

(d) Indebtedness of any Person in existence on the date on which such Person becomes a Company, so long as (i) such Indebtedness is not incurred or created in connection with such Person becoming a Company, (ii) no other Company has any obligation with respect to such Indebtedness, (iii) none of the properties of the Companies thereof is bound with respect to such Indebtedness and (iv) the aggregate principal amount of all such Indebtedness permitted by this subpart (d) shall not exceed Ten Million Dollars (\$10,000,000) at any time outstanding;

(e) loans to, and guaranties of Indebtedness of, a Credit Party from any other Credit Party;

(f) Indebtedness owed by any Subsidiary of any Credit Party to any Credit Party and guaranties by any Credit Party of the Indebtedness of any such Subsidiary, so long as the principal amount of such Indebtedness and guaranties, when combined with the principal amount of Indebtedness owed to any Credit Party pursuant to Section 5.8(h) hereof, does not exceed an aggregate amount of Ten Million Dollars (\$10,000,000) at any time outstanding; provided that no additional such Indebtedness shall be incurred and no additional such guaranties shall be made during the continuance of an Event of Default;

(g) Indebtedness owed by any Company that is not a Credit Party to any other Company that is not a Credit Party and guarantees by any such Company of the Indebtedness of any other Company that is not a Credit Party;

(h) Indebtedness of any Subsidiary of any Credit Party to the holders (or their respective Affiliates) of the equity interests in such Subsidiary on a basis that is substantially proportionate to their equity interests (with any disproportionately large interest received by any Credit Party or any of its respective Subsidiaries or any disproportionately small interest received by any Person other than such Credit Party or any such Subsidiary, being ignored for this purpose), so long as the principal amount of such Indebtedness owed to any Credit Party, when combined with the principal amount of Indebtedness owed to any Credit Party pursuant to Section 5.8(f) hereof, does not exceed an aggregate amount of Ten Million Dollars (\$10,000,000) at any time outstanding; provided that no additional such Indebtedness shall be incurred during the continuance of an Event of Default;

(i) Indebtedness under any Hedge Agreement, so long as such Hedge Agreement shall have been entered into in the ordinary course of business and not for speculative purposes;

(j) Indebtedness in respect of (i) deposits made by customers and held under forward purchasing arrangements entered into with customers in the ordinary course of business, (ii) performance, bid, surety, appeal or similar bonds or completion or performance guarantees provided in the ordinary course of business, (iii) workers' compensation claims or self-insurance obligations otherwise permitted hereunder, in each case incurred in the ordinary course of business (including, indebtedness relating to any part-time worker arrangements in accordance with the German Act on Part-Time Retirement (*Altersteilzeitgesetz*) or pursuant to section 7e of part IV of the German Social Security Code (*Sozialgesetzbuch IV*)) and (iv) past due accounts payable being contested in accordance with Section 5.2 hereof;

(k) customary indemnification, reimbursement or similar obligations and warranties under leases and other contracts in the ordinary course of business;

(l) Indebtedness arising from the honoring by a bank or other financial institution of a check, draft or similar instrument inadvertently (except in the case of daylight overdrafts) drawn against insufficient funds in the ordinary course of business; provided that such Indebtedness is extinguished within two Business Days after incurrence;

(m) Indebtedness constituting Investments permitted by Section 5.11 hereof;

(n) Indebtedness owed by any Company to any Person that is a Lender or an Affiliate of a Lender at the time such Indebtedness is incurred in respect of loans in currencies other than Dollars or an Alternative Currency and guarantees of any such Indebtedness by any Foreign Guarantor of Payment, so long as (i) the aggregate principal amount of Indebtedness permitted by this subpart (o) shall not exceed the equivalent amount of Ten Million Dollars (\$10,000,000) calculated as of the date such Indebtedness is incurred and (ii) such Lender or such Affiliate and the Administrative Agent shall have entered into an intercreditor agreement in form and substance reasonably satisfactory to the Administrative Agent;

(o) Indebtedness of any Foreign Subsidiary owing to Commerzbank Aktiengesellschaft in an aggregate principal amount not to exceed Four Million Euros (€4,000,000) at any time outstanding;

(p) guarantees by DMC Global of contractual obligations of its Subsidiaries entered into in the ordinary course of business not constituting borrowed money;

(q) Indebtedness incurred in connection with an Acquisition permitted hereunder, provided that (i) such Indebtedness is denominated in currencies other than Dollars or an Alternate Currency, (ii) prior to the anticipated incurrence of any such Indebtedness, the Borrowers shall have requested that such currency be made an Alternate Currency but the Lenders shall not have approved such request, and (ii) the aggregate principal amount of such Indebtedness does not exceed Five Million Dollars (\$5,000,000) at any time outstanding; and

(r) other unsecured Indebtedness, in addition to the Indebtedness listed above, in an aggregate principal amount for all Companies not to exceed Ten Million Dollars (\$10,000,000) at any time outstanding.

Section 5.9. Liens. No Company shall create, assume or suffer to exist (upon the happening of a contingency or otherwise) any Lien upon any of its property or assets, whether now owned or hereafter acquired; provided that this Section 5.9 shall not apply to the following:

(a) Liens for taxes not yet due or that are being actively contested in good faith by appropriate proceedings and for which adequate reserves shall have been established in accordance with GAAP;

(b) other statutory Liens, including, without limitation, statutory Liens of landlords, carriers, warehousemen, utilities, mechanics, repairmen, workers and materialmen, incidental to the conduct of its business or the ownership of its property and assets that (i) were not incurred in connection with the incurring of Indebtedness or the obtaining of advances or credit, and (ii) do not in the aggregate materially detract from the value of its property or assets or materially impair the use thereof in the operation of its business;

(c) any Lien granted to the Administrative Agent, for the benefit of the Lenders (and any Affiliates thereof);

(d) the Liens existing on the Closing Date as set forth in Schedule 5.9 hereto and replacements, extensions, renewals, refundings or refinancings thereof, but only to the extent that the amount of debt secured thereby, and the amount and description of property subject to such Liens, shall not be increased;

(e) purchase money Liens on fixed assets securing the loans and Capitalized Lease Obligations pursuant to Section 5.8(b) hereof, provided that such Liens are limited to the purchase price and only attaches to the property being acquired;

(f) Liens in favor of any Credit Party securing Indebtedness permitted under Section 5.8(e) and (f) hereof; provided that any such Liens encumbering assets of a Credit Party shall be subordinated in right of payment to the Secured Obligations of such Credit Party under the Loan Documents on terms reasonably acceptable to the Administrative Agent;

(g) Liens on the Collateral in favor of any Lender or any Affiliate of any Lender in respect of Indebtedness permitted under Section 5.8(n) hereof; provided that such Liens are pari passu with the Liens securing the Obligations and subject to the intercreditor agreement described in Section 5.8(n) hereof;

(h) Liens on equity interests consisting of preferred equity certificates of Dynamic Materials Luxembourg 1 S.à r.l. and Dynamic Materials Luxembourg 2 S.à r.l. that (i) require a holder of common or ordinary shares of such issuers to hold such preferred equity certificates in a specified proportion, (ii) require a holder of such preferred equity certificates to hold common or ordinary shares of such issuers in a specified proportion, (iii) restrict transfers of such preferred equity certificates, common shares or ordinary shares of such issuers to transfers that result in compliance with the preceding clauses (i) and (ii), or (iv) permit such issuers to call or redeem such equity interests;

(i) Liens on the assets of any Foreign Subsidiary securing Indebtedness permitted under Section 5.8(p) hereof, so long as such assets are not Collateral;

(j) Liens to secure Indebtedness permitted by Section 5.8(q) hereof;

(k) judgment liens in respect of judgments that do not constitute an Event of Default under Section 8.8 hereof;

(l) easements or other minor defects or irregularities in title of real property not interfering in any material respect with the use of such property in the business of any Company;

(m) Liens securing or arising by reason of any netting or set-off arrangement entered into in the ordinary course of banking or other trading activities or arising under the general business conditions of a bank or financial institution in respect of normal banking arrangements of a Company (including any Lien under general terms and conditions of banks or Sparkassen (*Allgemeine Geschäftsbedingungen der Banken oder Sparkassen*));

(n) Liens in connection with workers' compensation, professional liability insurance, insurance programs, unemployment insurance and other social security and other similar legislation or other insurance related obligations (including pledges or deposits securing liability to insurance carriers under insurance or self-insurance arrangements and Liens for any obligations of Company relating to any part-time worker arrangements in accordance with the German Act on Part-Time Retirement (*Altersteilzeitgesetz*) or pursuant to section 7e of part IV of the German Social Security Code (*Sozialgesetzbuch IV*)); or

(o) other Liens, in addition to the Liens listed above, not incurred in connection with the incurring of Indebtedness, securing amounts, in the aggregate for all Companies, not to exceed One Million Dollars (\$1,000,000) at any time.

No Company shall enter into any contract or agreement (other than a contract or agreement entered into in connection with the purchase or lease of fixed assets that prohibits Liens on such fixed assets) that would prohibit the Administrative Agent or the Lenders from acquiring a security interest, mortgage or other Lien on, or a collateral assignment of, any of the property or assets of such Company.

Section 5.10. Regulations T, U and X. No Company shall take any action that would result in any non-compliance of the Loans or Letters of Credit with Regulations T, U or X, or any other applicable regulation, of the Board of Governors of the Federal Reserve System.

Section 5.11. Investments, Loans and Guaranties. No Company shall (a) create, acquire or hold any Subsidiary, (b) make or hold any investment in any stocks, bonds or securities of any kind, (c) be or become a party to any joint venture or other partnership, (d) make or keep outstanding any advance or loan to any Person, or (e) be or become a Guarantor of any kind (other than a Guarantor of Payment under the Loan Documents); provided that this Section 5.11 shall not apply to the following:

- (i) any endorsement of a check or other medium of payment for deposit or collection through normal banking channels or similar transaction in the normal course of business;
- (ii) any investment in direct obligations of the United States or in certificates of deposit issued by a member bank (having capital resources in excess of Five Hundred Million Dollars (\$500,000,000)) of the Federal Reserve System;
- (iii) any investment in commercial paper or securities that at the time of such investment is assigned the highest quality rating in accordance with the rating systems employed by either Moody's or Standard & Poor's;
- (iv) the holding of each of the Subsidiaries listed on Schedule 6.1 hereto, and the creation, acquisition and holding of and any investment in any new Subsidiary after the Closing Date so long as such new Subsidiary shall have been created, acquired or held, and investments made, in accordance with the terms and conditions of this Agreement;
- (v) investments as of the Closing Date listed on Schedule 5.11 hereof, and any extensions, renewals, replacements or refinancings thereof that do not increase the amount of such Investments;
- (vi) investments by any Credit Party in any Company that is not a Credit Party and in any joint venture that is not, and will not become, a Subsidiary, in each case, that is engaged or will be engaged in the same business as the Companies and businesses reasonably

related thereto and other reasonable expansions and extensions of such business and businesses; provided that the aggregate amount of all Investments permitted under this subpart (vi) shall not exceed an aggregate amount of Twenty Million Dollars (\$20,000,000) at any time outstanding, of which no more than Fifteen Million Dollars (\$15,000,000) may be outstanding in any such joint ventures, in each case, measured in Dollars at the time made and net of any cash returned to any Credit Party. For purposes of calculating the permitted Investments under this subpart (vi), any such Investments that are in the form of Indebtedness permitted under Section 5.8(g) and (i) hereof shall be included in the Investments permitted under this subpart (vi), without duplication. Notwithstanding the foregoing, no additional Investments shall be made pursuant to this subpart (vi) during the continuance of an Event of Default;

(vii) investments by any Credit Party in any other Credit Party and Investments permitted by Section 5.8(f) hereof;

(viii) investments consisting of extensions of credit in the nature of accounts receivable or notes receivable arising from the granting of trade credit in the ordinary course of business

(ix) Investments by any Company that is not a Credit Party in, to, or for the benefit of any Company that is not a Credit Party;

(x) Investments not otherwise permitted by this Section 5.11 in aggregate amount not to exceed One Million Dollars (\$1,000,000) at any time outstanding;

(xi) Investments constituting Indebtedness permitted by Section 5.8, Investments constituting transactions permitted by Sections 5.12(a) or (g) hereof, Investments received as consideration from any disposition permitted by Section 5.12 hereof, and Investments constituting Acquisitions permitted by Section 5.13 hereof;

(xii) Investments received in satisfaction of judgments, settlements of accounts, debts or compromises of obligations or as consideration for the settlement, release or surrender of a contract, tort or other litigation claims, in each case in the ordinary course of business, including pursuant to any plan of reorganization or similar arrangement upon the bankruptcy or insolvency of any trade creditor or customer; or

(xiii) prepaid expenses and advances in the ordinary course of business, and lease, utility, workers' compensation, performance and other similar deposits in the ordinary course of business.

For purposes of this Section 5.11, the amount of any investment in equity interests shall be based upon the initial amount invested and shall not include any appreciation in value or return on such investment but shall take into account repayments, redemptions and return of capital.

Section 5.12. Merger and Sale of Assets. No Company shall merge, amalgamate or consolidate with any other Person, or sell, lease or transfer or otherwise dispose of any assets to any Person other than in the ordinary course of business, except that, if no Default or Event of Default shall then exist or immediately thereafter shall begin to exist:

(a) a Company may merge, amalgamate or consolidate with any other Company; provided that (i) if one of such Companies is a Credit Party, the Credit Party shall be the continuing or surviving Person, (ii) if one of such Companies is a Borrower, a Borrower shall be the continuing or surviving Person, and (iii) if one of such Companies is DMC Global, DMC Global shall be the continuing or surviving Person;

(b) a Credit Party may sell, lease, transfer or otherwise dispose of any of its assets to another Credit Party;

(c) a Company that is not a Credit Party may sell, lease, transfer or otherwise dispose of any of its assets to any other Company;

(d) a Company (other than a Borrower) may be dissolved, provided that, if such Company is a Credit Party, all assets of such Company shall have been transferred to another Credit Party;

(e) a Company may sell, lease, transfer or otherwise dispose of any assets that are obsolete or no longer useful in such Company's business;

(f) any disposition (excluding any disposition consisting of any Equity Interest in any of the Subsidiaries of the Parent) of assets if (i) the consideration therefor is not less than the fair market value of the related asset (as determined in good faith by a Financial Officer) and (ii) after giving effect thereto, the aggregate fair market value of the assets as reasonably determined by DMC Global disposed of in all dispositions pursuant to this subpart (f) would not exceed Five Million Dollars (\$5,000,000) during any fiscal year of DMC Global and Fifteen Million (\$15,000,000) in the aggregate during the term of this Agreement; provided that the consideration for any disposition shall consist of at least seventy-five percent (75%) cash or Cash Equivalents payable at closing;

(g) dispositions of indebtedness from DMC Global to a Subsidiary thereof that is a Credit Party or from a Subsidiary of DMC Global that is a Credit Party to DMC Global or another Subsidiary thereof that is a Credit Party in exchange for, upon conversion for, or in contribution in respect of, equity interests in such Subsidiary of DMC Global in connection with the capitalization or recapitalization from time to time of any such Subsidiary and dispositions of Indebtedness from a Subsidiary that is not a Credit Party to another Subsidiary that is not a Credit Party in exchange for, upon conversion for, or contribution in respect of, equity interests in such Subsidiary that is not a Credit Party in connection with the capitalization or recapitalization from time to time of any such Subsidiary;

(h) dispositions occurring as the result of a casualty event, condemnation or expropriation; and

(i) payment of Restricted Payments permitted by Section 5.15 hereof.

Section 5.13. Acquisitions. No Company shall effect an Acquisition; provided that a Company may effect an Acquisition so long as:

(a) in the case of an Acquisition that involves a merger, amalgamation or other combination including a Borrower, such Borrower shall be the surviving entity and, in all cases, DMC Global shall be a surviving entity;

(b) in the case of an Acquisition that involves a merger, amalgamation or other combination including a Credit Party (other than a Borrower), a Credit Party shall be the surviving entity;

(c) the business to be acquired shall be similar or related to the lines of business of the Companies;

(d) no Default or Event of Default shall exist prior to or, after giving pro forma effect to such Acquisition, thereafter shall begin to exist;

(e) such Acquisition is not actively opposed by the board of directors (or similar governing body) of the selling Persons or the Persons whose equity interests are to be acquired;

(f) the Leverage Ratio, calculated on a pro forma basis for the most recently ended trailing four-quarter period giving effect to such Acquisition, shall be less than 3.00 to 1.00;

(g) if the aggregate Consideration for an anticipated Acquisition is greater than Twenty-Five Million Dollars (\$25,000,000), and one or more Companies have previously consummated an Acquisition permitted hereunder after the Closing Date the aggregate Consideration for which was in excess of Twenty-Five Million Dollars (\$25,000,000), the Companies shall have received the written consent of the Administrative Agent the Required Lenders with respect to such anticipated Acquisition; and

(h) in the case of an Acquisition with an aggregate Consideration greater than Ten Million Dollars (\$10,000,000), or the equivalent in such other currency used in connection with such Acquisition, DMC Global shall (i) have delivered to the Administrative Agent and the Lenders at least ten (10) Business Days prior written notice of any such proposed Acquisition, which notice shall (A) contain the estimated date such proposed Business Acquisition is scheduled to be consummated, (B) attach a true and correct copy of the draft purchase agreement (if available), letter of intent, description of material terms or similar agreements executed by the parties thereto in connection with such proposed Acquisition, (C) contain the estimated aggregate Consideration of such proposed Acquisition and the estimated amount of related costs and expenses and the intended method of financing thereof, (D) contain historical financial statements of the target entity

and a pro forma financial statement of the Companies, (E) contain the estimated amount of Loans required to effect such proposed Business Acquisition and (F) be accompanied by an officer's certificate executed by a Financial Officer, certifying as to compliance with the requirements of this Section 5.13 and containing the calculation required in subpart (f) above; and (ii) provide any such other information regarding the Acquisition as the Administrative Agent may request.

Section 5.14. Notice. Each Borrower shall cause a Financial Officer of such Borrower to promptly notify the Administrative Agent and the Lenders, in writing, whenever any of the following shall occur:

- (a) a Default or Event of Default may occur hereunder;
- (b) a Borrower receives written notice of any litigation or proceeding against such Borrower before a court, administrative agency or arbitrator that, if successful, would reasonably be expected to have a Material Adverse Effect;
- (c) the approval by the shareholders or directors of DMC Global of the acquisition of ownership or voting control, directly or indirectly, beneficially (within the meaning of Rules 13d-3 and 13d-5 of the Exchange Act) or of record, by any Person or group (within the meaning of Sections 13d and 14d of the Exchange Act), of shares representing more than thirty-five percent (35%) of the aggregate ordinary Voting Power represented by the issued and outstanding equity interests of DMC Global; and
- (d) any event or occurrence which has or would reasonably be expected to have a Material Adverse Effect on such Borrower.

Section 5.15. Restricted Payments. No Company shall make or commit itself to make any Restricted Payment at any time, except that:

- (a) DMC Global may make Capital Distributions pursuant to and in accordance with any stock option plans or other benefit plans for management (including non-employee directors) or employees of any Company in an aggregate amount not to exceed Five Million Dollars (\$5,000,000) during any fiscal year of DMC Global; and
- (b) DMC Global may make Capital Distributions so long as (i) no Default or Event of Default shall then exist or, after giving pro forma effect to such payment, thereafter shall begin to exist, and (ii) the Leverage Ratio, calculated on a pro forma basis for the most recently ended trailing four-quarter period giving effect to such Capital Distribution as if it were paid at the commencement of such four-quarter period, is less than one-quarter turn (0.25) below the Leverage Ratio otherwise in effect as set forth in Section 5.7(a) hereof.

Section 5.16. Environmental Compliance. Each Company shall comply in all material respects with any and all Environmental Laws and Environmental Permits including, without limitation, all Environmental Laws in jurisdictions in which such Company owns or operates a facility or site, arranges for disposal or treatment of hazardous substances, solid waste or other

wastes, accepts for transport any hazardous substances, solid waste or other wastes or holds any interest in real property or otherwise. Each Company shall furnish to the Administrative Agent and the Lenders, promptly after receipt thereof, a copy of any material notice any such Company may receive from any Governmental Authority or private Person, or otherwise, that any material litigation or proceeding pertaining to any environmental, health or safety matter has been filed or is threatened against such Company, any real property in which such Company holds any interest or any past or present operation of such Company. Each Company shall use commercially reasonable efforts to prevent the material release or disposal of hazardous waste, solid waste or other wastes on, under or to any real property in which any Company holds any ownership interest or performs any of its operations, in violation of any Environmental Law. As used in this Section 5.16, "litigation or proceeding" means any demand, claim, notice, suit, suit in equity action, administrative action or investigation whether brought by any Governmental Authority or private Person, or otherwise. Each US Borrower (and any Foreign Borrowers, as applicable) shall defend, indemnify and hold the Administrative Agent and the Lenders harmless against all costs, expenses, claims, damages, penalties and liabilities of every kind or nature whatsoever (including attorneys' fees) arising out of or resulting from the noncompliance of any Company with any Environmental Law. Such indemnification shall survive any termination of this Agreement.

Section 5.17. Affiliate Transactions. No Company shall, directly or indirectly, enter into or permit to exist any transaction or series of transactions (including, without limitation, the purchase, sale, lease or exchange of any property or the rendering of any service) with any Affiliate of a Company (other than a Company that is a Credit Party or a Foreign Subsidiary) on terms that shall be less favorable to such Company than those that might be obtained at the time in a transaction with a Person that is not an Affiliate of a Company; provided that the foregoing shall not prohibit:

- (a) the payment of reasonable fees, expenses and compensation to officers, directors, managers, employees and consultants and customary indemnification and insurance arrangements in favor of any such officer, director, manager, employee or consultant, and any agreement related to any of the foregoing entered into in the ordinary course of business;
- (b) any agreements in existence on the Closing Date, as set forth on Schedule 5.17 hereto, as such agreements may be renewed, replaced or otherwise modified after the Closing Date upon terms which taken as a whole are not less favorable to the Credit Parties than the original terms of such agreements;
- (c) transactions between or among Companies that are not Credit Parties;
- (d) intercompany Indebtedness permitted by Section 5.8 hereof; or
- (e) Investments permitted by Section 5.11 hereof, transactions permitted by Section 5.12 hereof, Acquisitions permitted by Section 5.13 hereof, and Restricted Payments permitted by Section 5.15 hereof.

Section 5.18. Use of Proceeds. The Borrowers' use of the proceeds of the Loans shall be for working capital and other general corporate purposes of the Companies and for the refinancing

of existing Indebtedness and for Acquisitions permitted hereunder; provided that the proceeds of the Capex Loans shall only be used for capital expenditures related to the Companies' expansion of facilities located in Blum, Texas. The Borrowers will not, directly or indirectly, use the proceeds of the Loans, or lend, contribute or otherwise make available such proceeds to any Subsidiary, joint venture partner or other Person, (a) (i) to fund any activities or business of or with any Person, or in any country or territory, that, at the time of such funding, is, or whose government is, the subject of Sanctions, or (ii) in any other manner that would result in a violation of applicable Sanctions by any Person (including any Person participating in the Loans, whether as underwriter, advisor, investor, or otherwise); or (b) in furtherance of an offer, payment, promise to pay, or authorization of the payment or giving of money, or anything else of value, to any Person in violation of applicable Anti-Corruption Laws. The obligations of the Borrowers set out in this Section 5.18 under (a) (i) and (ii) shall not apply to or with respect to any Borrower that qualifies as a resident party domiciled in the Federal Republic of Germany (*Inländer*) within the meaning of section 2 paragraph 15 of the German Foreign Trade Act (*Außenwirtschaftsgesetz*) to the extent that compliance with such obligations by such Borrower would result in (i) any violation of, or conflict with, the Council Regulation (EC) 2271/96 or (ii) any violation of, or conflict with, Section 7 of the German Foreign Trade Ordinance (*Aussenwirtschaftsverordnung*) or any other similar anti-boycott statute.

Section 5.19. Corporate Names and Locations of Collateral. No Company shall (a) change its corporate name, or (b) change its state, province or other jurisdiction, or form of organization, or extend or continue its existence in or to any other jurisdiction (other than its jurisdiction of organization at the date of this Agreement); unless, in each case, the Borrowers shall have provided the Administrative Agent and the Lenders with at least ten (10) days prior written notice thereof. The Administrative Borrower shall also promptly notify the Administrative Agent of (i) any change in any location where any Domestic Credit Party's Inventory or Equipment with a value in excess of Five Hundred Thousand Dollars (\$500,000) is maintained, and any new locations where any Domestic Credit Party's Inventory or Equipment with a value in excess of Five Hundred Thousand Dollars (\$500,000) is to be maintained; (ii) any change in the location of the office where any Domestic Credit Party's records pertaining to its Accounts are kept; (iii) the location of any new places of business and the changing or closing of any of its existing places of business; and (iv) any change in the location of any Credit Party's chief executive office. In the event of any of the foregoing or if otherwise deemed appropriate by the Administrative Agent, the Administrative Agent is hereby authorized to file new U.C.C. Financing Statements describing the Collateral and otherwise in form and substance sufficient for recordation wherever necessary or appropriate, as determined in the Administrative Agent's sole discretion, to perfect or continue perfected the security interest of the Administrative Agent, for the benefit of the Lenders, in the Collateral. The US Borrowers shall pay all filing and recording fees and taxes in connection with the filing or recordation of such U.C.C. Financing Statements and security interests and shall promptly reimburse the Administrative Agent therefor if the Administrative Agent pays the same. Such amounts not so paid or reimbursed shall be Related Expenses hereunder.

(a) Guaranties and Security Documents. Each Subsidiary (that is not a Dormant Subsidiary) that is a Wholly-Owned Subsidiary created, acquired or held subsequent to the Closing Date, shall promptly execute and deliver to the Administrative Agent, for the benefit of the Lenders, a Guaranty of Payment (or a Guaranty of Payment Joinder) of all of the Obligations and, with respect to any such Subsidiary that is a Domestic Subsidiary, a Security Agreement (or a Security Agreement Joinder), such agreements to be prepared by the Administrative Agent and to be substantially equivalent to the applicable agreements entered into by similarly situated then-existing Credit Parties, along with any such other supporting documentation, Security Documents (as applicable), corporate governance and authorization documents, and an opinion of counsel as may be substantially equivalent to those delivered in respect of similarly situated then-existing Credit Parties. With respect to a Subsidiary that has been classified as a Dormant Subsidiary, at such time that such Subsidiary no longer meets the requirements of a Dormant Subsidiary, the Administrative Borrower shall provide to the Administrative Agent prompt written notice thereof, and shall provide, with respect to such Subsidiary, all of the documents referenced in the foregoing sentence.

(b) Pledge of Stock or Other Ownership Interest. With respect to the creation or acquisition of a Subsidiary, the Borrowers shall deliver to the Administrative Agent, for the benefit of the Lenders, all of the share certificates (or other evidence of equity) owned by a Credit Party pursuant to the terms of a Pledge Agreement prepared by the Administrative Agent and substantially equivalent to the Pledge Agreements entered into by similarly situated then-existing Credit Parties, and executed by the appropriate Credit Party; provided that (i) no such pledge shall include (A) shares of capital stock or other equity interests of any Foreign Subsidiary that is not a first-tier Foreign Subsidiary, and (B) shares of voting capital stock or other voting equity interests in any first-tier Foreign Subsidiary in excess of sixty-five percent (65%) of the total outstanding shares of voting capital stock or other voting equity interest of such first-tier Foreign Subsidiary, and (ii) if the Administrative Agent, in its reasonable discretion, after consultation with the Administrative Borrower, determines that the cost of delivery of any such share certificates is illegal, impractical or cost-prohibitive, then the Administrative Agent may agree to forego (until such time as the Administrative Agent determines it is no longer illegal, impractical or cost-prohibitive in light of the circumstances to do so) the delivery of such share certificates.

(c) Perfection or Registration of Interest in Foreign Shares

(i) With respect to any foreign shares pledged to the Administrative Agent, for the benefit of the Lenders, on or after the Closing Date, the Administrative Agent shall at all times, in the reasonable discretion of the Administrative Agent or the Required Lenders, have the right to perfect, at the Borrowers' cost, payable upon request therefor (including, without limitation, any foreign counsel, or foreign notary, filing, registration or similar, fees, costs or expenses), its security interest in such shares in the respective foreign jurisdiction. Such perfection may include the requirement that the applicable Company promptly execute and deliver to the Administrative Agent a separate pledge document (prepared by the Administrative Agent and in form and substance satisfactory to the Administrative Agent), covering such equity interests, that conforms to the requirements of the

applicable foreign jurisdiction, together with an opinion of local counsel as to the perfection of the security interest provided for therein, and all other documentation reasonably necessary to effect the foregoing and to permit the Administrative Agent to exercise any of its rights and remedies in respect thereof.

(ii) With respect to any pledges governed by German law over shares or interests in a company incorporated or established in Germany, the Administrative Agent shall hold (with regard to its own rights under the Abstract Acknowledgement of Debt), administer and, as the case may be, enforce or release such security interests in the name of and for and on behalf of the Lenders and in its own name on the basis of the abstract acknowledgement of indebtedness pursuant to the Abstract Acknowledgement of Debt. For the purposes of entering into any such pledge agreement, performing the rights and obligations thereunder, amending, enforcing and/or releasing such pledge, each Lender hereby instructs and authorizes the Administrative Agent to act as its agent (*Stellvertreter*). At the request of the Administrative Agent, each Lender shall provide the Administrative Agent with a separate written power of attorney (*Spezialvollmacht*) for the purposes of executing any relevant agreements and documents on their behalf. Each Lender hereby ratifies and approves all acts previously done by the Administrative Agent on such Lender's behalf. The Administrative Agent accepts its appointment as agent and administrator of the security interests created under any such pledge agreement on the terms and subject to the conditions set out in this Agreement and the Lenders, the Administrative Agent and all other parties to this Agreement agree that, in relation to the pledges governed by German law, no Lender shall exercise any independent power to enforce any security interests or take any other action in relation to the enforcement of such security interests, or make or receive any declarations in relation thereto. Each Lender hereby instructs the Administrative Agent (with the right of sub-delegation) to enter into any documents evidencing security interests under German law and to make and accept all declarations and take all actions it considers necessary or useful in connection with any security interests governed by German law on behalf of such Lender. The Administrative Agent shall further be entitled to rescind, release, amend and/or execute new and different documents securing the security interests governed by German law.

(d) Foreign Subsidiary Guaranties. Anything in this Section 5.20 to the contrary notwithstanding, the Administrative Agent may forego the requirement that a Foreign Subsidiary execute a Guaranty of Payment if the Administrative Agent determines, in its reasonable judgment, after consultation with Administrative Borrower, that the execution and delivery of such Guaranty of Payment under the laws of such foreign jurisdiction (i) is impractical or cost prohibitive in light of the benefits, or (ii) will have material adverse tax consequences, provided that the relevant Foreign Subsidiary has used reasonable endeavors to overcome such obstacle.

Section 5.21. Collateral. Each Domestic Credit Party shall:

(a) at all reasonable times and upon reasonable notice, allow the Administrative Agent and the Lenders by or through any of the Administrative Agent's officers, agents, employees, attorneys or accountants to (i) examine, inspect and make extracts from such Domestic Credit Party's books and other records, including, without limitation, the tax returns of such Domestic Credit Party, (ii) arrange for verification of such Domestic Credit Party's Accounts, under reasonable procedures,

directly with Account Debtors or by other methods, and (iii) examine and inspect such Domestic Credit Party's Inventory and Equipment, wherever located; provided that so long as no Event of Default is continuing, the Companies shall only be required to reimburse the Administrative Agent for the cost of one such inspection in any fiscal year;

(b) promptly furnish to the Administrative Agent upon request (i) additional statements and information with respect to the Collateral, and all writings and information relating to or evidencing any of such Domestic Credit Party's Accounts (including, without limitation, computer printouts or typewritten reports listing the mailing addresses of all present Account Debtors), and (ii) any other writings and information as the Administrative Agent may reasonably request;

(c) promptly notify the Administrative Agent in writing upon the acquisition or creation of any Accounts with respect to which the Account Debtor is the United States of America or any other Governmental Authority;

(d) promptly notify the Administrative Agent in writing upon the acquisition or creation by any Domestic Credit Party of a Deposit Account or Securities Account not listed on Schedule 6.19 hereto and, prior to or simultaneously with the creation of such Deposit Account or Securities Account, provide for the execution of a Deposit Account Control Agreement or Securities Account Control Agreement with respect thereto, if required by the Administrative Agent or the Required Lenders; provided that a Control Agreement shall not be required for a Deposit Account so long as (i) the balance of such Deposit Account does not exceed Two Hundred Fifty Thousand Dollars (\$250,000) at any time, and (ii) the aggregate balance in all such Deposit Accounts (that are not maintained with the Administrative Agent) that are not subject to a Control Agreement does not exceed Two Million Dollars (\$2,000,000) at any time;

(e) promptly notify the Administrative Agent in writing whenever the Equipment or Inventory of a Domestic Credit Party is located at a location of a third party (other than another Company) that is not listed on Schedule 6.9 hereto and cause to be executed any Collateral Access Agreement that may be required by the Administrative Agent or the Required Lenders; provided that the Domestic Credit Parties shall not be required to deliver a Collateral Access Agreement for any Equipment or Inventory located at such location to the extent that (i) the aggregate value of all Equipment and Inventory of all Companies maintained at such location does not exceed Five Hundred Thousand Dollars (\$500,000), and (ii) the aggregate value of all Equipment and Inventory of all Companies at all third party locations (that are not subject to a Collateral Access Agreement) does not exceed One Million Dollars (\$1,000,000).

(f) promptly notify the Administrative Agent and the Lenders in writing of any information that such Domestic Credit Party has or may receive with respect to the Collateral that might reasonably be determined to materially and adversely affect the value of the Collateral of such Domestic Credit Party or the rights of the Administrative Agent and the Lenders with respect thereto;

(g) maintain such Domestic Credit Party's Equipment in good operating condition and repair, ordinary wear and tear excepted, making all necessary replacements thereof so that the value and operating efficiency thereof shall at all times be maintained and preserved in all material respects;

(h) deliver to the Administrative Agent, to hold as security for the Secured Obligations, within ten Business Days after the written request of the Administrative Agent, all certificated Investment Property owned by a Domestic Credit Party, in suitable form for transfer by delivery, or accompanied by duly executed instruments of transfer or assignment in blank, all in form and substance satisfactory to the Administrative Agent, or in the event such Investment Property is in the possession of a Securities Intermediary or credited to a Securities Account, execute with the related Securities Intermediary a Securities Account Control Agreement over such Securities Account in favor of the Administrative Agent, for the benefit of the Lenders, in form and substance reasonably satisfactory to the Administrative Agent;

(i) provide to the Administrative Agent, on a quarterly basis (as necessary), a list of any patents, trademarks or copyrights that have been federally registered under the laws of the United States of America by a Domestic Credit Party that have been federally registered under the laws of the United States of America since the last list so delivered, and provide for the execution of an appropriate Intellectual Property Security Agreement; and

(j) upon request of the Administrative Agent, promptly take such action and promptly make, execute and deliver all such additional and further items, deeds, assurances, instruments and any other writings as the Administrative Agent may from time to time deem necessary or appropriate to carry into effect the intention of this Agreement, or so as to completely vest in and ensure to the Administrative Agent and the Lenders their respective rights hereunder and in or to the Collateral.

Each Domestic Credit Party hereby authorizes the Administrative Agent, on behalf of the Lenders, to file U.C.C. Financing Statements or other appropriate notices with respect to the Collateral. If certificates of title or applications for title are issued or outstanding with respect to any of the Inventory or Equipment of any Domestic Credit Party, such Domestic Credit Party shall, upon request of the Administrative Agent, (i) execute and deliver to the Administrative Agent a short form security agreement, prepared by the Administrative Agent and in form and substance satisfactory to the Administrative Agent, and (ii) deliver such certificate or application to the Administrative Agent and cause the interest of the Administrative Agent, for the benefit of the Lenders, to be properly noted thereon. Each Domestic Credit Party hereby authorizes the Administrative Agent or the Administrative Agent's designated agent (but without obligation by the Administrative Agent to do so) to incur Related Expenses (whether prior to, upon, or subsequent to any Default or Event of Default), and the US Borrowers shall promptly repay, reimburse, and indemnify the Administrative Agent and the Lenders for any and all Related Expenses. If any Domestic Credit Party fails to keep and maintain its Equipment in good operating condition, ordinary wear and tear excepted, the Administrative Agent may (but shall not be required to) so maintain or repair all or any part of such Domestic Credit Party's Equipment and the cost thereof shall be a Related Expense; provided that, if no Default or Event of Default exists at the time of such maintenance or repair, the Administrative Agent has provided such Credit Party with written notice of any required maintenance or repair and such Credit Party has not taken action to maintain or

repair such Equipment within thirty (30) days of receipt of such notice. All Related Expenses are payable to the Administrative Agent upon demand therefor; the Administrative Agent may, at its option, debit Related Expenses directly to any Deposit Account of a Company located at the Administrative Agent or the Revolving Loans.

Section 5.22. Property Acquired Subsequent to the Closing Date and Right to Take Additional Collateral The Borrowers shall provide the Administrative Agent with prompt written notice with respect to any material real or personal property (other than in the ordinary course of business and excluding Accounts, Inventory, Equipment and General Intangibles and other property acquired in the ordinary course of business or any Investment Property that constitutes securities of a Foreign Subsidiary not required to be pledged pursuant to this Agreement) acquired by any Domestic Credit Party subsequent to the Closing Date (unless notice has already been provided pursuant to section 5.13 hereof). In addition to any other right that the Administrative Agent and the Lenders may have pursuant to this Agreement or otherwise, upon written request of the Administrative Agent, whenever made, the Borrowers shall, and shall cause each Domestic Guarantor of Payment to, grant to the Administrative Agent, for the benefit of the Lenders, as additional security for the Secured Obligations, a first Lien on any real or personal property of each US Borrower and Domestic Guarantor of Payment (other than for leased equipment or equipment subject to a purchase money security interest in which the lessor or purchase money lender of such equipment holds a first priority security interest, in which case, the Administrative Agent shall have the right to obtain a security interest junior only to such lessor or purchase money lender), including, without limitation, such property acquired subsequent to the Closing Date, in which the Administrative Agent does not have a first priority Lien. The US Borrowers agree, within ten days after the date of such written request (or such longer period as may be agreed to by the Administrative Agent in writing in its sole discretion), to secure all of the Secured Obligations by delivering to the Administrative Agent security agreements, intellectual property security agreements, pledge agreements, mortgages (or deeds of trust, if applicable) or other documents, instruments or agreements or such thereof as the Administrative Agent may reasonably require. The Borrowers shall pay all reasonable recordation, legal and other expenses in connection therewith.

Section 5.23. Restrictive Agreements Except as set forth in this Agreement and except for agreements listed on Schedule 5.23 hereto and modifications thereto that are not less favorable to the Companies or the interests of the Lenders hereunder than the original terms of such agreements, the Borrowers shall not, and shall not permit any of their Subsidiaries to, directly or indirectly, create or otherwise cause or suffer to exist or become effective any encumbrance or restriction on the ability of any Subsidiary to (a) make, directly or indirectly, any dividend or other capital distribution to any Borrower, (b) make, directly or indirectly, loans or advances or capital contributions to any Borrower or (c) transfer, directly or indirectly, any of the properties or assets of such Subsidiary to any Borrower; except for such encumbrances or restrictions existing under or by reason of (i) applicable Law, (ii) customary non-assignment provisions in leases or other agreements entered in the ordinary course of business and consistent with past practices, or (iii) customary restrictions in security agreements or mortgages securing Indebtedness, or capital leases, of a Company to the extent such restrictions shall only restrict the transfer of the property subject to such security agreement, mortgage or lease.

Section 5.24. Other Covenants and Provisions. In the event that any Company shall enter into, or shall have entered into, any Material Indebtedness Agreement, wherein the financial covenants contained therein shall be more restrictive than the financial covenants set forth herein, then the Companies shall immediately be bound hereunder (without further action) by such more restrictive financial covenants with the same force and effect as if such financial covenants were written herein. In addition to the foregoing, the Borrowers shall provide prompt written notice to the Administrative Agent of the creation or existence of any Material Indebtedness Agreement that has such more restrictive financial covenants, and shall, within fifteen (15) days thereafter (if requested by the Administrative Agent), execute and deliver to the Administrative Agent an amendment to this Agreement that incorporates such more restrictive financial covenants, with such amendment to be in form and substance satisfactory to the Administrative Agent.

Section 5.25. Guaranty Under Material Indebtedness Agreement. No Company shall be or become a primary obligor or Guarantor of the Indebtedness incurred pursuant to any Material Indebtedness Agreement unless such Company shall also be a Guarantor of Payment under this Agreement prior to or concurrently therewith.

Section 5.26. Amendment of Organizational Documents. Without the prior written consent of the Administrative Agent, no Company shall amend its Organizational Documents in any manner adverse to the Lenders.

Section 5.27. Fiscal Year of Borrowers. No Borrower shall change the date of its fiscal year-end without the prior written consent of the Administrative Agent and the Required Lenders. As of the Closing Date, the fiscal year end of each Borrower is December 31 of each year.

Section 5.28. Compliance with Laws. The Borrowers shall, and shall cause each Subsidiary to, comply in all material respects with all Laws, rules, regulations, orders, writs, judgments, injunctions, decrees or awards to which it may be subject including, without limitation, all Environmental Laws, Anti-Corruption Laws and applicable Sanctions. The Borrowers shall maintain in effect and enforce such policies and procedures as it has determined to be reasonably necessary to ensure compliance in all material respects by the Borrowers, the Subsidiaries and their respective directors, officers, employees and agents with Anti-Corruption Laws and applicable Sanctions. The undertakings set out in this Section 5.28 shall not apply to or with respect to any Borrower, Subsidiary and any of their respective directors, officers, employees and agents that qualifies as a resident party domiciled in the Federal Republic of Germany (*Inländer*) within the meaning of section 2 paragraph 15 of the German Foreign Trade Act (*Außenwirtschaftsgesetz*) to the extent that compliance with such undertakings by any such party would result in (i) any violation of, or conflict with, the Council Regulation (EC) 2271/96 or (ii) any violation of, or conflict with, Section 7 of the German Foreign Trade Ordinance (*Aussenwirtschaftsverordnung*) or any other similar anti-boycott statute.

Section 5.29. Flood Hazard. If any portion of any Mortgaged Real Property is at any time located in an area identified by the Federal Emergency Management Agency (or any successor agency) as a special flood hazard area with respect to which flood insurance has been made available under the Flood Insurance Laws, then Administrative Borrower shall, or shall cause the applicable

Credit Parties to (a) maintain, or cause to be maintained, with a financially sound and reputable insurer, flood insurance in an amount and otherwise sufficient to comply with all applicable rules and regulations promulgated pursuant to the Flood Insurance Laws, which such insurance shall (i) identify the addresses of each property located in a special flood hazard area, (ii) indicate the applicable flood zone designation, the flood insurance coverage and deductible relating thereto, (iii) provide that the insurer will give the Administrative Agent at least forty-five (45) days' written notice of cancellation or non-renewal, and (iv) shall otherwise be in form and substance satisfactory to the Administrative Agent, and (b) deliver to the Administrative Agent evidence of such compliance, in form and substance reasonably acceptable to the Administrative Agent, including, without limitation, evidence of annual renewals of such insurance. The applicable Credit Party shall also provide to the Administrative Agent from time to time such documents and other information reasonably requested by the Administrative Agent to permit the Administrative Agent and each Lender to comply with Flood Insurance Laws and any other applicable flood regulations. Any increase, extension or renewal of the Commitment shall be subject to flood insurance due diligence and flood insurance compliance reasonably satisfactory to the Administrative Agent.

Section 5.30. Further Assurances. The Borrowers shall, and shall cause each other Credit Party to, promptly upon request by the Administrative Agent, or the Required Lenders through the Administrative Agent, (a) correct any material defect or error that may be discovered in any Loan Document or in the execution, acknowledgment, filing or recordation thereof, provided that the Borrowers agree that such material defect or error is in fact a defect or error not intended by the Borrowers, and (b) do, execute, acknowledge, deliver, record, re-record, file, re-file, register and re-register any and all such further acts, deeds, certificates, assurances and other instruments as the Administrative Agent, or the Required Lenders through the Administrative Agent, may reasonably require from time to time in order to carry out more effectively the requirements of the Loan Documents.

ARTICLE VI. REPRESENTATIONS AND WARRANTIES

Section 6.1. Corporate Existence; Subsidiaries; Foreign Qualification. Each Company is duly organized, validly existing and in good standing (or comparable concept in the applicable jurisdiction) under the Laws of its state or jurisdiction of incorporation or organization, and is duly qualified and authorized to do business and is in good standing (or comparable concept in the applicable jurisdiction) as a foreign entity in the jurisdictions set forth opposite its name on Schedule 6.1 hereto, which is each jurisdictions where such qualification or good standing is required, except where a failure to so qualify or be in good standing would not reasonably be expected to have a Material Adverse Effect. Schedule 6.1 hereto sets forth, as of the Closing Date, each Subsidiary (and whether such Subsidiary is a Dormant Subsidiary), its state (or jurisdiction) of formation, its relationship to the Borrowers, including the percentage of each class of stock or other equity interest owned by a Company or the percentage of stock (or other equity interest) owned by a Company or the percentage of stock (or other equity interest) owned by a Company, each Person that owns the stock or other equity interest of each Company, its tax identification number, the location of its chief executive office and its principal place of business (and, with respect to a Foreign Subsidiary, its registered office (or similar concept), if applicable). Except as set forth on Schedule 6.1 hereto,

each Borrower, directly or indirectly, owns all of the equity interests of each of its Subsidiaries (excluding directors' qualifying shares and, in the case of Foreign Subsidiaries, other nominal amounts of shares held by a Person other than a Company).

Section 6.2. Corporate Authority. Each Credit Party has the right and power and is duly authorized and empowered to enter into, execute and deliver the Loan Documents to which it is a party and to perform and observe the provisions of the Loan Documents. The Loan Documents to which each Credit Party is a party have been duly authorized and approved by such Credit Party's board of directors or other governing body, as applicable, and are the legal, valid and binding obligations of such Credit Party, enforceable against such Credit Party in accordance with their respective terms, subject to the effect of any applicable bankruptcy, insolvency, reorganization, moratorium or other Laws affecting creditors' rights and remedies generally and to the effect of general principles of equity (regardless of whether enforcement is considered in a proceeding at Law or in equity). The execution, delivery and performance of the Loan Documents do not conflict with, result in a breach in any of the provisions of, constitute a default under, or result in the creation of a Lien (other than Liens permitted under Section 5.9 hereof) upon any assets or property of any Company under the provisions of, such Company's Organizational Documents or any Material Agreement to which such Company is a party.

Section 6.3. Compliance with Laws and Contracts Each Company:

(a) holds permits, certificates, licenses, orders, registrations, franchises, authorizations, and other approvals from any Governmental Authority necessary for the conduct of its business and is in compliance with all applicable Laws relating thereto, except where the failure to do so would not have a Material Adverse Effect;

(b) is in compliance with all federal, state, local, or foreign applicable statutes, rules, regulations, and orders including, without limitation, those relating to environmental protection, occupational safety and health, and equal employment practices, except where the failure to be in compliance would not have a Material Adverse Effect;

(c) is not in violation of or in default under any Material Agreement to which it is a party or by which its assets are subject or bound, except with respect to any violation or default that would not have a Material Adverse Effect;

(d) is not, and to the knowledge of the Companies, no director officer, agent, employee or Affiliate of a Company, is a Person that is, or is owned or controlled by Persons that are (i) the subject of any Sanctions, or (ii) located, organized or resident in a country or territory that is, or whose government is, the subject of Sanctions with the result that Sanctions are violated by any Person (including any Lender, Affiliate of a Lender or participant in the Loans), and maintains policies and procedures designed to promote and achieve compliance with Sanctions, save that, the representations made in this Section 6.3(d) shall not be made by or with respect to any Company, or director officer, agent, employee or Affiliate of a Company that qualifies as a resident party domiciled in the Federal Republic of Germany (*Inländer*) within the meaning of section 2 paragraph 15 of the German Foreign Trade Act (*Aussenwirtschaftsgesetz*) to the extent that the making of such

representations would result in any violation of, or conflict with, or to the extent such representation is not correct with respect to such member of the Group because of any non-violation of, or non-conflict with, the Council Regulation (EC) 2271/96 or section 7 of the German Foreign Trade Ordinance (*Aussenwirtschaftsverordnung*) or a similar anti-boycott statute;

(e) is in compliance with all applicable Bank Secrecy Act ("BSA") and anti-money laundering Laws and regulations;

(f) has ensured that no Company or, to the knowledge of any Company, any director, officer, agent, employee or other person acting on behalf of a Company has taken any action, directly or indirectly, that would result in a violation by such persons of Anti-Corruption Laws, and the Credit Parties have instituted and maintain policies and procedures designed to ensure continued compliance therewith; and

(g) is in compliance with the Patriot Act.

Section 6.4. Litigation and Administrative Proceedings. Except as disclosed on Schedule 6.4 hereto, there are (a) no lawsuits, actions, investigations, examinations or other proceedings pending or, to the knowledge of the Companies, threatened against any Company, in any court or before or by any Governmental Authority, arbitration board, or other tribunal that would reasonably be expected to have a Material Adverse Effect, (b) no orders, writs, injunctions, judgments, or decrees of any court or Governmental Authority to which any Company is a party or by which the property or assets of any Company are bound that would reasonably be expected to have a Material Adverse Effect, and (c) no disputes outstanding with any union or other organization of the employees of any Company, or threats of work stoppage, strike, or pending demands for collective bargaining, that would reasonably be expected to have a Material Adverse Effect.

Section 6.5. Title to Assets. Each Company has good title to and ownership of all property it purports to own, which property is free and clear of all Liens, except those permitted under Section 5.9 hereof. As of the Closing Date, the Companies own the real estate listed on Schedule 6.5 hereto.

Section 6.6. Liens and Security Interests. On and after the Closing Date, except for Liens permitted pursuant to Section 5.9 hereof, (a) there are no U.C.C. Financing Statement or similar notice of Lien outstanding covering any personal property of any Company; (b) there are no mortgages outstanding covering any real property of any Company; and (c) no real or personal property of any Company is subject to any Lien of any kind. The Administrative Agent, for the benefit of the Lenders, upon the filing of the U.C.C. Financing Statements and taking such other actions necessary to perfect its Lien against collateral of the corresponding type as authorized hereunder will have a valid and enforceable first Lien on the collateral securing the Secured Obligations to the extent such Lien may be perfected by the filing of a U.C.C. Financing Statement No Company has entered into any currently effective contract or agreement (other than a contract or agreement entered into in connection with the purchase or lease of fixed assets that prohibits Liens on such fixed assets) that would prohibit the Administrative Agent or the Lenders from acquiring a Lien on, or a collateral assignment of, any of the property or assets of any Company.

Section 6.7. Tax Returns. All federal and state tax returns, and all material provincial and local tax returns and other material reports required by law to be filed in respect of the income, business, properties and employees of each Company have been timely filed and all taxes, assessments, fees and other governmental charges that are due and payable have been timely paid, except as otherwise permitted herein. The provision for taxes on the books of each Company is adequate for all years not closed by applicable statutes and for the current fiscal year.

Section 6.8. Environmental Laws. Each Company is in material compliance with all Environmental Laws, including, without limitation, all Environmental Laws in all jurisdictions in which any Company owns or operates, or has owned or operated, a facility or site, arranges or has arranged for disposal or treatment of hazardous substances, solid waste or other wastes, accepts or has accepted for transport any hazardous substances, solid waste or other wastes or holds or has held any interest in real property or otherwise. No material litigation or proceeding arising under, relating to or in connection with any Environmental Law or Environmental Permit is pending or, to the knowledge of each Company, threatened, against any Company, any real property in which any Company holds or has held an interest or any past or present operation of any Company. No material release, threatened release or disposal of hazardous waste, solid waste or other wastes is occurring, or has occurred (other than those that are currently being remediated in accordance with Environmental Laws), on, under or to any real property in which any Company holds any interest or performs any of its operations, in violation of any Environmental Law. As used in this Section 6.8, "litigation or proceeding" means any demand, claim, notice, suit, suit in equity, action, administrative action, investigation or inquiry whether brought by any Governmental Authority or private Person, or otherwise.

Section 6.9. Locations. As of the Closing Date, the Credit Parties have places of business or maintain their Accounts, Inventory and Equipment at the locations (including third party locations) set forth on Schedule 6.9 hereto, and each Company's chief executive office is set forth on Schedule 6.9 hereto. Schedule 6.9 hereto further specifies whether each location, as of the Closing Date, (a) is owned by the Credit Parties, or (b) is leased by a Credit Party from a third party, and, if leased by a Domestic Credit Party from a third party, if a Collateral Access Agreement has been requested. As of the Closing Date, Schedule 6.9 hereto correctly identifies the name and address of each third party location where assets of the Credit Parties are located.

Section 6.10. Continued Business. There exists no actual, pending, or, to each Borrower's knowledge, any threatened termination, cancellation or limitation of, or any modification or change in the business relationship of any Company and any customer or supplier, or any group of customers or suppliers, whose purchases or supplies, individually or in the aggregate, that, if terminated, cancelled, limited or otherwise modified, would reasonably be expected to have a Material Adverse Effect.

Section 6.11. Employee Benefits Plans. Schedule 6.11 hereto identifies each ERISA Plan as of the Closing Date. No ERISA Event has occurred or is expected to occur with respect to an ERISA Plan. Full payment has been made of all amounts that a Controlled Group member is required, under applicable Law or under the governing documents, to have paid as a contribution to or a benefit under each ERISA Plan. The liability of each Controlled Group member with respect

to each ERISA Plan has been fully funded based upon reasonable and proper actuarial assumptions, has been fully insured, or has been fully reserved for on its financial statements. No changes have occurred or are expected to occur that would cause a material increase in the cost of providing benefits under the ERISA Plan. With respect to each ERISA Plan that is intended to be qualified under Code Section 401(a), (i) the ERISA Plan and any associated trust operationally comply with the applicable requirements of Code Section 401(a); (ii) the ERISA Plan and any associated trust have been amended to comply with all such requirements as currently in effect, other than those requirements for which a retroactive amendment can be made within the "remedial amendment period" available under Code Section 401(b) (as extended under Treasury Regulations and other Treasury pronouncements upon which taxpayers may rely); (iii) the ERISA Plan and any associated trust have received a favorable determination letter from the IRS stating that the ERISA Plan qualifies under Code Section 401(a), that the associated trust qualifies under Code Section 501(a) and, if applicable, that any cash or deferred arrangement under the ERISA Plan qualifies under Code Section 401(k), unless the ERISA Plan was first adopted at a time for which the above-described "remedial amendment period" has not yet expired; (iv) the ERISA Plan currently satisfies the requirements of Code Section 410(b), without regard to any retroactive amendment that may be made within the above-described "remedial amendment period"; and (v) no contribution made to the ERISA Plan is subject to an excise tax under Code Section 4972. With respect to any Pension Plan, the "accumulated benefit obligation" of Controlled Group members with respect to the Pension Plan (as determined in accordance with Statement of Accounting Standards No. 87, "Employers' Accounting for Pensions") does not exceed the fair market value of Pension Plan assets.

Section 6.12. Consents or Approvals. No consent, approval or authorization of, or filing, registration or qualification with, any Governmental Authority or any other Person is required to be obtained or completed by any Company in connection with the execution, delivery or performance of any of the Loan Documents, that has not already been obtained or completed or waived, other than filings necessary to perfect Liens created under the Loan Documents and filings with the SEC related to the Loan Documents on the appropriate form.

Section 6.13. Solvency.

(a) US Borrower. Each US Borrower has received consideration that is the reasonably equivalent value of the obligations and liabilities that such Borrower has incurred to the Administrative Agent and the Lenders. No US Borrower is insolvent as defined in any applicable state, federal or relevant foreign statute, nor will any US Borrower be rendered insolvent by the execution and delivery of the Loan Documents to the Administrative Agent and the Lenders. No US Borrower is engaged or about to engage in any business or transaction for which the assets retained by it are or will be an unreasonably small amount of capital, taking into consideration the obligations to the Administrative Agent and the Lenders incurred hereunder. No US Borrower intends to, nor does it believe that it will, incur debts beyond its ability to pay such debts as they mature.

(b) Foreign Borrowers. Each Foreign Borrower has received consideration that is the reasonable equivalent value of the obligations and liabilities that such Foreign Borrower has incurred to the Administrative Agent and the Lenders. The property of each Foreign Borrower is (i) sufficient,

if disposed of at a fairly conducted sale under legal process, to enable payment of all its obligations due and accruing due, and (ii) at a fair valuation, greater than the total amount of liabilities, including contingent liabilities, of such Foreign Borrower. No Foreign Borrower has ceased paying its current obligations in the ordinary course of business as they generally become due. No Foreign Borrower is for any reason (and will not by reason of the execution and delivery of the Loan Documents) be unable to meet its obligations as they generally become due.

Section 6.14. Financial Statements. The audited Consolidated financial statements of DMC Global for the fiscal year ended December 31, 2016 and the unaudited Consolidated financial statements of DMC Global for the fiscal quarter ended September 30, 2017, furnished to the Administrative Agent and the Lenders, are true and complete, have been prepared in accordance with GAAP (except for year-end adjustments and the absence of footnotes with respect to the unaudited quarterly financial statements), and fairly present in all material respects the financial condition of the Companies, taken as a whole, as of the dates of such financial statements and the results of their operations for the periods then ending. Since the dates of such statements, there has been no change in the financial condition reflected in such financial statements except as publicly disclosed or that would reasonably be expected to have a Material Adverse Effect.

Section 6.15. Regulations. No Company is engaged principally or as one of its important activities, in the business of extending credit for the purpose of purchasing or carrying any "margin stock" (within the meaning of Regulation U of the Board of Governors of the Federal Reserve System of the United States). Neither the granting of any Loan (or any conversion thereof) or Letter of Credit nor the use of the proceeds of any Loan or Letter of Credit will violate, or be inconsistent with, the provisions of Regulation T, U or X or any other Regulation of such Board of Governors.

Section 6.16. Material Agreements. As of the Closing Date, no Company is in default beyond any applicable grace period or cure period under any (a) debt instrument (excluding the Loan Documents); (b) lease (capital, operating or otherwise), whether as lessee or lessor thereunder; (c) contract, commitment, agreement, or other arrangement involving the purchase or sale of any inventory by it, or the license of any right to or by it; (d) contract, commitment, agreement, or other arrangement with any of its "Affiliates" (as such term is defined in the Exchange Act) other than a Company; (e) management or employment contract or contract for personal services with any of its Affiliates that is not otherwise terminable at will or on less than ninety (90) days' notice without liability; (f) collective bargaining agreement; or (g) other contract, agreement, understanding, or arrangement with a third party, which default, in any case of subparts (a) through (g) above, would be reasonably expected to have a Material Adverse Effect.

Section 6.17. Intellectual Property. Each Company owns, or has the right to use, all of the patents, patent applications, industrial designs, designs, trademarks, service marks, copyrights and licenses, and rights with respect to the foregoing, necessary for the conduct of its business without any known conflict with the rights of others. Schedule 6.17 hereto sets forth all patents, trademarks, copyrights, service marks and license agreements federally registered in the United States of America and owned by a Company as of the Closing Date.

Section 6.18. Insurance. Each Company maintains with financially sound and reputable insurers insurance with coverage (including, if applicable, flood insurance as required pursuant to Section 5.29 hereof) and limits as required by law and as is customary with Persons engaged in the same or similar businesses as the Companies Schedule 6.18 hereto sets forth all insurance carried by the Companies on the Closing Date, setting forth in reasonable detail the amount and type of such insurance.

Section 6.19. Deposit Accounts and Securities Accounts. Schedule 6.19 hereto lists all banks, other financial institutions and Securities Intermediaries at which any Credit Party maintains Deposit Accounts or Securities Accounts as of the Closing Date, and Schedule 6.19 hereto correctly identifies the name of each such financial institution or Securities Intermediary, the name in which the account is held, a description of the purpose of the account, and the complete account number therefor.

Section 6.20. Accurate and Complete Statements. No written statements made by any Company in, or in connection with, the Loan Documents, when taken as a whole, contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements contained therein or in the Loan Documents not misleading. There is no fact known to the senior executive officers of the Borrowers (other than general industry and economic conditions and legal and regulatory requirements applicable to companies and businesses similar to the Companies) that has not been disclosed to the Administrative Agent that has or is likely to have a Material Adverse Effect; provided that, with respect to projected financial information and other forward looking information, Borrowers represent only that such information was prepared in good faith on the basis of the assumptions set forth therein, which assumptions were reasonable at the time prepared in light of the conditions existing at such time.

Section 6.21. Investment Company; Other Restrictions. No Company is (a) an "investment company" or a company "controlled" by an "investment company" within the meaning of the Investment Company Act of 1940, as amended, or (b) subject to any foreign, federal, state or local statute or regulation limiting its ability to incur Indebtedness.

Section 6.22. Defaults. No Default or Event of Default exists, nor will any begin to exist immediately after the execution and delivery hereof.

ARTICLE VII. SECURITY

Section 7.1. Security Interest in Collateral. In consideration of and as security for the full and complete payment of all of the Secured Obligations, each US Borrower hereby grants to the Administrative Agent, for the benefit of the Lenders (and Affiliates thereof that hold Secured Obligations), a security interest in the Collateral owned by such US Borrower.

Section 7.2. Collections and Receipt of Proceeds by the US Borrowers.

(a) Prior to the exercise by the Administrative Agent and the Required Lenders of their rights under Article IX hereof, both (i) the lawful collection and enforcement of all of each US Borrower's Accounts, and (ii) the lawful receipt and retention by each US Borrower of all Proceeds of all of such US Borrower's Accounts and Inventory shall be as the agent of the Administrative Agent and the Lenders.

(b) Upon written notice to the Administrative Borrower from the Administrative Agent after the occurrence and during the continuance of an Event of Default, a Cash Collateral Account shall be opened by the US Borrowers at the main office of the Administrative Agent (or such other office as shall be designated by the Administrative Agent) and all such lawful collections of each US Borrower's Accounts and such Proceeds of each US Borrower's Accounts and Inventory shall be remitted daily by each US Borrower to the Administrative Agent in the form in which they are received by such US Borrower, either by mailing or by delivering such collections and Proceeds to the Administrative Agent, appropriately endorsed for deposit in the Cash Collateral Account. In the event that such notice is given to the Administrative Borrower from the Administrative Agent, no US Borrower shall commingle such collections or Proceeds with any of such US Borrower's other funds or property or the funds or property of any other US Borrower, but shall hold such collections and Proceeds separate and apart therefrom upon an express trust for the Administrative Agent, for the benefit of the Lenders. In such case, the Administrative Agent may, in its sole discretion, and shall, at the request of the Required Lenders, at any time and from time to time, apply all or any portion of the account balance in the Cash Collateral Account as a credit against (i) the outstanding principal or interest of the Loans, or (ii) any other Secured Obligations in accordance with this Agreement. If any remittance shall be dishonored, or if, upon final payment, any claim with respect thereto shall be made against the Administrative Agent on its warranties of collection, the Administrative Agent may charge the amount of such item against the Cash Collateral Account or any other Deposit Account maintained by any US Borrower with the Administrative Agent or with any other Lender, and, in any event, retain the same and such US Borrower's interest therein as additional security for the Secured Obligations. The Administrative Agent may, in its sole discretion, at any time and from time to time, release funds from the Cash Collateral Account to the US Borrowers for use in the business of the US Borrowers. The balance in the Cash Collateral Account may be withdrawn by the US Borrowers upon termination of this Agreement and payment in full of all of the Secured Obligations (other than contingent indemnification obligations as to which no claim has been asserted).

(c) After the occurrence and during the continuance of an Event of Default, at the Administrative Agent's written request, each US Borrower shall cause all remittances representing collections and Proceeds of Collateral to be mailed to a lockbox at a location acceptable to the Administrative Agent, to which the Administrative Agent shall have access for the processing of such items in accordance with the provisions, terms and conditions of the customary lockbox agreement of the Administrative Agent.

(d) The Administrative Agent, or the Administrative Agent's designated agent, is hereby constituted and appointed attorney-in-fact for each US Borrower with authority and power to

endorse, after the occurrence and during the continuance of an Event of Default, any and all instruments, documents, and chattel paper upon the failure of the US Borrowers to do so. Such authority and power, being coupled with an interest, shall be (i) irrevocable until all of the Secured Obligations (other than contingent indemnification obligations as to which no claim has been asserted) are paid, (ii) exercisable by the Administrative Agent at any time and without any request upon such US Borrower by the Administrative Agent to so endorse, and (iii) exercisable in the name of the Administrative Agent or such US Borrower. Each US Borrower hereby waives presentment, demand, notice of dishonor, protest, notice of protest, and any and all other similar notices with respect thereto, regardless of the form of any endorsement thereof. Neither the Administrative Agent nor the Lenders shall be bound or obligated to take any action to preserve any rights therein against prior parties thereto.

Section 7.3. Collections and Receipt of Proceeds by Administrative Agent. Each Domestic Credit Party hereby constitutes and appoints the Administrative Agent, or the Administrative Agent's designated agent, as such Domestic Credit Party's attorney-in-fact to exercise, at any time, after the occurrence and during the continuance of an Event of Default, all or any of the following powers which, being coupled with an interest, shall be irrevocable until the complete and full payment of all of the Secured Obligations (other than contingent indemnification obligations as to which no claim has been asserted):

(a) to receive, retain, acquire, take, endorse, assign, deliver, accept, and deposit, in the name of the Administrative Agent or such Domestic Credit Party, any and all of such Domestic Credit Party's cash, instruments, chattel paper, documents, Proceeds of Accounts, Proceeds of Inventory, collection of Accounts, and any other writings relating to any of the Collateral. Each Domestic Credit Party hereby waives presentment, demand, notice of dishonor, protest, notice of protest, and any and all other similar notices with respect thereto, regardless of the form of any endorsement thereof. The Administrative Agent shall not be bound or obligated to take any action to preserve any rights therein against prior parties thereto;

(b) to transmit to Account Debtors, on any or all of such Domestic Credit Party's Accounts, notice of assignment to the Administrative Agent, for the benefit of the Lenders, thereof and the security interest therein, and to request from such Account Debtors at any time, in the name of the Administrative Agent or such Domestic Credit Party, information concerning such Domestic Credit Party's Accounts and the amounts owing thereon;

(c) to transmit to purchasers of any or all of such Domestic Credit Party's Inventory, notice of the Administrative Agent's security interest therein, and to request from such purchasers at any time, in the name of the Administrative Agent or such Domestic Credit Party, information concerning such Domestic Credit Party's Inventory and the amounts owing thereon by such purchasers;

(d) to notify and require Account Debtors on such Domestic Credit Party's Accounts and purchasers of such Domestic Credit Party's Inventory to make payment of their indebtedness directly to the Administrative Agent;

(e) to enter into or assent to such amendment, compromise, extension, release or other modification of any kind of, or substitution for, the Accounts, or any thereof, as the Administrative Agent, in its sole discretion, may deem to be advisable;

(f) to enforce the Accounts or any thereof, or any other Collateral, by suit or otherwise, to maintain any such suit or other proceeding in the name of the Administrative Agent or one or more the Domestic Credit Parties, and to withdraw any such suit or other proceeding. The Domestic Credit Parties agree to cooperate with the Administrative Agent in respect of the foregoing, all at no cost or expense to the Administrative Agent and including, without limitation, to the extent permitted under applicable confidentiality restrictions, the furnishing of such witnesses and of such records and other writings as the Administrative Agent may require in connection with making legal proof of any Account. The Domestic Credit Parties agree to reimburse the Administrative Agent in full for all court costs and attorneys' fees and every other cost, expense or liability, if any, incurred or paid by the Administrative Agent in connection with the foregoing, which obligation of the Domestic Credit Parties shall constitute Obligations, shall be secured by the Collateral and shall bear interest, until paid, at the Default Rate;

(g) to take or bring, in the name of the Administrative Agent or such Domestic Credit Party, all steps, actions, suits, or proceedings deemed by the Administrative Agent necessary or desirable to effect the receipt, enforcement, and collection of the Collateral; and

(h) to accept all collections in any form relating to the Collateral, including remittances that may reflect deductions, and to deposit the same into such Domestic Credit Party's Cash Collateral Account or, at the option of the Administrative Agent, to apply them as a payment against the Loans or any other Secured Obligations in accordance with this Agreement.

Section 7.4. Administrative Agent's Authority Under Pledged Notes. For the better protection of the Administrative Agent and the Lenders hereunder, each Domestic Credit Party, as appropriate, has executed (or will execute, with respect to future Pledged Notes) an appropriate endorsement on (or transfer power separate from) each Pledged Note and has deposited (or will deposit, with respect to future Pledged Notes) such Pledged Note with the Administrative Agent, for the benefit of the Lenders. Such Domestic Credit Party irrevocably authorizes and empowers the Administrative Agent, for the benefit of the Lenders, to, during the occurrence and continuation of an Event of Default, (a) ask for, demand, collect and receive all payments of principal of and interest on the Pledged Notes; (b) compromise and settle any dispute arising in respect of the foregoing; (c) execute and deliver vouchers, receipts and acquittances in full discharge of the foregoing; (d) exercise, in the Administrative Agent's discretion, any right, power or privilege granted to the holder of any Pledged Note by the provisions thereof including, without limitation, the right to demand security or to waive any default thereunder; (e) endorse such Domestic Credit Party's name to each check or other writing received by the Administrative Agent as a payment or other proceeds of or otherwise in connection with any Pledged Note; (f) enforce delivery and payment of the principal and/or interest on the Pledged Notes, in each case by suit or otherwise as the Administrative Agent may desire; and (g) enforce the security, if any, for the Pledged Notes by instituting foreclosure proceedings, by conducting public or other sales or otherwise, and to take all other steps as the Administrative Agent, in its discretion, may deem advisable in connection with

the forgoing; provided, however, that nothing contained or implied herein or elsewhere shall obligate the Administrative Agent to institute any action, suit or proceeding or to make or do any other act or thing contemplated by this Section 7.4 or prohibit the Administrative Agent from settling, withdrawing or dismissing any action, suit or proceeding or require the Administrative Agent to preserve any other right of any kind in respect of the Pledged Notes and the security, if any, therefor.

Section 7.5. Commercial Tort Claims. If any Domestic Credit Party shall at any time hold or acquire a Commercial Tort Claim in excess of Two Hundred Fifty Thousand Dollars (\$250,000), such Domestic Credit Party shall promptly notify the Administrative Agent thereof in a writing signed by such Domestic Credit Party, that sets forth the details thereof and grants to the Administrative Agent (for the benefit of the Lenders) a Lien thereon and on the Proceeds thereof, all upon the terms of this Agreement, with such writing to be prepared by and in form and substance reasonably satisfactory to the Administrative Agent.

Section 7.6. Use of Inventory and Equipment. Until the exercise by the Administrative Agent and the Required Lenders of their rights under Article IX hereof, each Domestic Credit Party may (a) retain possession of and use its Inventory and Equipment in any lawful manner not inconsistent with this Agreement or with the terms, conditions, or provisions of any policy of insurance thereon; (b) sell or lease its Inventory in the ordinary course of business or as otherwise permitted by this Agreement; and (c) use and consume any raw materials or supplies, the use and consumption of which are necessary in order to carry on such Domestic Credit Party's business.

ARTICLE VIII. EVENTS OF DEFAULT

Any of the following specified events shall constitute an Event of Default (each an "Event of Default"):

Section 8.1. Payments. If (a) the interest on any Loan, any commitment or other fee, or any other Obligation not listed in subpart (b) hereof, shall not be paid in full when due and payable or within three Business Days thereafter, or (b) the principal of any Loan, any reimbursement obligation under any Letter of Credit that has been drawn, or any amount owing pursuant to Section 2.12(a), (b), (c) or (d) hereof shall not be paid in full when due and payable.

Section 8.2. Special Covenants. If any Company shall fail or omit to perform and observe Section 5.3, 5.7, 5.8, 5.9, 5.11, 5.12, 5.13, 5.15, 5.18, 5.24 or 5.25 hereof.

8.3. Other Covenants.

(a) If any Company shall fail or omit to perform and observe Section 5.4, and that Default shall not have been fully corrected within five days after the giving of written notice thereof to the Administrative Borrower by the Administrative Agent.

(b) If any Company shall fail or omit to perform or observe any agreement or other provision (other than those referred to in Section 8.1, 8.2 or 8.3(a) hereof) contained or referred to

in this Agreement or any Related Writing that is on such Company's part to be complied with, and that Default shall not have been fully corrected within thirty (30) days after the giving of written notice thereof to the Administrative Borrower by the Administrative Agent or the Required Lenders.

Section 8.4. Representations and Warranties. If any representation, warranty or statement made in or pursuant to this Agreement or any other Related Writing by any Company to the Administrative Agent or the Lenders, or any thereof, shall be false or erroneous in any material respect when made or deemed made.

Section 8.5. Cross Default. If any Company shall default in the payment of principal or interest due and owing under any Material Indebtedness Agreement beyond any period of grace provided with respect thereto or in the performance or observance of any other agreement, term or condition contained in any agreement under which such obligation is created, if the effect of such default is to allow the acceleration of the maturity of such Indebtedness or to permit the holder thereof to cause such Indebtedness to become due prior to its stated maturity.

Section 8.6. ERISA Default. The occurrence of one or more ERISA Events that would reasonably be expected to have a Material Adverse Effect.

Section 8.7. Change in Control. If any Change in Control shall occur.

Section 8.8. Judgments. There is entered against any Company:

(a) a final judgment or order for the payment of money by a court of competent jurisdiction, that remains unpaid or unstayed and undischarged for a period (during which execution shall not be effectively stayed) of sixty (60) days after the date on which the right to appeal has expired, provided that such occurrence shall constitute an Event of Default only if the aggregate of all such judgments for all such Companies, shall exceed Five Million Dollars (\$5,000,000) (less any amount that will be covered by the proceeds of insurance and is not subject to dispute by the insurance provider); or

(b) any one or more non-monetary final judgments that are not covered by insurance, or, if covered by insurance, for which the insurance company has not agreed to or acknowledged coverage, and that, in either case, the Required Lenders reasonably determine have, or could be expected to have, individually or in the aggregate, a Material Adverse Effect and, in either case, (i) enforcement proceedings are commenced by the prevailing party or any creditor upon such judgment or order, or (ii) there is a period of three consecutive Business Days during which a stay of enforcement of such judgment, by reason of a pending appeal or otherwise, is not in effect.

Section 8.9. Security. If any Lien granted by any Company in this Agreement or any other Loan Document in favor of the Administrative Agent, for the benefit of the Lenders, shall be determined to be (a) void, voidable or invalid, or is subordinated or not otherwise given the priority contemplated by this Agreement and the Borrowers have (or the appropriate Credit Party has) failed to promptly execute appropriate documents to correct such matters, or (b) unperfected as to any material amount of Collateral (as determined by the Administrative Agent, in its reasonable

discretion) and the Borrowers have (or the appropriate Credit Party has) failed to promptly execute appropriate documents to correct such matters.

Section 8.10. Validity of Loan Documents. If (a) any material provision of any Loan Document, at any time after its execution and delivery and for any reason other than as expressly permitted hereunder or thereunder or satisfaction in full of all Secured Obligations, ceases to be in full force and effect, (b) any Borrower or any other Person contests in writing the validity or enforceability of any provision of any Loan Document, or (c) any Borrower denies in writing that it has any or further liability or obligation under any Loan Document, or purports in writing to revoke, terminate or rescind any Loan Document

Section 8.11. Solvency. If any Company (other than a Dormant Subsidiary) shall (a) except as permitted pursuant to Section 5.12 hereof, discontinue business; (b) generally not pay its debts as such debts become due; (c) make a general assignment for the benefit of creditors; (d) apply for or consent to the appointment of an interim receiver, a receiver, a receiver and manager, an administrator, a sequestrator, a monitor, a custodian, a trustee, an interim trustee, a liquidator, an agent or any other similar official of all or a substantial part of its assets or of such Company; (e) be adjudicated a debtor or insolvent or have entered against it an order for relief under the Bankruptcy Code, or under any other bankruptcy insolvency, liquidation, winding-up, corporate or similar statute or Law, foreign, federal, state or provincial, in any applicable jurisdiction, now or hereafter existing, as any of the foregoing may be amended from time to time, or other applicable statute for jurisdictions outside of the United States, as the case may be; (f) file a voluntary petition under the Bankruptcy Code or seek relief under any bankruptcy or insolvency or analogous Law in any jurisdiction outside of the United States, or file a proposal or notice of intention to file such petition; (g) have an involuntary proceeding under the Bankruptcy Code (or any bankruptcy or insolvency or analogous Law in in any jurisdiction outside of the United States) filed against it and the same shall not be controverted within ten (10) days, or shall continue undismissed for a period of sixty (60) days from commencement of such proceeding or case; (h) file a petition, an answer, an application or a proposal seeking reorganization or an arrangement with creditors or seeking to take advantage of any other Law (whether federal, provincial or state, or, if applicable, other jurisdiction) relating to relief of debtors, or admit (by answer, by default or otherwise) the material allegations of a petition filed against it in any bankruptcy, reorganization, insolvency or other proceeding (whether federal, provincial or state, or, if applicable, other jurisdiction) relating to relief of debtors; (i) suffer or permit to continue unstayed and in effect for sixty (60) consecutive days any judgment, decree or order entered by a court of competent jurisdiction, that approves a petition or an application or a proposal seeking its reorganization or appoints an interim receiver, a receiver and manager, an administrator, custodian, trustee, interim trustee or liquidator of all or a substantial part of its assets, or of such Company; (j) have an administrative receiver appointed over the whole or substantially the whole of its assets, or of such Company; (k) have assets, the value of which is less than its liabilities; or (l) have a moratorium declared in respect of any of its Indebtedness, or any analogous procedure or step is taken in any jurisdiction.

Notwithstanding any contrary provision or inference herein or elsewhere:

Section 9.1. Optional Defaults. If any Event of Default referred to in Section 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, 8.8, 8.9 or 8.10 hereof shall occur, the Administrative Agent may, with the consent of the Required Lenders, and shall, at the written request of the Required Lenders, give written notice to the Borrowers to:

(a) terminate the Commitment, if not previously terminated, and, immediately upon such election, the obligations of the Lenders, and each thereof, to make any further Loan, and the obligation of the Issuing Lenders to issue any Letter of Credit, immediately shall be terminated; and/or

(b) accelerate the maturity of all of the Obligations (if the Obligations are not already due and payable), whereupon all of the Obligations shall become and thereafter be immediately due and payable in full without any presentment or demand and without any further or other notice of any kind, all of which are hereby waived by each Borrower.

Section 9.2. Automatic Defaults. If any Event of Default referred to in Section 8.11 hereof shall occur:

(a) all of the Commitment shall automatically and immediately terminate, if not previously terminated, and no Lender thereafter shall be under any obligation to grant any further Loan, nor shall the Issuing Lenders be obligated to issue any Letter of Credit; and

(b) the principal of and interest then outstanding on all of the Loans, and all of the other Obligations, shall thereupon become and thereafter be immediately due and payable in full (if the Obligations are not already due and payable), all without any presentment, demand or notice of any kind, which are hereby waived by each Borrower.

Section 9.3. Letters of Credit. If the maturity of the Obligations shall be accelerated pursuant to Section 8.1 or 8.2 hereof, the appropriate Borrowers shall immediately deposit with the Administrative Agent, as security for the obligations of such Borrowers and any Domestic Guarantor of Payment to reimburse the applicable Issuing Lender and the Revolving Lenders for any then outstanding Letters of Credit, Cash Collateral in an amount not less than the Minimum Collateral Amount. The Administrative Agent, the Foreign Funding Agent and the Revolving Lenders are hereby authorized, at their option, to deduct any and all such amounts from any deposit balances then owing by any Lender (or any Affiliate of such Lender, wherever located) to or for the credit or account of any Borrower or any Domestic Guarantor of Payment, as security for the obligations of such Borrower and any Domestic Guarantor of Payment to reimburse the applicable Issuing Lender and the Revolving Lenders for any then outstanding Letters of Credit.

Section 9.4. Offsets. If there shall occur or exist any Event of Default referred to in Section 8.11 hereof or if the maturity of the Obligations is accelerated pursuant to Section 9.1 or 9.2 hereof,

each Lender shall have the right at any time to set off against, and to appropriate and apply toward the payment of, any and all of the Obligations then owing by the Borrowers or a Domestic Guarantor of Payment to such Lender, or any Foreign Borrower or Foreign Guarantor of Payment with respect to Obligations of a Foreign Borrower (including, without limitation, any participation purchased or to be purchased pursuant to Section 2.2(b), 2.2(c) or 9.5 hereof), whether or not the same shall then have matured, any and all deposit (general or special) balances and all other indebtedness then held or owing by such Lender (including, without limitation, by branches and agencies or any Affiliate of such Lender, wherever located) to or for the credit or account of any Borrower or Domestic Guarantor of Payment, or any Foreign Borrower or Foreign Guarantor of Payment with respect to such deposit balances and indebtedness of a Foreign Borrower or Foreign Guarantor of Payment, all without notice to or demand upon any Borrower or any other Person, all such notices and demands being hereby expressly waived by each Borrower. Each Lender agrees to notify the Administrative Borrower and the Administrative Agent promptly after any such set off and application (provided that the failure to give such notice shall not affect the validity of such set off and application). In the event that any Defaulting Lender shall exercise any such right of setoff, (a) all amounts so set off shall be paid over immediately to the Administrative Agent for further application in accordance with the provisions of Section 12.10 hereof and, pending such payment, shall be segregated by such Defaulting Lender from its other funds and deemed held in trust for the benefit of the Administrative Agent, the Issuing Lenders and the Lenders, and (b) the Defaulting Lender shall provide promptly to the Administrative Agent a statement describing in reasonable detail the Obligations owing to such Defaulting Lender as to which it exercised such right of setoff. The rights of each Lender, the Issuing Lenders and their respective Affiliates under this Section 9.4 are in addition to other rights and remedies (including other rights of setoff) that such Lender, such Issuing Lender or their respective Affiliates may have.

Section 9.5. Equalization Provisions.

(a) Equalization Within Commitments Prior to an Equalization Event Each Revolving Lender agrees with the other Revolving Lenders that, if it at any time shall obtain any Advantage over the other Revolving Lenders, or any thereof, in respect of the Applicable Debt (except as to Swing Loans and Letters of Credit prior to the Administrative Agent's giving of notice to participate and amounts under Article III hereof), such Revolving Lender, upon written request of the Administrative Agent, shall purchase from the other Revolving Lenders, for cash and at par, such additional participation in the Applicable Debt as shall be necessary to nullify the Advantage. Each Capex Lender agrees with the other Capex Lenders that, if it at any time shall obtain any Advantage over the other Capex Lenders, or any thereof, in respect of the Applicable Debt (except as to amounts under Article III hereof), such Capex Lender shall purchase from the other Capex Lenders, for cash and at par, such additional participation in the Applicable Debt as shall be necessary to nullify the Advantage.

(b) Equalization Between Commitments After an Equalization Event After the occurrence of an Equalization Event, each Lender agrees with the other Lenders that, if such Lender at any time shall obtain any Advantage over the other Lenders or any thereof determined in respect of the Obligations (including Swing Loans and Letters of Credit but excluding amounts under Article III hereof) then outstanding, such Lender shall purchase from the other Lenders, for cash and at

par, such additional participation in the Obligations as shall be necessary to nullify the Advantage in respect of the Obligations. For purposes of determining whether or not, after the occurrence of an Equalization Event, an Advantage in respect of the Obligations shall exist, the Administrative Agent shall, as of the date that the Equalization Event occurs:

- (i) add the Revolving Credit Exposure and the Capex Loan Exposure to determine the equalization maximum amount (the "Equalization Maximum Amount"); and
- (ii) determine an equalization percentage (the "Equalization Percentage") for each Lender by dividing the aggregate amount of its Lender Credit Exposure by the Equalization Maximum Amount.

After the date of an Equalization Event, the Administrative Agent shall determine whether an Advantage exists among the Lenders by using the Equalization Percentage. Such determination shall be conclusive absent manifest error.

(c) Recovery of Amount. If any such Advantage resulting in the purchase of an additional participation as set forth in subsection (a) or (b) hereof shall be recovered in whole or in part from the Lender receiving the Advantage, each such purchase shall be rescinded, and the purchase price restored (but without interest unless the Lender receiving the Advantage is required to pay interest on the Advantage to the Person recovering the Advantage from such Lender) ratably to the extent of the recovery.

(d) Application and Sharing of Set-Off Amounts. Each Lender further agrees with the other Lenders that, if it at any time shall receive any payment for or on behalf of a Borrower on any Indebtedness owing by such Borrower to that Lender (whether by voluntary payment, by realization upon security, by reason of offset of any deposit or other Indebtedness, by counterclaim or cross action, by enforcement of any right under any Loan Document, or otherwise), it shall apply such payment first to any and all Indebtedness owing by such Borrower to that Lender pursuant to this Agreement (including, without limitation, any participation purchased or to be purchased pursuant to this Section 9.5 or any other section of this Agreement). Each Credit Party agrees that any Lender so purchasing a participation from the other Lenders, or any thereof, pursuant to this Section 9.5 may exercise all of its rights of payment (including the right of set-off) with respect to such participation as fully as if such Lender were a direct creditor of such Credit Party in the amount of such participation.

Section 9.6. Collateral. The Administrative Agent and the Lenders shall at all times have the rights and remedies of a secured party under the U.C.C., in addition to the rights and remedies of a secured party provided elsewhere within this Agreement, in any other Related Writing executed by any Borrower or otherwise provided in law or equity. Upon the occurrence and during the continuance of an Event of Default, the Administrative Agent may require the US Borrowers to assemble the collateral securing the Secured Obligations, which each US Borrower agrees to do, and make it available to the Administrative Agent and the Lenders at a reasonably convenient place to be designated by the Administrative Agent. The Administrative Agent may, with or without notice to or demand upon such US Borrower and with or without the aid of legal process, make use

of such force as may be necessary to enter any premises where such collateral, or any thereof, may be found and to take possession thereof (including anything found in or on such collateral that is not specifically described in this Agreement, each of which findings shall be considered to be an accession to and a part of such collateral) and for that purpose may pursue such collateral wherever the same may be found, without liability for trespass or damage caused thereby to such US Borrower, other than damage caused by the gross negligence or willful misconduct (as determined by a final non-appealable judgment of a court of competent jurisdiction) of the Administrative Agent or its agents or employees. After any delivery or taking of possession of the collateral securing the Secured Obligations, or any portion thereof, pursuant to this Agreement, then, with or without resort to any US Borrower personally or any other Person or property, all of which each US Borrower hereby waives, and upon such terms and in such manner as the Administrative Agent may deem advisable, the Administrative Agent, in its discretion, may sell, assign, transfer and deliver any of such collateral at any time, or from time to time. No prior notice need be given to any US Borrower or to any other Person in the case of any sale of such collateral that the Administrative Agent determines to be perishable or to be declining speedily in value or that is customarily sold in any recognized market, but in any other case the Administrative Agent shall give the US Borrowers not fewer than ten days prior notice of either the time and place of any public sale of such collateral or of the time after which any private sale or other intended disposition thereof is to be made. Each US Borrower waives advertisement of any such sale and (except to the extent specifically required by the preceding sentence) waives notice of any kind in respect of any such sale. At any such public sale, the Administrative Agent or the Lenders may purchase such collateral, or any part thereof, free from any right of redemption, all of which rights each US Borrower hereby waives and releases. After deducting all Related Expenses, and after paying all claims, if any, secured by Liens having precedence over this Agreement, the Administrative Agent may apply the net proceeds of each such sale to or toward the payment of the Secured Obligations, whether or not then due, in such order and by such division as the Administrative Agent, in its sole discretion, may deem advisable. Any excess, to the extent permitted by law, shall be paid to the US Borrowers, and each US Borrower shall remain liable for any deficiency. In addition, the Administrative Agent shall at all times during the continuance of an Event of Default have the right to obtain new appraisals of any US Borrower or any collateral securing the Secured Obligations, the cost of which shall be paid by the US Borrowers.

Section 9.7. Other Remedies. The remedies in this Article IX are in addition to, and not in limitation of, any other right, power, privilege, or remedy, either in law, in equity, or otherwise, to which the Administrative Agent, the Foreign Funding Agent and the Lenders may be entitled. The Administrative Agent shall exercise the rights under this Article IX and all other collection efforts on behalf of the Foreign Funding Agent and the Lenders and neither the Foreign Funding Agent nor any Lender shall act independently with respect thereto, except as otherwise specifically set forth in this Agreement. In addition, the Administrative Agent shall be entitled to exercise remedies, pursuant to the Loan Documents, against collateral securing the Secured Obligations, on behalf of any Affiliate of a Lender that holds Secured Obligations, and no Affiliate of a Lender shall act independently with respect thereto, except as otherwise specifically set forth in this Agreement.

Section 9.8. Application of Proceeds.

(a) Payments Prior to Exercise of Remedies Prior to the exercise by the Administrative Agent, on behalf of the Lenders, of remedies under this Agreement or the other Loan Documents, all monies received by the Administrative Agent and the Foreign Funding Agent shall be applied, unless otherwise required by the terms of the other Loan Documents or by applicable Law, as follows (provided that such Agent shall have the right at all times to apply any payment received from the Borrowers first to the payment of all obligations (to the extent not paid by the Borrowers) incurred by such Agent pursuant to Sections 12.5 and 12.6 hereof and to the payment of Related Expenses):

- (i) with respect to payments received in connection with the Revolving Credit Commitment, to the Revolving Lenders;
- (ii) with respect to payments received in connection with the Capex Loan Commitment, to the Capex Lenders; and
- (iii) with respect to payments received in connection with an Additional Term Loan Facility, to the applicable Lenders.

(b) Payments Subsequent to Exercise of Remedies After the exercise by the Administrative Agent or the Required Lenders of remedies under this Agreement or the other Loan Documents, all monies received by the Administrative Agent and the Foreign Funding Agent shall be applied, unless otherwise required by the terms of the other Loan Documents or by applicable Law, as follows:

- (i) with respect to:

(A) payments from assets of Companies organized in the United States (or a state thereof), (1) first, to the Obligations (and Secured Obligations if such payments are from proceeds of Collateral) of the US Borrowers, and (2) second, to the Obligations (and Secured Obligations if such payments are from proceeds of Collateral) of any other Borrowers, in each case applied in accordance with the Waterfall;

(B) payments from assets of Companies that are not organized in the United States (or a state thereof), to the Obligations (and Secured Obligations if such payments are from proceeds of Collateral) of the Foreign Borrowers, applied in accordance with the Waterfall; and

(C) any other payments, in accordance with the Waterfall; and

- (ii) in accordance with the following priority (the "Waterfall"):

(A) first, to the extent incurred in connection with obligations payable by a specific Borrower, to the payment of all obligations (to the extent not paid by the

Borrowers) incurred by the Administrative Agent and the Foreign Funding Agent pursuant to Sections 12.5 and 12.6 hereof and to the payment of Related Expenses;

(B) second, to the extent incurred in connection with the obligations payable by a specific Borrower, to the payment pro rata of (1) interest then accrued and payable on the outstanding Loans, (2) any fees then accrued and payable to the Administrative Agent and the Foreign Funding Agent (3) any fees then accrued and payable to any Issuing Lender or the holders of the Letter of Credit Commitment in respect of the Letter of Credit Exposure, (4) any commitment fees, amendment fees and similar fees shared pro rata among the Lenders under this Agreement that are then accrued and payable, and (5) to the extent not paid by the Borrowers, to the obligations incurred by the Lenders (other than the Administrative Agent) pursuant to Sections 12.5 and 12.6 hereof;

(C) third, for payment of (1) principal outstanding on the Loans and the Letter of Credit Exposure, on a pro rata basis to the Lenders, based upon each such Lender's Overall Commitment Percentage, provided that the amounts payable in respect of the Letter of Credit Exposure shall be held and applied by the Administrative Agent as security for the reimbursement obligations in respect thereof, and, if any Letter of Credit shall expire without being drawn, then the amount with respect to such Letter of Credit shall be distributed to the Lenders, on a pro rata basis in accordance with this subpart (C), (2) the Indebtedness under any Hedge Agreement with a Lender (or an entity that is an Affiliate of a then existing Lender), such amount to be based upon the net termination obligation of the Borrowers under such Hedge Agreement, and (3) the Bank Product Obligations owing to a Lender (or an entity that is an Affiliate of a then existing Lender) under Bank Product Agreements; with such payment to be pro rata among (1), (2) and (3) of this subpart (C);

(D) fourth, to any remaining Secured Obligations; and

(E) finally, any remaining surplus after all of the Secured Obligations have been paid in full, to the Administrative Borrower for distribution to the appropriate Borrowers, or to whomsoever shall be lawfully entitled thereto.

Each Lender (or Affiliate of such Lender) entering into a Bank Product Agreement or Hedge Agreement with any Company shall deliver to the Administrative Agent, promptly (and in no even later than ten days) after entering into such Bank Product Agreement or Hedge Agreement, written notice in form and substance satisfactory to the Administrative Agent setting forth the aggregate amount of all Bank Product Obligations and/or obligations under such Hedge Agreement of such Loan Party to such Lender (or Affiliate of such Lender) (whether matured or unmatured, absolute or contingent) and the method of calculation thereof. Failure to provide such written notice to the Administrative Agent on a timely basis shall result in such Secured Obligations, at the discretion of the Administrative Agent, being paid under subpart (D) above (instead of subpart (C)). In addition, each such Lender (or Affiliate of such Lender) thereof shall deliver to the Administrative Agent,

from time to time after a significant change therein or upon a request therefor, a summary of the amounts due or to become due in respect of such Bank Product Obligations and/or obligations under such Hedge Agreement. The most recent information provided to the Administrative Agent shall be used in determining the amounts to be applied in respect of such Bank Product Obligations and/or obligations under such Hedge Agreement pursuant to this Section 9.8 and which tier of the Waterfall, such obligations will be placed. Each Lender further agrees to promptly provide all information reasonably requested by the Administrative Agent regarding any Bank Product Obligations owing to such Lender (or Affiliate of such Lender) or any Hedge Agreement entered into by a Company with such Lender (or Affiliate of such Lender).

Section 9.9. Alternate Currency Loans Conversion. If the principal outstanding of any Loan denominated in an Alternate Currency is not paid in full in such Alternate Currency on the date of its stated maturity, the Administrative Agent and the Required Lenders shall have the option to convert the principal and interest outstanding of such Loan to its Dollar Equivalent as calculated on the date of such maturity (and thereafter all Obligations owing under such Loan shall be in Dollars).

ARTICLE X. THE ADMINISTRATIVE AGENT

The Lenders authorize KeyBank and KeyBank hereby agrees to act as agent for the Lenders in respect of this Agreement upon the terms and conditions set forth elsewhere in this Agreement, and upon the following terms and conditions:

Section 10.1. Appointment and Authorization.

(a) General. Each Lender hereby irrevocably appoints and authorizes the Administrative Agent to take such action as agent on its behalf and to exercise such powers hereunder as are delegated to the Administrative Agent by the terms hereof, together with such powers as are reasonably incidental thereto, including, without limitation, to execute and deliver any Additional Borrower Assumption Agreements on behalf of the Lenders and to execute various documents pertaining to the Foreign Borrowers and Foreign Guarantors of Payment on behalf of the Lenders. Neither the Administrative Agent nor any of its Affiliates, directors, officers, attorneys or employees shall (i) be liable for any action taken or omitted to be taken by it or them hereunder or in connection herewith, except for its or their own gross negligence or willful misconduct (as determined by a final non-appealable judgment of a court of competent jurisdiction), or be responsible in any manner to any of the Lenders for the effectiveness, enforceability, genuineness, validity or due execution of this Agreement or any other Loan Documents, (ii) be under any obligation to any Lender to ascertain or to inquire as to the performance or observance of any of the terms, covenants or conditions hereof or thereof on the part of the Borrowers or any other Company, or the financial condition of the Borrowers or any other Company, or (iii) be liable to any of the Companies for consequential damages resulting from any breach of contract, tort or other wrong in connection with the negotiation, documentation, administration or collection of the Loans or Letters of Credit or any of the Loan Documents, other than any such damages resulting from the gross negligence or willful misconduct (as determined by a final non-appealable judgment of a court of competent

jurisdiction) of Administrative Agent or its agents or employees. Notwithstanding any provision to the contrary contained in this Agreement or in any other Loan Document, the Administrative Agent shall not have any duty or responsibility except those expressly set forth herein, nor shall the Administrative Agent have or be deemed to have any fiduciary relationship with any Lender or participant, and no implied covenants, functions, responsibilities, duties, obligations or liabilities shall be read into this Agreement or any other Loan Document or otherwise exist against the Administrative Agent. Without limiting the generality of the foregoing sentence, the use of the term "agent" herein and in other Loan Documents with reference to the Administrative Agent is not intended to connote any fiduciary or other implied (or express) obligations arising under agency doctrine of any applicable Law. Instead, such term is used merely as a matter of market custom, and is intended to create or reflect only an administrative relationship between independent contracting parties. The provisions of this Article X are solely for the benefit of the Administrative Agent and the Lenders, and neither the Borrower nor any of the Credit Parties shall have rights as a third-party beneficiary of any of such provisions.

(b) Bank Products and Hedging Products. Each Lender that is providing Bank Products or products in connection with a Hedge Agreement (or whose Affiliate is providing such products) hereby irrevocably authorizes the Administrative Agent to take such action as agent on its behalf (and its Affiliate's behalf) with respect to the Collateral and the realization of payments with respect thereto pursuant to Section 9.8(b)(ii)(C) hereof. Each Borrower and each Lender agree that the indemnification and reimbursement provisions of this Agreement shall be equally applicable to the actions of the Administrative Agent pursuant to this subsection (b). Each Lender hereby represents and warrants to the Administrative Agent that it has the authority to authorize the Administrative Agent as set forth above.

Section 10.2. Note Holders. The Administrative Agent may treat the payee of any Note as the holder thereof (or, if there is no Note, the holder of the interest as reflected on the books and records of the Administrative Agent) until written notice of transfer shall have been filed with the Administrative Agent, signed by such payee and in form satisfactory to the Administrative Agent (such transfer to have been made in accordance with Section 12.9 hereof).

Section 10.3. Consultation With Counsel. The Administrative Agent may consult with legal counsel selected by the Administrative Agent and shall not be liable for any action taken or suffered in good faith by the Administrative Agent in accordance with the opinion of such counsel, other than any such liability arising from the gross negligence or willful misconduct (as determined by a final non-appealable judgment of a court of competent jurisdiction) of Administrative Agent or its agents or employees.

Section 10.4. Documents. The Administrative Agent shall not be under any duty to examine into or pass upon the validity, effectiveness, genuineness or value of any Loan Document or any other Related Writing furnished pursuant hereto or in connection herewith or the value of any collateral obtained hereunder, and the Administrative Agent shall be entitled to assume that the same are valid, effective and genuine and what they purport to be.

Section 10.5. Administrative Agent and Affiliates KeyBank and its Affiliates may make loans to, issue letters of credit for the account of, accept deposits from, acquire equity interests in and generally engage in any kind of banking, trust, financial advisory, underwriting or other business with the Companies and Affiliates as though KeyBank were not the Administrative Agent hereunder and without notice to or consent of any Lender. Each Lender acknowledges that, pursuant to such activities, KeyBank or its Affiliates may receive information regarding any Company or any Affiliate (including information that may be subject to confidentiality obligations in favor of such Company or such Company's Affiliate) and acknowledge that the Administrative Agent shall be under no obligation to provide such information to other Lenders. With respect to Loans and Letters of Credit (if any), KeyBank and its Affiliates shall have the same rights and powers under this Agreement as any other Lender and may exercise the same as though KeyBank were not the Administrative Agent, and the terms "Lender" and "Lenders" include KeyBank and its Affiliates, to the extent applicable, in their individual capacities.

Section 10.6. Knowledge or Notice of Default The Administrative Agent shall not be deemed to have knowledge or notice of the occurrence of any Default or Event of Default unless the Administrative Agent has received written notice from a Lender or the Administrative Borrower referring to this Agreement, describing such Default or Event of Default and stating that such notice is a "notice of default". In the event that the Administrative Agent receives such a notice, the Administrative Agent shall give notice thereof to the Lenders. The Administrative Agent shall take such action with respect to such Default or Event of Default as shall be reasonably directed by the Required Lenders (or, if so specified by this Agreement, all Lenders); provided that, unless and until the Administrative Agent shall have received such directions, the Administrative Agent may (but shall not be obligated to) take such action, or refrain from taking such action, with respect to such Default or Event of Default as it shall deem advisable, in its discretion, for the protection of the interests of the Lenders.

Section 10.7. Action by Administrative Agent Subject to the other terms and conditions hereof, so long as the Administrative Agent shall be entitled, pursuant to Section 10.6 hereof, to assume that no Default or Event of Default shall have occurred and be continuing, the Administrative Agent shall be entitled to use its discretion with respect to exercising or refraining from exercising any rights that may be vested in it by, or with respect to taking or refraining from taking any action or actions that it may be able to take under or in respect of, this Agreement. The Administrative Agent shall incur no liability under or in respect of this Agreement by acting upon any notice, certificate, warranty or other paper or instrument believed by it to be genuine or authentic or to be signed by the proper party or parties, or with respect to anything that it may do or refrain from doing in the reasonable exercise of its judgment, or that may seem to it to be necessary or desirable in the premises, other than liability arising from the gross negligence or willful misconduct (as determined by a final non-appealable judgment of a court of competent jurisdiction) of Administrative Agent or its agents or employees. Without limiting the foregoing, no Lender shall have any right of action whatsoever against the Administrative Agent as a result of the Administrative Agent's acting or refraining from acting hereunder in accordance with the instructions of the Required Lenders.

Section 10.8. Release of Collateral or Guarantor of Payment In the event of a merger, transfer of assets or other transaction permitted pursuant to Section 5.12 hereof (or otherwise

permitted pursuant to this Agreement) where the proceeds of such merger, transfer or other transaction are applied in accordance with the terms of this Agreement to the extent required to be so applied, or in the event of a merger, consolidation, transfer or disposition of assets, dissolution or similar event, permitted pursuant to this Agreement, the Administrative Agent, at the request and expense of the Borrowers, is hereby authorized by the Lenders to (a) release the relevant Collateral from this Agreement or any other Loan Document, (b) release a Guarantor of Payment in connection with such permitted transfer or event, and (c) duly assign, transfer and deliver to the affected Person (without recourse and without any representation or warranty) such Collateral as is then (or has been) so transferred, disposed of or released and as may be in the possession of the Administrative Agent and has not theretofore been released pursuant to this Agreement.

Section 10.9. Delegation of Duties. The Administrative Agent may execute any of its duties under this Agreement or any other Loan Document by or through agents, employees or attorneys-in-fact and shall be entitled to advice of counsel and other consultants or experts concerning all matters pertaining to such duties. The Administrative Agent shall not be responsible for the negligence or misconduct of any agent or attorney-in-fact that it selects in the absence of gross negligence or willful misconduct, as determined by a final and non-appealable judgment of a court of competent jurisdiction.

Section 10.10. Indemnification of Administrative Agent. The Lenders agree to indemnify the Administrative Agent (to the extent not reimbursed by the Borrowers) ratably, according to their respective Overall Commitment Percentages, from and against any and all liabilities, obligations, losses, damages, penalties, actions, judgments, suits, costs, expenses (including attorneys' fees and expenses) or disbursements of any kind or nature whatsoever that may be imposed on, incurred by or asserted against the Administrative Agent in its capacity as agent in any way relating to or arising out of this Agreement or any other Loan Document, or any action taken or omitted by the Administrative Agent with respect to this Agreement or any other Loan Document, provided that no Lender shall be liable for any portion of such liabilities, obligations, losses, damages, penalties, actions, judgments, suits, costs, expenses (including attorneys' fees and expenses) or disbursements resulting from the Administrative Agent's gross negligence or willful misconduct, as determined by a final and non-appealable judgment of a court of competent jurisdiction, or from any action taken or omitted by the Administrative Agent in any capacity other than as agent under this Agreement or any other Loan Document. No action taken in accordance with the directions of the Required Lenders shall be deemed to constitute gross negligence or willful misconduct for purposes of this Section 10.10. The undertaking in this Section 10.10 shall survive repayment of the Loans, cancellation of the Notes, if any, expiration or termination of the Letters of Credit, termination of the Commitment, any foreclosure under, or modification, release or discharge of, any or all of the Loan Documents, termination of this Agreement and the resignation or replacement of the administrative agent.

Section 10.11. Successor Administrative Agent. The Administrative Agent may resign as agent hereunder by giving not fewer than thirty (30) days prior written notice to the Administrative Borrower and the Lenders. If the Administrative Agent shall resign under this Agreement, then either (a) the Required Lenders shall appoint from among the Lenders a successor agent for the Lenders (with the consent of the Administrative Borrower so long as an Event of Default does not

exist and which consent shall not be unreasonably withheld), or (b) if a successor agent shall not be so appointed and approved within the thirty (30) day period following the Administrative Agent's notice to the Lenders of its resignation, then the Administrative Agent shall appoint a successor agent that shall serve as agent until such time as the Required Lenders appoint a successor agent (with the consent of the Administrative Borrower so long as an Event of Default does not exist). If no successor agent has accepted appointment as the Administrative Agent by the date that is thirty (30) days following a retiring Administrative Agent's notice of resignation, the retiring Administrative Agent's resignation shall nevertheless thereupon become effective, and the Lenders shall assume and perform all of the duties of the Administrative Agent hereunder until such time, if any, as the Required Lenders appoint a successor agent as provided for above. Upon its appointment, such successor agent shall succeed to the rights, powers and duties as agent, and the term "Administrative Agent" means such successor effective upon its appointment, and the former agent's rights, powers and duties as agent shall be terminated without any other or further act or deed on the part of such former agent or any of the parties to this Agreement. After any retiring Administrative Agent's resignation as the Administrative Agent, the provisions of this Article X shall inure to its benefit as to any actions taken or omitted to be taken by it while it was the Administrative Agent under this Agreement and the other Loan Documents.

Section 10.12. Foreign Funding Agent. The Foreign Funding Agent shall be entitled to the same indemnifications with respect to the Borrowers and the Lenders that the Administrative Agent would have were it performing the duties that the Foreign Funding Agent performs from time to time in such capacity.

Section 10.13. Issuing Lender. Each Issuing Lender shall act on behalf of the Revolving Lenders with respect to any Letters of Credit issued by such Issuing Lender and the documents associated therewith. Each Issuing Lender shall have all of the benefits and immunities (a) provided to the Administrative Agent in this Article X with respect to any acts taken or omissions suffered by such Issuing Lender in connection with the Letters of Credit and the applications and agreements for letters of credit pertaining to such Letters of Credit as fully as if the term "Administrative Agent", as used in this Article X, included such Issuing Lender with respect to such acts or omissions, and (b) as additionally provided in this Agreement with respect to such Issuing Lender.

Section 10.14. Swing Line Lenders. The Swing Line Lender shall act on behalf of the Revolving Lenders with respect to any Swing Loans. Each Swing Line Lender shall have all of the benefits and immunities (a) provided to the Administrative Agent in this Article X with respect to any acts taken or omissions suffered by such Swing Line Lender in connection with the Swing Loans as fully as if the term "Administrative Agent", as used in this Article X, included such Swing Line Lender with respect to such acts or omissions, and (b) as additionally provided in this Agreement with respect to such Swing Line Lender.

Section 10.15. Administrative Agent May File Proofs of Claim. In case of the pendency of any receivership, insolvency, liquidation, bankruptcy, reorganization, arrangement, adjustment, composition or other judicial proceeding relative to any Credit Party, (a) the Administrative Agent (irrespective of whether the principal of any Loan shall then be due and payable as herein expressed or by declaration or otherwise and irrespective of whether the Administrative Agent shall have made

any demand on any Borrower) shall be entitled and empowered, by intervention in such proceeding or otherwise, to (i) file and prove a claim for the whole amount of the principal and interest owing and unpaid in respect of the Loans, and all other Obligations that are owing and unpaid and to file such other documents as may be necessary or advisable in order to have the claims of the Lenders and the Administrative Agent (including any claim for the reasonable compensation, expenses, disbursements and advances of the Lenders and the Administrative Agent and their respective agents and counsel and all other amounts due the Lenders and the Administrative Agent) allowed in such judicial proceedings, and (ii) collect and receive any monies or other property payable or deliverable on any such claims and to distribute the same; and (b) any custodian, receiver, assignee, trustee, liquidator, sequestrator or other similar official in any such judicial proceeding is hereby authorized by each Lender to make such payments to the Administrative Agent and, in the event that the Administrative Agent shall consent to the making of such payments directly to the Lenders, to pay to the Administrative Agent any amount due for the reasonable compensation, expenses, disbursements and advances of the Administrative Agent and its agents and counsel, and any other amounts due the Administrative Agent. Nothing contained herein shall be deemed to authorize the Administrative Agent to authorize or consent to or accept or adopt on behalf of any Lender any plan of reorganization, arrangement, adjustment or composition affecting the Obligations or the rights of any Lender or to authorize the Administrative Agent to vote in respect of the claim of any Lender in any such proceeding.

Section 10.16. No Reliance on Administrative Agent's Customer Identification Program Each Lender acknowledges and agrees that neither such Lender, nor any of its Affiliates, participants or assignees, may rely on the Administrative Agent to carry out such Lender's or its Affiliate's, participant's or assignee's customer identification program, or other obligations required or imposed under or pursuant to the Patriot Act or the regulations thereunder, including the regulations contained in 31 CFR 103.121 (as hereafter amended or replaced, the "CIP Regulations"), or any other anti-terrorism Law, including any programs involving any of the following items relating to or in connection with the Borrowers, their respective Affiliates or agents, the Loan Documents or the transactions hereunder: (a) any identity verification procedures, (b) any record keeping, (c) any comparisons with government lists, (d) any customer notices, or (e) any other procedures required under the CIP Regulations or such other Laws.

Section 10.17. Other Agents. The Administrative Agent shall have the continuing right from time to time to designate one or more Lenders (or its or their Affiliates) as "syndication agent", "co-syndication agent", "documentation agent", "co-documentation agent", "book runner", "lead arranger", "joint lead arranger", "arrangers" or other designations for purposes hereof. Any such designation referenced in the previous sentence or listed on the cover of this Agreement shall have no substantive effect, and any such Lender and its Affiliates so referenced or listed shall have no additional powers, duties, responsibilities or liabilities as a result thereof, except in its capacity, as applicable, as the Administrative Agent, the Foreign Funding Agent, a Lender, a Swing Line Lender or an Issuing Lender hereunder.

Section 10.18. Platform.

(a) Each Credit Party agrees that the Administrative Agent may, but shall not be obligated to, make the Communications (as defined below) available to the Issuing Lender, the Swing Line Lender and the other Lenders by posting the Communications on the Platform.

(b) The Platform is provided "as is" and "as available." The Agent Parties (as defined below) do not warrant the adequacy of the Platform and expressly disclaim liability for errors or omissions in the Communications. No warranty of any kind, express, implied or statutory, including, without limitation, any warranty of merchantability, fitness for a particular purpose, non-infringement of third-party rights or freedom from viruses or other code defects, is made by any Agent Party in connection with the Communications or the Platform. In no event shall the Administrative Agent or any of its Related Parties (collectively, the "Agent Parties") have any liability to the Borrowers or the other Credit Parties, any Lender or any other Person or entity for damages of any kind, including, without limitation, direct or indirect, special, incidental or consequential damages, losses or expenses (whether in tort, contract or otherwise) arising out of any Borrower's, any Credit Party's or the Administrative Agent's transmission of communications through the Platform, other than liability arising from the gross negligence or willful misconduct (as determined by a final non-appealable judgment of a court of competent jurisdiction) of an Agent Party. "Communications" means, collectively, any notice, demand, communication, information, document or other material provided by or on behalf of any Credit Party pursuant to any Loan Document or the transactions contemplated therein that is distributed to the Administrative Agent, the Foreign Funding Agent, any Lender, any Issuing Lender or any Swing Line Lender by means of electronic communications pursuant to this Section, including through the Platform.

ARTICLE XI. GUARANTY BY US BORROWERS OF
OBLIGATIONS OF FOREIGN BORROWERS

Section 11.1. The Guaranty. Each US Borrower hereby jointly and severally guarantees to the Administrative Agent, for the benefit of the Lenders, as a primary obligor and not as a surety, the prompt payment of the Secured Obligations owing by each other Borrower in full when due (whether at stated maturity, as a mandatory prepayment, by acceleration, as a mandatory cash collateralization or otherwise) strictly in accordance with the terms thereof. The US Borrowers hereby further agree that, if any of the Secured Obligations are not paid in full when due (whether at stated maturity, as a mandatory prepayment, by acceleration, as a mandatory cash collateralization or otherwise), the US Borrowers will, jointly and severally, promptly pay the same, without any demand or notice whatsoever, and that, in the case of any extension of time of payment or renewal of any of the Secured Obligations, the same will be promptly paid in full when due (whether at extended maturity, as a mandatory prepayment, by acceleration, as a mandatory cash collateralization or otherwise) in accordance with the terms of such extension or renewal.

Section 11.2. Obligations Unconditional. The obligations of the US Borrowers under Section 11.1 hereof are joint and several, absolute and unconditional, irrespective of the value, genuineness, validity, regularity or enforceability of any of the Loan Documents, or any other

agreement or instrument referred to therein, or any substitution, release, impairment or exchange of any other guarantee of or security for any of the Secured Obligations, and, to the fullest extent permitted by applicable law, irrespective of any other circumstance whatsoever which might otherwise constitute a legal or equitable discharge or defense of a surety or guarantor, it being the intent of this Section 11.2 that the obligations of the US Borrowers hereunder, as Guarantors, shall be absolute and unconditional under any and all circumstances. Each US Borrower agrees that it shall have no right of subrogation, indemnity, reimbursement or contribution against any other Borrower or any other Guarantor of Payment for amounts paid under this Article XI until such time as the Secured Obligations have been irrevocably paid in full. Without limiting the generality of the foregoing, it is agreed that, to the fullest extent permitted by law, the occurrence of any one or more of the following shall not alter or impair the liability of the US Borrowers as Guarantors hereunder, which shall remain absolute and unconditional as described above:

(a) at any time or from time to time, without notice to any Guarantor, the time for any performance of or compliance with any of the Secured Obligations shall be extended, or such performance or compliance shall be waived;

(b) any of the acts mentioned in any of the provisions of any of the Loan Documents or any other agreement or instrument referred to in the Loan Documents shall be done or omitted;

(c) the maturity of any of the Secured Obligations shall be accelerated, or any of the Secured Obligations shall be modified, supplemented or amended in any respect, or any right under any of the Loan Documents, or any other agreement or instrument referred to in the Loan Documents shall be waived or any other guarantee of any of the Secured Obligations, or any security therefor, shall be released, impaired or exchanged in whole or in part or otherwise dealt with;

(d) any Lien granted to, or in favor of, the Administrative Agent, for the benefit of the Lenders, as security for any of the Secured Obligations shall fail to attach or be perfected; or

(e) any of the Secured Obligations shall be determined to be void or voidable (including, without limitation, for the benefit of any creditor of any Guarantor) or shall be subordinated to the claims of any Person (including, without limitation, any creditor of any Guarantor).

With respect to its obligations hereunder, each US Borrower hereby expressly waives diligence, presentment, demand of payment, protest and all notices whatsoever, and any requirement that the Administrative Agent or any Lender exhaust any right, power or remedy or proceed against any Person under any of the Loan Documents or any other agreement or instrument referred to in the Loan Documents, or against any other Person under any other guarantee of, or security for, any of the Secured Obligations.

Section 11.3. Reinstatement. The obligations of each US Borrower under this Article XI shall be automatically reinstated if and to the extent that, for any reason, any payment by or on behalf of any Person in respect of the Secured Obligations is rescinded or must be otherwise restored by any holder of any of the Secured Obligations, whether as a result of any proceedings in bankruptcy or reorganization or otherwise, and each US Borrower agrees that it will indemnify the

Administrative Agent and each Lender on demand for all reasonable costs and expenses (including, without limitation, reasonable fees and expenses of counsel) incurred by the Administrative Agent or such Lender in connection with such rescission or restoration, including any such reasonable costs and expenses incurred in defending against any claim alleging that such payment constituted a preference, fraudulent transfer or similar payment under any bankruptcy, insolvency or similar law.

Section 11.4. Certain Additional Waivers. Each US Borrower agrees that such US Borrower shall have no right of recourse to security for the Secured Obligations, except through the exercise of rights of subrogation pursuant to Section 11.2 hereof and through the exercise of rights of contribution pursuant to Section 11.6 hereof.

Section 11.5. Remedies. Each US Borrower agrees that, to the fullest extent permitted by law, as between such US Borrower, on the one hand, and the Administrative Agent, on behalf of the Lenders, on the other hand, the Obligations may be declared to be forthwith due and payable as provided in Section 9.1 or 9.2 hereof (and shall be deemed to have become automatically due and payable in the circumstances provided in such Sections 9.1 and 9.2) for purposes of Section 11.1 hereof, notwithstanding any stay, injunction or other prohibition preventing such declaration (or preventing the Obligations from becoming automatically due and payable) as against any other Person and that, in the event of such declaration (or the Obligations being deemed to have become automatically due and payable), the Secured Obligations (whether or not due and payable by any other Person) shall forthwith become due and payable by such US Borrower for purposes of Section 11.1 hereof.

Section 11.6. Rights of Contribution. The US Borrowers hereby agree as among themselves that, in connection with payments made hereunder, each US Borrower shall have a right of contribution from each other US Borrower in accordance with applicable law. Such contribution rights shall be waived until such time as the Secured Obligations have been irrevocably paid in full (other than contingent indemnification obligations as to which no claim has been asserted), and no US Borrower shall exercise any such contribution rights until the Secured Obligations have been irrevocably paid in full (other than contingent indemnification obligations as to which no claim has been asserted).

Section 11.7. Guarantee of Payment; Continuing Guarantee. The guarantee in this Article XI is a guaranty of payment and not of collection, is a continuing guarantee, and shall apply to all Secured Obligations owing by each other Borrower, whenever arising.

Section 11.8. Payments. All payments by the US Borrowers under this Article XI shall be made in Dollars, and free and clear of any Taxes.

ARTICLE XII. MISCELLANEOUS

Section 12.1. Lenders' Independent Investigation. Each Lender, by its signature to this Agreement, acknowledges and agrees that the Administrative Agent has made no representation or

warranty, express or implied, with respect to the creditworthiness, financial condition, or any other condition of any Company or with respect to the statements contained in any information memorandum furnished in connection herewith or in any other oral or written communication between the Administrative Agent and such Lender. Each Lender represents that it has made and shall continue to make its own independent investigation of the creditworthiness, financial condition and affairs of the Companies in connection with the extension of credit hereunder, and agrees that the Administrative Agent has no duty or responsibility, either initially or on a continuing basis, to provide any Lender with any credit or other information with respect thereto (other than such notices as may be expressly required to be given by the Administrative Agent to the Lenders hereunder), whether coming into its possession before the first Credit Event hereunder or at any time or times thereafter. Each Lender further represents that it has reviewed each of the Loan Documents.

Section 12.2. No Waiver: Cumulative Remedies. No omission or course of dealing on the part of the Administrative Agent, any Lender or the holder of any Note (or, if there is no Note, the holder of the interest as reflected on the books and records of the Administrative Agent and the Foreign Funding Agent) in exercising any right, power or remedy hereunder or under any of the other Loan Documents shall operate as a waiver thereof; nor shall any single or partial exercise of any such right, power or remedy preclude any other or further exercise thereof or the exercise of any other right, power or remedy hereunder or under any of the Loan Documents. The remedies herein provided are cumulative and in addition to any other rights, powers or privileges held under any of the Loan Documents or by operation of law, by contract or otherwise.

Section 12.3. Amendments, Waivers and Consents.

(a) General Rule. No amendment, modification, termination, or waiver of any provision of any Loan Document nor consent to any variance therefrom, shall be effective unless the same shall be in writing and signed by the Required Lenders and then such waiver or consent shall be effective only in the specific instance and for the specific purpose for which given.

(b) Exceptions to the General Rule. Notwithstanding the provisions of subsection (a) of this Section 12.3:

(i) Unanimous Consent Requirements. Unanimous consent of the Lenders shall be required with respect to (A) any increase in the Commitment hereunder (except as specified in Section 2.10(b) hereof), (B) the extension of the stated maturity of the Loans, the payment date of interest or scheduled principal hereunder, or the payment date of commitment fees payable hereunder, (C) any reduction in the stated rate of interest on the Loans (provided that the institution of the Default Rate or post default interest and a subsequent removal of the Default Rate or post default interest shall not constitute a decrease in interest rate pursuant to this Section 12.3(b)), or in any amount of interest or scheduled principal due on any Loan, or any reduction in the stated rate of commitment fees payable hereunder or any change in the manner of pro rata application of any payments made by the Borrowers to the Lenders hereunder, (D) any change in any percentage voting requirement, voting rights, or the Required Lenders definition in this Agreement, (E) the release of any Borrower or any Guarantor of Payment or of any material amount of collateral securing the

(ii) Provisions Relating to Special Rights and Duties No provision of this Agreement affecting the Administrative Agent in its capacity as such shall be amended, modified or waived without the consent of the Administrative Agent. No provision of this Agreement affecting the Foreign Funding Agent in its capacity as such shall be amended, modified or waived without the consent of the Foreign Funding Agent. The Administrative Agent Fee Letter may be amended or modified by the Administrative Agent and the Administrative Borrower without the consent of any other Lender. No provision of this Agreement relating to the rights or duties of an Issuing Lender in its capacity as such shall be amended, modified or waived without the consent of such Issuing Lender. No provision of this Agreement relating to the rights or duties of a Swing Line Lender in its capacity as such shall be amended, modified or waived without the consent of such Swing Line Lender.

(iii) Technical and Conforming Modifications Notwithstanding the foregoing, technical and conforming modifications to the Loan Documents may be made with the consent of the Administrative Borrower and the Administrative Agent (A) if such modifications are not adverse to the Lenders and are requested by Governmental Authorities, (B) to cure any ambiguity, defect or inconsistency, or (C) to the extent necessary to integrate any increase in the Commitment or new Loans pursuant to Section 2.10(b) hereof.

(c) Replacement of Non-Consenting Lender If, in connection with any proposed amendment, waiver or consent hereunder, the consent of all Lenders is required, but only the consent of Required Lenders is obtained, (any Lender withholding consent as described in this subsection (c) being referred to as a "Non-Consenting Lender"), then, so long as the Administrative Agent is not the Non-Consenting Lender, the Administrative Agent may (and shall, if requested by the Administrative Borrower), at the sole expense of the appropriate Borrowers, upon notice to such Non-Consenting Lender and the Administrative Borrower, require such Non-Consenting Lender to assign and delegate, without recourse (in accordance with the restrictions contained in Section 12.9 hereof) all of its interests, rights and obligations under this Agreement to a financial institution acceptable to the Administrative Agent and the Administrative Borrower that shall assume such obligations (which assignee may be another Lender, if a Lender accepts such assignment); provided that such Non-Consenting Lender shall have received payment of an amount equal to the outstanding principal of its Loans, accrued interest thereon, accrued fees and all other amounts payable to it hereunder, from such financial institution (to the extent of such outstanding principal and accrued interest and fees) or the appropriate Borrowers (in the case of all other amounts, including any breakage compensation under Article III hereof).

(d) Generally Notice of amendments, waivers or consents ratified by the Lenders hereunder shall be forwarded by the Administrative Agent to all of the Lenders. Each Lender or other holder of a Note, or if there is no Note, the holder of the interest as reflected on the books and records of the Administrative Agent (or interest in any Loan or Letter of Credit) shall be bound by any amendment, waiver or consent obtained as authorized by this Section 12.3, regardless of its failure to agree thereto.

Section 12.4. Notices. All notices, requests, demands and other communications provided for hereunder shall be in writing and, if to a Borrower, mailed or delivered to it, addressed to it at the address specified on the signature pages of this Agreement, if to the Administrative Agent, the Foreign Funding Agent or a Lender, mailed or delivered to it, addressed to the address of the Administrative Agent, the Foreign Funding Agent or such Lender specified on the signature pages of this Agreement, or, as to each party, at such other address as shall be designated by such party in a written notice to each of the other parties. All notices, statements, requests, demands and other communications provided for hereunder shall be deemed to be given or made when delivered (if received during normal business hours on a Business Day, such Business Day, or otherwise the following Business Day), or two Business Days after being deposited in the mails with postage prepaid by registered or certified mail, addressed as aforesaid, or sent by facsimile or electronic communication, in each case of facsimile or electronic communication with telephonic confirmation of receipt. All notices pursuant to any of the provisions hereof shall not be effective until received. For purposes of Article II hereof, the Administrative Agent and the Foreign Funding Agent shall be entitled to rely on telephonic instructions from any person that the Administrative Agent or the Foreign Funding Agent in good faith believes is an Authorized Officer, and the Borrowers shall hold the Administrative Agent, the Foreign Funding Agent and each Lender harmless from any loss, cost or expense resulting from any such reliance.

Section 12.5. Costs, Expenses and Documentary Taxes. The US Borrowers and, to the extent relating to the obligations of a Foreign Borrower, such Foreign Borrower, agree to pay on demand all costs and expenses of the Administrative Agent and all Related Expenses, including but not limited to (a) reasonable syndication, administration, travel and out-of-pocket expenses, including but not limited to reasonable attorneys' fees and expenses, of the Administrative Agent in connection with the preparation, negotiation and closing of the Loan Documents and the administration of the Loan Documents, and the collection and disbursement of all funds hereunder and the other instruments and documents to be delivered hereunder, (b) extraordinary expenses of the Administrative Agent in connection with the administration of the Loan Documents and the other instruments and documents to be delivered hereunder, and (c) the reasonable fees and expenses of special counsel for the Administrative Agent, with respect to the foregoing, and of local counsel, if any, who may be retained by said special counsel with respect thereto. The US Borrowers and, to the extent relating to the obligations of a Foreign Borrower, such Foreign Borrower, also agree to pay on demand all costs and expenses (including Related Expenses) of the Administrative Agent and the Lenders, including reasonable attorneys' fees and expenses, in connection with the restructuring or enforcement of the Obligations, this Agreement or any other Related Writing. In addition, the US Borrowers and, to the extent relating to the obligations of a Foreign Borrower, such Foreign Borrower, shall pay any and all stamp, transfer, documentary and other taxes, assessments, charges and fees payable or determined to be payable in connection with the execution and delivery of the Loan Documents, and the other instruments and documents to be delivered hereunder, and agree to hold the Administrative Agent and each Lender harmless from and against any and all liabilities with respect to or resulting from any delay in paying or failure to pay such taxes or fees. All obligations provided for in this Section 12.5 shall survive any termination of this Agreement.

Section 12.6. Indemnification.

(a) US Borrowers. Subject to subsection (c) below, the US Borrowers agree to defend, indemnify and hold harmless the Administrative Agent, the Foreign Funding Agent and the Lenders (and their respective affiliates, officers, directors, attorneys, agents and employees) from and against any and all liabilities, obligations, losses, damages, penalties, actions, judgments, suits, costs, expenses (including reasonable attorneys' fees) or disbursements of any kind or nature whatsoever that may be imposed on, incurred by or asserted against the Administrative Agent, the Foreign Funding Agent or any Lender in connection with any investigative, administrative or judicial proceeding (whether or not such Lender, Administrative Agent or the Foreign Funding Agent shall be designated a party thereto) or any other claim by any Person relating to or arising out of any Loan Document or any actual or proposed use of proceeds of the Loans or any of the Obligations, or any activities of any Company or its Affiliates.

(b) Foreign Borrowers. Subject to subpart (c) below, the Foreign Borrowers agree to defend, indemnify and hold harmless the Administrative Agent, the Foreign Funding Agent and the Lenders (and their respective affiliates, officers, directors, attorneys, agents and employees) from and against any and all liabilities, obligations, losses, damages, penalties, actions, judgments, suits, costs, expenses (including reasonable attorneys' fees) or disbursements of any kind or nature whatsoever that may be imposed on, incurred by or asserted against the Administrative Agent, the Foreign Funding Agent or any Lender in connection with any investigative, administrative or judicial proceeding (whether or not such Lender, the Administrative Agent or the Foreign Funding Agent shall be designated a party thereto) or any other claim by any Person relating to or arising out of any Loan Document executed by the Foreign Borrowers and relating to obligations of the Foreign Borrowers, or any actual or proposed use of proceeds of the Loans to the Foreign Borrowers or any of the Applicable Debt, or any activities of any Company or its Affiliates in connection with the obligations of the Foreign Borrowers.

(c) Generally. Notwithstanding anything to the contrary, no Lender or Agent or any of their respective affiliates, officers, directors, attorneys, agents or employees (each an "Indemnified Party") shall have the right to be indemnified under this Section 12.6 for liabilities, obligations, losses, damages, penalties, actions, judgments, suits, costs, expenses (including reasonable attorneys' fees) or disbursements of any kind or nature whatsoever arising from (i) the bad faith, gross negligence or willful misconduct of such Indemnified Party, (ii) a material breach by such Indemnified Party of its obligations under the Loan Documents, or (iii) any proceeding that does not involve an act or omission by any Borrower or any of their Affiliates and that is brought by such Indemnified Party against any other such Indemnified Party; in each case of the foregoing as determined by a final and non-appealable judgment of a court of competent jurisdiction. All obligations provided for in this Section 12.6 shall survive any termination of this Agreement.

Section 12.7. Obligations Several; No Fiduciary Obligations. The obligations of the Lenders hereunder are several and not joint. Nothing contained in this Agreement and no action taken by the Administrative Agent or the Lenders pursuant hereto shall be deemed to constitute the Administrative Agent or the Lenders a partnership, association, joint venture or other entity. No default by any Lender hereunder shall excuse the other Lenders from any obligation under this

Agreement; but no Lender shall have or acquire any additional obligation of any kind by reason of such default. The relationship between the Borrowers and the Lenders with respect to the Loan Documents and the other Related Writings is and shall be solely that of debtors and creditors, respectively, and neither the Administrative Agent nor any Lender shall have any fiduciary obligation toward any Credit Party with respect to any such documents or the transactions contemplated thereby.

Section 12.8. Execution in Counterparts. This Agreement may be executed in any number of counterparts and by different parties hereto in separate counterparts, and by facsimile or other electronic signature, each of which counterparts when so executed and delivered shall be deemed to be an original and all of which taken together shall constitute but one and the same agreement.

Section 12.9. Successors and Assigns.

(a) Successors and Assigns Generally. The provisions of this Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns permitted hereby, except that neither any Borrower nor any other Credit Party may assign or otherwise transfer any of its rights or obligations hereunder without the prior written consent of the Administrative Agent and each Lender, and no Lender may assign or otherwise transfer any of its rights or obligations hereunder except (i) to an assignee in accordance with the provisions of subsection (b) of this Section 12.9, (ii) by way of participation in accordance with the provisions of subsection (d) of this Section 12.9, or (iii) by way of pledge or assignment of a security interest subject to the restrictions of subsection (e) of this Section 12.9 (and any other attempted assignment or transfer by any party hereto shall be null and void). Nothing in this Agreement, expressed or implied, shall be construed to confer upon any Person (other than the parties hereto, their respective successors and assigns permitted hereby, Participants to the extent provided in subsection (d) of this Section 12.9 and, to the extent expressly contemplated hereby, the Related Parties of each of the Administrative Agent and the Lenders) any legal or equitable right, remedy or claim under or by reason of this Agreement.

(b) Assignments by Lenders. Any Lender may at any time assign to one or more assignees all or a portion of its rights and obligations under this Agreement (including, without limitation (i) such Lender's Commitment, (ii) all Loans made by such Lender, (iii) such Lender's Notes (if any), and (iv) such Lender's interest in any Letter of Credit or Swing Loan); provided that any such assignment shall be subject to the following conditions:

(i) Minimum Amounts.

(A) no minimum amount is required to be assigned in the case of (x) an assignment of the entire remaining amount of the assigning Lender's Commitment (to the extent the Commitment is still in effect) and the Loans at the time owing to such Lender, (y) contemporaneous assignments to related Approved Funds (determined after giving effect to such assignments) that equal at least the amount specified in subpart (b)(i)(B) of this Section 12.9 in the aggregate, or (z) in the case of an assignment to a Lender, an Affiliate of a Lender or an Approved Fund; and

(B) in any case not described in subpart (b)(i)(A) of this Section 12.9, the aggregate amount of each such assignment (determined as of the date the Assignment Agreement with respect to such assignment is delivered to the Administrative Agent (or, if "Trade Date" is specified in the Assignment Agreement, as of the Trade Date) shall not be less than Five Million Dollars (\$5,000,000), unless each of the Administrative Agent and, so long as no Default or Event of Default has occurred and is continuing, the Administrative Borrower otherwise consents (each such consent not to be unreasonably withheld or delayed).

(ii) Proportionate Amounts. Each partial assignment shall be made as an assignment of a proportionate part of all the assigning Lender's rights and obligations under this Agreement with respect to the Loans or the portion of such Lender's Commitment assigned, except that this subpart (ii) shall not prohibit any Lender from assigning all or a portion of its rights and obligations with respect to separate facilities on a non-pro rata basis.

(iii) Required Consents. No consent shall be required for any assignment except to the extent required by subsection (b)(i)(B) of this Section 12.9 and, in addition:

(A) the consent of the Administrative Borrower (such consent not to be unreasonably withheld or delayed) shall be required unless (1) a Default or Event of Default has occurred and is continuing at the time of such assignment, or (2) such assignment is to a Lender, an Affiliate of a Lender or an Approved Fund; provided that (y) the Borrower shall be deemed to have consented to any such assignment unless it shall object thereto by written notice to the Administrative Agent within five (5) Business Days after having received notice thereof, and (z) the Administrative Borrower's consent shall not be required during the primary syndication of the Commitment; and

(B) the consent of the Administrative Agent and the Foreign Funding Agent (such consents not to be unreasonably withheld or delayed) shall be required for assignments to a Person that is not a Lender, an Affiliate of a Lender or an Approved Fund.

(iv) Assignment Agreement. The parties to each assignment shall execute and deliver to the Administrative Agent an Assignment Agreement, together with a processing and recordation fee of Three Thousand Five Hundred Dollars (\$3,500); provided that the Administrative Agent may, in its sole discretion, elect to waive such processing and recordation fee in the case of any assignment. The assignee, if it is not a Lender, shall deliver to the Administrative Agent an administrative questionnaire in a form supplied by the Administrative Agent.

(v) No Assignment to Certain Persons. No such assignment shall be made to (A) a Borrower or any of any Borrower's Affiliates or Subsidiaries, or (B) to any Defaulting Lender or any Person that, upon becoming a Lender, would constitute a Defaulting Lender.

(vi) No Assignment to Natural Persons. No such assignment shall be made to a natural Person (or a holding company, investment vehicle or trust for, or owned and operated for the primary benefit of, a natural Person).

(vii) Certain Additional Payments. In connection with any assignment of rights and obligations of any Defaulting Lender hereunder, no such assignment shall be effective unless and until, in addition to the other conditions thereto set forth herein, the parties to the assignment shall make such additional payments to the Administrative Agent in an aggregate amount sufficient, upon distribution thereof as appropriate (which may be outright payment, purchases by the assignee of participations or subparticipations, or other compensating actions, including funding, with the consent of the Administrative Borrower and the Administrative Agent, the applicable pro rata share of Loans previously requested but not funded by the Defaulting Lender, to each of which the applicable assignee and assignor hereby irrevocably consent), to (A) pay and satisfy in full all payment liabilities then owed by such Defaulting Lender to the Administrative Agent, the Foreign Funding Agent, each Issuing Lender, each Swing Line Lender and each other Lender hereunder (and interest accrued thereon), and (B) acquire (and fund as appropriate) its full pro rata share of all Loans and participations in Letters of Credit and Swing Loans in accordance with its Applicable Commitment Percentage. Notwithstanding the foregoing, in the event that any assignment of rights and obligations of any Defaulting Lender hereunder shall become effective under applicable Law without compliance with the provisions of this subpart (vii), then the assignee of such interest shall be deemed to be a Defaulting Lender for all purposes of this Agreement until such compliance occurs.

(viii) Treatment as Lenders. Subject to acceptance and recording thereof by the Administrative Agent pursuant to subsection (c) of this Section 12.9, from and after the effective date specified in each Assignment Agreement, the assignee thereunder shall be a party to this Agreement, and, to the extent of the interest assigned by such Assignment Agreement, have the rights and obligations of a Lender under this Agreement, and the assigning Lender thereunder shall, to the extent of the interest assigned by such Assignment Agreement, be released from its obligations under this Agreement (and, in the case of an Assignment Agreement covering all of the assigning Lender's rights and obligations under this Agreement, such Lender shall cease to be a party hereto) but shall continue to be entitled to the benefits of Article III and Sections 12.5 and 12.6 hereof with respect to facts and circumstances occurring prior to the effective date of such assignment; provided that, except to the extent otherwise expressly agreed by the affected parties, no assignment by a Defaulting Lender will constitute a waiver or release of any claim of any party hereunder arising from that Lender's having been a Defaulting Lender; and provided further that no successor or assignee shall be entitled to receive any greater payment under Section 3.2 hereof than the Lender from whom it acquired the right to payment would have been entitled to receive. Any assignment or transfer by a Lender of rights or obligations under this Agreement that does not comply with this subpart shall be treated for purposes of this Agreement as a sale by such Lender of a participation in such rights and obligations in accordance with subsection (d) of this Section 12.9.

(c) Register. The Administrative Agent, acting solely for this purpose as an agent of the Borrowers, shall maintain at one of its offices a copy of each Assignment Agreement delivered to it and a register (the "Register") for the recordation of the names and addresses of the Lenders, and the Commitment of, and principal amounts (and stated interest) of the Loans owing to, each Lender from time to time. The entries in the Register shall be conclusive absent manifest error, and each Borrower, the Administrative Agent, the Foreign Funding Agent and the Lenders shall treat each Person whose name is recorded in the Register pursuant to the terms hereof as a Lender hereunder for all purposes of this Agreement. The Register shall be available for inspection by the Administrative Borrower and any Lender at any reasonable time and from time to time upon reasonable prior notice.

(d) Participations. Any Lender may at any time, without the consent of, or notice to, the Borrowers, the Foreign Funding Agent or the Administrative Agent, sell participations to any Person (other than a natural Person, or a holding company, investment vehicle or trust for, or owned and operated for the primary benefit of, a natural Person, or any Borrower or any of any Borrower's Affiliates or Subsidiaries) (each, a "Participant") in all or a portion of such Lender's rights and obligations under this Agreement and the other Loan Documents (including, without limitation, all or a portion of the Commitment and the Loans and participations owing to it and the Notes, if any, held by it); provided that (i) such Lender's obligations under this Agreement and the other Loan Documents shall remain unchanged, (ii) such Lender shall remain solely responsible to the other parties hereto for the performance of such obligations, and (iii) the Borrowers, the Administrative Agent, the Foreign Funding Agent, each Issuing Lender, each Swing Line Lender and the Lenders shall continue to deal solely and directly with such Lender in connection with such Lender's rights and obligations under this Agreement and each of the other Loan Documents. For the avoidance of doubt, each Lender shall be responsible for the indemnity under Section 10.10 with respect to any payments made by such Lender to any of its Participants.

Any agreement or instrument pursuant to which a Lender sells such a participation shall provide that such Lender shall retain the sole right to enforce this Agreement and to approve any amendment, modification or waiver of any provision of this Agreement; provided that such agreement or instrument may provide that such Lender will not, without the consent of the Participant, agree to any amendment, modification or waiver with respect to the following (to the extent that it affects such Participant): (i) any increase in the portion of the participation amount of any Participant over the amount thereof then in effect, or any extension of the Commitment Period; or (ii) any reduction of the principal amount of or extension of the time for any payment of principal on any Loan, or the reduction of the rate of interest or extension of the time for payment of interest on any Loan, or the reduction of the commitment fee. The Borrowers agree that each Participant shall be entitled to the benefits of Article III hereof (subject to the requirements and limitations therein, including the requirements under Section 3.2(e) hereof (it being understood that the documentation required under Section 3.2(e) hereof shall be delivered to the participating Lender)) to the same extent as if it were a Lender and had acquired its interest by assignment pursuant to subsection (b) of this Section 12.9; provided that such Participant (A) agrees to be subject to the provisions of Sections 3.4 and 3.6 hereof as if it were an assignee under subsection (b) of this Section 12.9; and (B) shall not be entitled to receive any greater payment under Article III hereof, with respect to any participation, than its participating Lender would have been entitled to receive, except to the extent such entitlement

to receive a greater payment results from a Change in Law that occurs after the Participant acquired the applicable participation. Each Lender that sells a participation agrees, at the Administrative Borrower's request and expense, to use reasonable efforts to cooperate with the Borrowers to effectuate the provisions of Section 3.6 hereof with respect to any Participant. To the extent permitted by law, each Participant also shall be entitled to the benefits of Section 9.4 hereof as though it were a Lender; provided that such Participant agrees to be subject to Section 9.5 hereof as though it were a Lender. Each Lender that sells a participation shall, acting solely for this purpose as a non-fiduciary agent of the Borrowers, maintain a register on which it enters the name and address of each Participant and the principal amounts (and stated interest) of each Participant's interest in the Loans or other obligations under the Loan Documents (the "Participant Register"); provided that no Lender shall have any obligation to disclose all or any portion of the Participant Register (including the identity of any Participant or any information relating to a Participant's interest in any commitments, loans, letters of credit or its other obligations under any Loan Document) to any Person except to the extent that such disclosure is necessary to establish that such commitment, loan, letter of credit or other obligation is in registered form under Section 5f.103-1(c) of the United States Treasury Regulations. The entries in the Participant Register shall be conclusive absent manifest error, and such Lender shall treat each Person whose name is recorded in the Participant Register as the owner of such participation for all purposes of this Agreement notwithstanding any notice to the contrary. For the avoidance of doubt, the Administrative Agent (in its capacity as Administrative Agent) shall have no responsibility for maintaining a Participant Register.

(e) Certain Pledges. Any Lender may at any time pledge or assign a security interest in all or any portion of its rights under this Agreement to secure obligations of such Lender, including any pledge or assignment to secure obligations to a Federal Reserve Bank; provided that no such pledge or assignment shall release such Lender from any of its obligations hereunder or substitute any such pledgee or assignee for such Lender as a party hereto.

Section 12.10. Defaulting Lenders.

(a) Defaulting Lender Adjustments. Notwithstanding anything to the contrary contained in this Agreement, if any Lender becomes a Defaulting Lender, then, until such time as such Lender is no longer a Defaulting Lender, to the extent permitted by applicable Law:

(i) Waivers and Amendments. Such Defaulting Lender's right to approve or disapprove any amendment, waiver or consent with respect to this Agreement shall be restricted as set forth in the definition of Required Lenders.

(ii) Defaulting Lender Waterfall. Any payment of principal, interest, fees or other amounts received by the Administrative Agent for the account of such Defaulting Lender (whether voluntary or mandatory, at maturity, pursuant to Article IX hereof or otherwise) or received by the Administrative Agent from a Defaulting Lender pursuant to Section 9.5 hereof shall be applied at such time or times as may be determined by the Administrative Agent as follows: (A) first, to the payment of amounts owing by such Defaulting Lender to the Administrative Agent and the Foreign Funding Agent hereunder; (B) second, to the payment on a pro rata basis of any amounts owing by such Defaulting

Lender to any Issuing Lender or any Swing Line Lender hereunder; (C) third, to Cash Collateralize each Issuing Lender's Fronting Exposure with respect to such Defaulting Lender in accordance with Section 2.13 hereof; (D) fourth, as the Administrative Borrower may request (so long as no Default or Event of Default exists), to the funding of any Loan in respect of which such Defaulting Lender has failed to fund its portion thereof as required by this Agreement, as determined by the Administrative Agent; (E) fifth, if so determined by the Administrative Agent and the Administrative Borrower, to be held in a deposit account and released pro rata in order to (1) satisfy such Defaulting Lender's potential future funding obligations with respect to Loans under this Agreement, and (2) Cash Collateralize each Issuing Lender's future Fronting Exposure with respect to such Defaulting Lender with respect to future Letters of Credit issued under this Agreement, in accordance with Section 2.13 hereof; (F) sixth, to the payment of any amounts owing to the Lenders, the Issuing Lenders or the Swing Line Lenders as a result of any judgment of a court of competent jurisdiction obtained by any Lender, any Issuing Lender or any Swing Line Lender against such Defaulting Lender as a result of such Defaulting Lender's breach of its obligations under this Agreement; (G) seventh, so long as no Default or Event of Default exists, to the payment of any amounts owing to the Borrowers as a result of any judgment of a court of competent jurisdiction obtained by the Borrowers against such Defaulting Lender as a result of such Defaulting Lender's breach of its obligations under this Agreement; and (H) eighth, to such Defaulting Lender or as otherwise directed by a court of competent jurisdiction; provided that, if (y) such payment is a payment of the principal amount of any Loans or any Letters of Credit in respect of which such Defaulting Lender has not fully funded its appropriate share, and (z) such Loans were made or reimbursement of any payment on any Letters of Credit were made or the related Letters of Credit were issued at a time when the conditions set forth in Section 4.1 hereof were satisfied or waived, such payment shall be applied solely to pay the Loans of, and the Letter of Credit Exposure owed to, all Non-Defaulting Lenders on a pro rata basis prior to being applied to the payment of any Loans of, or Letter of Credit Exposure owed to, such Defaulting Lender until such time as all Loans and funded and unfunded participations in the Letter of Credit Exposure and Swing Loans are held by the Lenders pro rata in accordance with the Commitment under the applicable facility without giving effect to Section 12.10(a)(iv) hereof. Any payments, prepayments or other amounts paid or payable to a Defaulting Lender that are applied (or held) to pay amounts owed by a Defaulting Lender or to post Cash Collateral pursuant to this Section 12.10(a)(ii) shall be deemed paid to and redirected by such Defaulting Lender, and each Lender irrevocably consents hereto.

(iii) Certain Fees.

(A) No Defaulting Lender shall be entitled to receive any Commitment Fee for any period during which that Lender is a Defaulting Lender (and the Borrowers shall not be required to pay any such fee that otherwise would have been required to have been paid to that Defaulting Lender).

(B) Each Defaulting Lender shall be entitled to receive letter of credit fees, as set forth in Section 2.2(b) hereof for any period during which that Lender is

a Defaulting Lender only to the extent allocable to its Applicable Commitment Percentage of the stated amount of Letters of Credit for which it has provided Cash Collateral pursuant to Section 2.13 hereof.

(C) With respect to any fee not required to be paid to any Defaulting Lender pursuant to subpart (A) or (B) above, the Administrative Borrower shall (1) pay to each Non-Defaulting Lender that portion of any such fee otherwise payable to such Defaulting Lender with respect to such Defaulting Lender's participation in the Letter of Credit Exposure or Swing Loans that has been reallocated to such Non-Defaulting Lender pursuant to subpart (iv) below, (2) pay to each Issuing Lender and each Swing Line Lender, as applicable, the amount of any such fee otherwise payable to such Defaulting Lender to the extent allocable to such Issuing Lender's or such Swing Line Lender's Fronting Exposure to such Defaulting Lender, and (3) not be required to pay the remaining amount of any such fee.

(iv) Reallocation of Participations to Reduce Fronting Exposure. All or any part of such Defaulting Lender's participation in the Letter of Credit Exposure and Swing Loans shall be reallocated among the Non-Defaulting Lenders in accordance with their respective Applicable Commitment Percentages with respect thereto (calculated without regard to such Defaulting Lender's Commitment) but only to the extent that such reallocation does not cause the aggregate Revolving Credit Exposure of any Non-Defaulting Lender to exceed such Non-Defaulting Lender's Applicable Commitment Percentage with respect to the Revolving Credit Commitment. No reallocation hereunder shall constitute a waiver or release of any claim of any party hereunder against a Defaulting Lender arising from that Lender having become a Defaulting Lender, including any claim of a Non-Defaulting Lender as a result of such Non-Defaulting Lender's increased exposure following such reallocation.

(v) Cash Collateral, Repayment of Swing Loans. If the reallocation described in subpart (iv) above cannot, or can only partially, be effected, the Borrowers shall, without prejudice to any right or remedy available to it hereunder or under law, (y) first, prepay Swing Loans in an amount equal to the Swing Line Lenders' Fronting Exposure and (z) second, Cash Collateralize the Issuing Lenders' Fronting Exposure in accordance with the procedures set forth in Section 2.13 hereof.

(b) Defaulting Lender Cure. If the Administrative Borrower, the Administrative Agent, the Swing Line Lender and the Issuing Lender agree in writing that a Lender is no longer a Defaulting Lender, the Administrative Agent will so notify the parties hereto, whereupon as of the effective date specified in such notice and subject to any conditions set forth therein (which may include arrangements with respect to any Cash Collateral), such Lender will, to the extent applicable, purchase at par that portion of outstanding Loans of the other Lenders or take such other actions as the Administrative Agent may determine to be reasonably necessary to cause the Loans and funded and unfunded participations in Letters of Credit and Swing Loans to be held pro rata by the Lenders in accordance with the Commitments under the applicable facility (without giving effect to Section 12.10(a)(iv) hereof), whereupon such Lender will cease to be a Defaulting Lender; provided that (i) no adjustments will be made retroactively with respect to fees accrued or payments made by or

on behalf of the Borrowers while that Lender was a Defaulting Lender; and (ii) except to the extent otherwise expressly agreed by the affected parties, no change hereunder from Defaulting Lender to Lender will constitute a waiver or release of any claim of any party hereunder arising from that Lender's having been a Defaulting Lender.

(c) New Swing Loan and Letters of Credit. So long as any Lender is a Defaulting Lender, (i) no Swing Line Lender shall be required to fund any Swing Loan unless it is satisfied that it will have no Fronting Exposure after giving effect to such Swing Loan, and (ii) no Issuing Lender shall be required to issue, extend, renew or increase any Letter of Credit unless it is satisfied that it will have no Fronting Exposure after giving effect thereto.

(d) Replacement of Defaulting Lenders. Each Lender agrees that, during the time in which any Lender is a Defaulting Lender, the Administrative Agent shall have the right (and the Administrative Agent shall, if requested by the Administrative Borrower), at the sole expense of the Borrowers, upon notice to such Defaulting Lender and the Administrative Borrower, to require that such Defaulting Lender assign and delegate, without recourse (in accordance with the restrictions contained in Section 12.9 hereof), all of its interests, rights and obligations under this Agreement to an Eligible Assignee, approved by the Administrative Borrower (unless an Event of Default shall exist) and the Administrative Agent, that shall assume such obligations.

Section 12.11. Patriot Act Notice. Each Lender, and the Administrative Agent (for itself and not on behalf of any other party), hereby notifies the Credit Parties that, pursuant to the requirements of the Patriot Act, such Lender, the Foreign Funding Agent and the Administrative Agent are required to obtain, verify and record information that identifies the Credit Parties, which information includes the name and address of each of the Credit Parties and other information that will allow such Lender, the Foreign Funding Agent or the Administrative Agent, as applicable, to identify the Credit Parties in accordance with the Patriot Act. Each Borrower shall provide, to the extent commercially reasonable, such information and take such actions as are reasonably requested by the Administrative Agent, the Foreign Funding Agent or a Lender in order to assist the Administrative Agent, the Foreign Funding Agent or such Lender in maintaining compliance with the Patriot Act.

Section 12.12. Severability of Provisions; Captions; Attachments. Any provision of this Agreement that shall be prohibited or unenforceable in any jurisdiction shall, as to such jurisdiction, be ineffective to the extent of such prohibition or unenforceability without invalidating the remaining provisions hereof or affecting the validity or enforceability of such provision in any other jurisdiction. The several captions to sections and subsections herein are inserted for convenience only and shall be ignored in interpreting the provisions of this Agreement. Each schedule or exhibit attached to this Agreement shall be incorporated herein and shall be deemed to be a part hereof.

Section 12.13. Investment Purpose. Each of the Lenders represents and warrants to the Borrowers that such Lender is entering into this Agreement with the present intention of acquiring any Note issued pursuant hereto (or, if there is no Note, the interest as reflected on the books and records of the Administrative Agent) for investment purposes only and not for the purpose of

distribution or resale, it being understood, however, that each Lender shall at all times retain full control over the disposition of its assets.

Section 12.14. Entire Agreement. This Agreement, any Note and any other Loan Document or other agreement, document or instrument attached hereto or executed on or as of the Closing Date integrate all of the terms and conditions mentioned herein or incidental hereto and supersede all oral representations and negotiations and prior writings with respect to the subject matter hereof (except with respect to any provisions of the Administrative Agent Fee Letter or any commitment letter and fee letter between the Administrative Borrower and KeyBank that by their terms survive the termination of such agreements, in each case, which shall remain in full force and effect after the Closing Date).

Section 12.15. Limitations on Liability of the Issuing Lenders. The Borrowers assume all risks of the acts or omissions of any beneficiary or transferee of any Letter of Credit with respect to its use of such Letters of Credit. Neither any Issuing Lender nor any of its officers or directors shall be liable or responsible for (a) the use that may be made of any Letter of Credit or any acts or omissions of any beneficiary or transferee in connection therewith; (b) the validity, sufficiency or genuineness of documents, or of any endorsement thereon, even if such documents should prove to be in any or all respects invalid, insufficient, fraudulent or forged; (c) payment by an Issuing Lender against presentation of documents that do not comply with the terms of a Letter of Credit, including failure of any documents to bear any reference or adequate reference to such Letter of Credit; or (d) any other circumstances whatsoever in making or failing to make payment under any Letter of Credit, except that the account party on such Letter of Credit shall have a claim against an Issuing Lender, and an Issuing Lender shall be liable to such account party, to the extent of any direct, but not consequential, damages suffered by such account party that such account party proves were caused by (i) such Issuing Lender's willful misconduct or gross negligence (as determined by a final judgment of a court of competent jurisdiction) in determining whether documents presented under a Letter of Credit comply with the terms of such Letter of Credit, or (ii) such Issuing Lender's willful failure to make lawful payment under any Letter of Credit after the presentation to it of documentation strictly complying with the terms and conditions of such Letter of Credit (as determined by a final judgment of a court of competent jurisdiction). In furtherance and not in limitation of the foregoing, an Issuing Lender may accept documents that appear on their face to be in order, without responsibility for further investigation.

Section 12.16. General Limitation of Liability. No claim may be made by any Credit Party or any other Person against the Administrative Agent, the Foreign Funding Agent, any Issuing Lender, or any other Lender or the Affiliates, directors, officers, employees, attorneys or agents of any of them for any damages other than actual compensatory damages in respect of any claim for breach of contract or any other theory of liability arising out of or related to the transactions contemplated by this Agreement or any of the other Loan Documents, or any act, omission or event occurring in connection therewith; and the Borrowers, each Lender, the Administrative Agent, the Foreign Funding Agent and each Issuing Lender hereby, to the fullest extent permitted under applicable Law, waive, release and agree not to sue or counterclaim upon any such claim for any special, indirect, consequential or punitive damages, whether or not accrued and whether or not

known or suspected to exist in their favor and regardless of whether any Lender, Issuing Lender, or the Administrative Agent has been advised of the likelihood of such loss of damage.

Section 12.17. No Duty. All attorneys, accountants, appraisers, consultants and other professional persons (including the firms or other entities on behalf of which any such Person may act) retained by the Administrative Agent or any Lender with respect to the transactions contemplated by the Loan Documents shall have the right to act exclusively in the interest of the Administrative Agent or such Lender, as the case may be, and shall have no duty of disclosure, duty of loyalty, duty of care, or other duty or obligation of any type or nature whatsoever to the Borrowers, any other Companies, or any other Person, with respect to any matters within the scope of such representation or related to their activities in connection with such representation. Each Borrower agrees, on behalf of itself and its Subsidiaries, not to assert any claim or counterclaim against any such persons with regard to such matters, all such claims and counterclaims, now existing or hereafter arising, whether known or unknown, foreseen or unforeseeable, being hereby waived, released and forever discharged.

Section 12.18. Legal Representation of Parties. The Loan Documents were negotiated by the parties with the benefit of legal representation and any rule of construction or interpretation otherwise requiring this Agreement or any other Loan Document to be construed or interpreted against any party shall not apply to any construction or interpretation hereof or thereof.

Section 12.19. Judgment Currency.

(a) This in an international transaction in which the obligations of the Credit Parties under this Agreement to make payment to or for account of the Administrative Agent, the Foreign Funding Agent or the Lenders in a specified currency ("Original Currency") shall not be discharged or satisfied by any tender or recovery pursuant to any judgment expressed in or converted into any other currency ("Judgment Currency") except to the extent that such tender or recovery results in the effective receipt by the Administrative Agent, the Foreign Funding Agent or such Lender of the full amount in Original Currency payable to the Administrative Agent, the Foreign Funding Agent or such Lender under this Agreement.

(b) If the Administrative Agent, on behalf of the Lenders, or any other holder of the Obligations (the "Applicable Creditor"), obtains a judgment or judgments against any Credit Party in respect of any sum adjudged to be due to the Administrative Agent, the Foreign Funding Agent or the Lenders hereunder or under the Notes (the "Judgment Amount") in a Judgment Currency other than the Original Currency, the obligations of such Credit Party in connection with such judgment shall be discharged only to the extent that (i) on the Business Day following receipt by the Applicable Creditor of any sum adjudged to be so due in the Judgment Currency, such Applicable Creditor, in accordance with the normal banking procedures in the relevant jurisdiction, can purchase the Original Currency with the Judgment Currency, and (ii) if the amount of Original Currency that could have been purchased pursuant to subpart (i) above is less than the amount of Original Currency that could have been purchased with the Judgment Amount on the date or dates the Judgment Currency was originally due and owing to the Administrative Agent, the Foreign Funding Agent or the Lenders hereunder (the "Loss"), such Credit Party, as a separate obligation and notwithstanding

any such judgment, indemnifies the Administrative Agent, the Foreign Funding Agent or such Lender, as the case may be, against such Loss. The US Borrowers hereby agrees to such indemnification. For purposes of determining the equivalent in one currency of another currency as provided in this Section 12.19, such amount shall include any premium and costs payable in connection with the conversion into or from any currency. The obligations of the Credit Parties contained in this Section 12.19 shall survive the termination of this Agreement and the payment of all other amounts owing hereunder.

Section 12.20. Acknowledgement and Consent to Bail-In of EEA Financial Institutions Notwithstanding anything to the contrary in any Loan Document or in any other agreement, arrangement or understanding among any such parties, each party hereto acknowledges that any liability of any EEA Financial Institution arising under any Loan Document, to the extent such liability is unsecured, may be subject to the Write-Down and Conversion Powers of an EEA Resolution Authority and agrees and consents to, and acknowledges and agrees to be bound by:

(a) the application of any Write-Down and Conversion Powers by an EEA Resolution Authority to any such liabilities arising hereunder that may be payable to it by any party hereto that is an EEA Financial Institution; and

(b) the effects of any Bail-in Action on any such liability, including, if applicable:

(i) a reduction in full or in part or cancellation of any such liability;

(ii) a conversion of all, or a portion of, such liability into shares or other instruments of ownership in such EEA Financial Institution, its parent undertaking, or a bridge institution that may be issued to it or otherwise conferred on it, and that such shares or other instruments of ownership will be accepted by it in lieu of any rights with respect to any such liability under this Agreement or any other Loan Document; or

(iii) the variation of the terms of Such liability in connection with the exercise of the Write-Down and Conversion Powers of any EEA Resolution Authority.

Section 12.21. Governing Law; Submission to Jurisdiction; Service of Process

(a) Governing Law. This Agreement, each of the Notes and any other Related Writing (except as otherwise set forth in any Loan Document executed by a Foreign Subsidiary) shall be governed by and construed in accordance with the Laws of the State of New York and the respective rights and obligations of the Borrowersthe Foreign Funding Agent, the Administrative Agent, and the Lenders shall be governed by New York law.

(b) Submission to Jurisdiction. Each Borrower hereby irrevocably submits to the non-exclusive jurisdiction of any New York state or federal court sitting in New York County, New York, over any action or proceeding arising out of or relating to this Agreement, the Obligations or any other Related Writing (except as otherwise set forth in any Loan Document executed by a Foreign Subsidiary), and each Borrower hereby irrevocably agrees that all claims in respect of such

action or proceeding may be heard and determined in such New York state or federal court. Each Borrower, on behalf of itself and its Subsidiaries, hereby irrevocably waives, to the fullest extent permitted by law, any objection it may now or hereafter have to the laying of venue in any action or proceeding in any such court as well as any right it may now or hereafter have to remove such action or proceeding, once commenced, to another court on the grounds of FORUM NON CONVENIENS or otherwise. Each Borrower agrees that a final, non-appealable judgment in any such action or proceeding shall be conclusive and may be enforced in other jurisdictions by suit on the judgment or in any other manner provided by law.

(c) Service of Process. Each Foreign Borrower and Foreign Guarantor of Payment hereby irrevocably appoints DMC Global (the "Process Agent"), 5405 Spine Road, Boulder, Colorado 80301, as its agent and true and lawful attorney-in-fact in its name, place and stead to accept on its behalf service of copies of the summons and complaint and any other process that may be served in any such suit, action or proceeding brought in the State of New York, and agrees that the failure of the Process Agent to give any notice of any such service of process to it shall not impair or affect the validity of such service or, to the extent permitted by applicable law, the enforcement of any judgment based thereon. Such appointments shall be irrevocable until the final payment of all amounts payable under this Agreement and the other Loan Documents, except that if for any reason the Process Agent appointed hereby ceases to be able to act as such, then each Foreign Borrower and Foreign Guarantor of Payment shall, by an instrument reasonably satisfactory to the Administrative Agent, appoint another Person as such Process Agent subject to the approval of the Administrative Agent. Each Foreign Borrower and Foreign Guarantor of Payment covenants and agrees that it shall take any and all reasonable action, including the execution and filing of any and all documents, that may be necessary to continue the designation of the Process Agent pursuant to this paragraph in full force and effect and to cause the Process Agent to act as such. Nothing herein shall in any way be deemed to limit the ability of any Person to serve any process or summons in any manner permitted by applicable law or to obtain jurisdiction over any other Person in such other jurisdictions, and in such manner, as may be permitted by applicable law.

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JURY TRIAL WAIVER TO THE EXTENT PERMITTED BY LAW, EACH BORROWER, THE ADMINISTRATIVE AGENT, THE FOREIGN FUNDING AGENT AND EACH LENDER WAIVE ANY RIGHT TO HAVE A JURY PARTICIPATE IN RESOLVING ANY DISPUTE, WHETHER SOUNDING IN CONTRACT, TORT OR OTHERWISE, AMONG THE BORROWERS, THE ADMINISTRATIVE AGENT, THE FOREIGN FUNDING AGENT AND THE LENDERS, OR ANY THEREOF, ARISING OUT OF, IN CONNECTION WITH, RELATED TO, OR INCIDENTAL TO THE RELATIONSHIP ESTABLISHED AMONG THEM IN CONNECTION WITH THIS AGREEMENT OR ANY NOTE OR OTHER INSTRUMENT, DOCUMENT OR AGREEMENT EXECUTED OR DELIVERED IN CONNECTION HERewith OR THE TRANSACTIONS RELATED THERETO.

IN WITNESS WHEREOF, the parties have executed and delivered this Credit and Security Agreement as of the date first set forth above.

Address: 5405 Spine Road
Boulder, Colorado 80301
Attention: Chief Financial Officer

DMC GLOBAL INC.

By: /s/ Michael Kuta
Name: Michael Kuta
Title: Chief Financial Officer

Address: c/o DMC Global Inc
5405 Spine Road
Boulder, Colorado 80301
Attention: Chief Financial Officer

DMC KOREA, INC.

By: /s/ John Scheatzle
Name: John Scheatzle
Title: President

Address: c/o DMC Global Inc
5405 Spine Road
Boulder, Colorado 80301
Attention: Chief Financial Officer

DYNAENERGETICS US, INC.

By: /s/ Frank Preiss
Name: Frank Preiss
Title: VP & GM, Americas

Signature Page to
Credit and Security Agreement

Address: c/o DMC Global Inc
5405 Spine Road
Boulder, Colorado 80301
Attention: Chief Financial Officer

DYNAMIC MATERIALS LUXEMBOURG 2 S.À R.L.

By: /s/ Thierry Jacob
Name: Thierry Jacob
Title: Director

Signature Page to
Credit and Security Agreement

Address: c/o DMC Global Inc
5405 Spine Road
Boulder, Colorado 80301
Attention: Chief Financial Officer

DYNAENERGETICS HOLDING GMBH

By: /s/ Ian Grieves
Name: Ian Grieves
Title: Managing Director

Signature Page to
Credit and Security Agreement

Address: c/o DMC Global Inc
5405 Spine Road
Boulder, Colorado 80301
Attention: Chief Financial Officer

DYNAENERGETICS BETEILIGUNGS- GMBH

By: /s/ Frank Preiss
Name: Frank Preiss
Title: Managing Director

Signature Page to
Credit and Security Agreement

Address: c/o DMC Global Inc
5405 Spine Road
Boulder, Colorado 80301
Attention: Chief Financial Officer

DYNAENERGETICS GMBH & CO. KG

By: /s/ Frank Preiss
Name: Frank Preiss
Title: Managing Director

Signature Page to
Credit and Security Agreement

Address: c/o DMC Global Inc
5405 Spine Road
Boulder, Colorado 80301
Attention: Chief Financial Officer

NOBELCLAD EUROPE GMBH & CO. KG

By: /s/ Antoine Nobili
Name: Antoine Nobili
Title: Managing Director

Signature Page to
Credit and Security Agreement

Address: 127 Public Square
Cleveland, Ohio 44114
Attention: Commercial Banking

KEYBANK NATIONAL ASSOCIATION
as the Administrative Agent, a Swing Line
Lender, an Issuing Lender and as a Lender

By: /s/ Dru S. Chiesa
Name: Dru S. Chiesa
Title: Senior Vice President

Signature Page to
Credit and Security Agreement

Address: Colorado State Bank and Trust
1600 Broadway, 4th Floor
Denver, CO 80202
Attention: Matt Mason

BOKF, NA DBA COLORADO STATE BANK AND TRUST

By: /s/ Matthew J. Mason
Matthew J. Mason
Senior Vice President

Signature Page to
Credit and Security Agreement

Address: 950 17th St, 12th Floor
Denver, CO 80202
Attention: Jason B. Fritz

U.S. BANK NATIONAL ASSOCIATION

By: /s/ Jason B. Fritz
Name: Jason B. Fritz
Title: Vice President

Signature Page to
Credit and Security Agreement

SCHEDULE 1
COMMITMENTS OF LENDERS

| <u>LENDERS</u> | <u>REVOLVING CREDIT COMMITMENT PERCENTAGE</u> | <u>REVOLVING CREDIT COMMITMENT AMOUNT</u> | <u>CAPEX LOAN COMMITMENT PERCENTAGE</u> | <u>CAPEX LOAN COMMITMENT AMOUNT</u> | <u>MAXIMUM AMOUNT</u> |
|--|---|---|---|---|-----------------------|
| KeyBank National Association | 46.66% | \$23,333,333.34 | 46.66% | \$11,666,666.66 | \$35,000,000.00 |
| BOKF, NA dba Colorado State Bank and Trust | 26.67% | \$13,333,333.33 | 26.67% | \$6,666,666.67 | \$20,000,000.00 |
| U.S. Bank National Association | 26.67% | \$13,333,333.33 | 26.67% | \$6,666,666.67 | \$20,000,000.00 |
| | 100% | <u>\$50,000,000.00</u> | 100% | <u>\$25,000,000.00</u> | |
| Total Commitment Amount | | | | | \$75,000,000.00 |

SCHEDULE 2

BORROWERS

US Borrowers

DMC Global Inc., a Delaware corporation

DYNAenergetics US, Inc., a Colorado corporation

DMC Korea, Inc., a Colorado corporation

Foreign Borrowers

Dynamic Materials Luxembourg 2 S.à r.l., a private limited liability company (*société à responsabilité limitée*), incorporated under the laws of Luxembourg

DynaEnergetics Holding GmbH, a limited liability company existing under the laws of the Federal Republic of Germany

DynaEnergetics Beteiligungs- GmbH, a limited liability company existing under the laws of the Federal Republic of Germany

DYNAenergetics GmbH & Co. KG, a limited liability partnership existing under the laws of the Federal Republic of Germany

NobelClad Europe GmbH & Co. KG, a limited liability partnership existing under the laws of the Federal Republic of Germany

SCHEDULE 3
GUARANTORS OF PAYMENT

Domestic Guarantors

None as of the Closing Date.

Foreign Guarantors

DYNAenergetics Canada Inc., a Canadian corporation

Dynamic Materials Corporation (HK) Limited, a Hong Kong corporation*

Dynamic Materials Luxembourg 1 S.a.r.L., a private limited liability company (société à responsabilité limitée), incorporated under the laws of Luxembourg

NobelClad Europe Holding GmbH, a limited liability company existing under the laws of the Federal Republic of Germany

NobelClad Europe SAS, a French corporation

Dynamic Materials Corporation (Shanghai) Trading Co. Ltd., a Chinese corporation*

* To become Foreign Guarantors after the Closing Date pursuant to Section 4.3(b) of the Credit Agreement.

SCHEDULE 4
PLEDGED SECURITIES

| Pledgor | Name of Subsidiary | Jurisdiction of Subsidiary | Shares Issued and Outstanding | Certificate Number | Ownership %/% of Equity Interests Pledged* |
|---|---|----------------------------|---|---------------------------|--|
| DMC Global Inc. | DMC Korea, Inc. | Colorado | 100 Common Shares (\$0.01 par) | No. 1 | 100.00%/ 100.00% |
| | DYNAenergetics US, Inc. | Colorado | 100 Common Shares (\$0.01 par) | No. 2 | 100.00%/ 100.00% |
| | Nobelclad Europe SAS, a French Societe Anonyme | French | 100 Common Shares (no par) | N/A | 100.00%/ 65.00% |
| | Dynamic Materials Luxembourg 1 S.à.r.l. | Luxembourg | 2,002 shares of EUR 25 each. | N/A | 100.00%/ 65.00% |
| | Dynamic Materials Corporation (HK) Limited | Hong Kong | 6,500 Ordinary shares par value HKD 1.00 each | 2 | 100.00%/ 65.00% |
| DYNAenergetics US, Inc. | DynaEnergetics Canada Inc. | British Columbia | 1,850 Class "A" Common shares without par value | No. A-1 for 1202.5 shares | 100.00%/ 65.00% |
| Dynamic Materials Corporation (HK) Ltd. | Dynamic Materials Corporation (Shanghai) Trading Co. Ltd. | China | Registered capital of \$700,00 | N/A | 100.00%/ 100.00% |
| Dynamic Materials Luxembourg 1 S.à.r.l. | Dynamic Materials Luxembourg 2 S.à.r.l. | Luxembourg | 5,602 shares of EUR 25 each | N/A | 100.00%/ 100.00% |
| Dynamic Materials Luxembourg 2 S.à.r.l. | DynaEnergetics Holding GmbH | Germany | 2 shares of respectively EUR 24,750.00 and EUR 250.00 | N/A | 100.00%/ 100.00% |

| Pledgor | Name of Subsidiary | Jurisdiction of Subsidiary | Shares Issued and Outstanding | Certificate Number | Ownership %/% of Equity Interests Pledged* |
|-----------------------------|-----------------------------------|-----------------------------------|--|---------------------------|---|
| DynaEnergetics Holding GmbH | DynaEnergetics GmbH & Co. KG | Germany | Limited Partner's registered capital contribution: EUR 200,000 | N/A | 100.00%/ 100.00% |
| | DynaEnergetics Beteiligungs- GmbH | Germany | 4 shares of respectively EUR 6,750.00, 6,750.00, 4,500.00 and 7,000.00 | N/A | 100.00%/ 100.00% |
| | NobelClad Europe Holding GmbH | Germany | 2 shares of respectively EUR 24,750.00 and EUR 250.00 | N/A | 100.00%/ 100.00% |
| | NobelClad GmbH & Co. KG | Germany | Limited Partner's registered capital contribution: EUR 200,500.00 | N/A | 100.00%/ 100.00% |

* 100% of non-voting shares and equity interests and 65% of voting shares or equity interest of each first-tier Foreign Subsidiary constitute Pledged Securities

SCHEDULE 5
MORTGAGED REAL PROPERTY

DYNAenergetics US, Inc.
4407 FM 933, North Whitney, Texas 76692
3580 HCR 1145 Loop North, Blum, Texas 76627

DMC Global Inc.
1138 Industrial Park Dr., Mt. Braddock, Pennsylvania 15465

SCHEDULE 8

CAPITAL MAINTENANCE RULES

A. With a view to give due regard to the obligations of the managing directors of any Foreign Borrower or Guarantor of Payment incorporated in Germany in the form of a limited liability company (*Gesellschaft mit beschränkter Haftung*) or in the form of a limited liability company (*Gesellschaft mit beschränkter Haftung*) acting as general partner of a limited partnership (*Kommanditgesellschaft*) (a "German Guarantor") (aa) to duly consider the own interest of such German Guarantor and the German Guarantor's creditors as well as (bb) to preserve the stated share capital (*Stammkapital*) of the German Guarantor, the liability of any German Guarantor to any of the Administrative Agent and/or the Lenders under any of the Loan Documents ("Relevant German Guarantee") shall be limited if and to the extent that:

1. the Relevant German Guarantee qualifies as an up-stream or cross-stream guarantee;

2. the relevant German Guarantor guarantees obligations of an affiliated company (*verbundenes Unternehmen*) of such German Guarantor within the meaning of section 15 of the German Act on Stock Corporations (*Aktiengesetz*) (other than any of that German Guarantor's Subsidiaries); and

3. the enforcement of the Relevant German Guarantee would cause the net assets of the German Guarantor to fall below or further reduce the stated share capital (*Stammkapital*) of such German Guarantor in violation of sections 30 et seq. German Act on Limited Liability Companies (*GmbH-Gesetz*).

B. The net assets under Section A. 3. shall be determined in accordance with the principles for ordinary bookkeeping at the time of the enforcement and the preparation of balance sheets as they were consistently applied by the German Guarantor in preparing its balance sheets in previous years, and taking into consideration applicable court rulings of German courts, provided that for the purposes of the calculation of the net assets the following balance sheet items shall be adjusted as follows:

1. any amounts resulting from an increase of the German Guarantor's stated share capital after the date of this Agreement which has been effected in violation of any Loan Document shall be deducted from the stated share capital; and

2. loans and other contractual liabilities incurred by the German Guarantor in violation of the provisions of any of the Loan Documents shall be disregarded to the extent that such violation results from grossly negligent or willful misconduct.

C. The limitations set out in Section A. above shall only apply if and to the extent that:

1. within fifteen (15) Business Days following the notification by the Administrative Agent of its intention to enforce against the German Guarantor, the managing directors (*Geschäftsführer*) on behalf of the German Guarantor have confirmed in writing to the Administrative Agent (aa) to what extent the Relevant German Guarantee is an up-stream or cross stream security and (bb) which amount of such up-stream security and/or cross-stream cannot be enforced as it would cause the net assets of the German Guarantor to fall below its stated share capital in violation of sections 30 et seq. German Act on Limited Liability Companies (*GmbH-Gesetz*) (the "Management Determination"); and

2. (x) the Administrative Agent has not contested the Management Determination by arguing that no or a lesser amount would be necessary to maintain its stated share capital within fifteen (15) Business Days following the Management Determination, or (y) within thirty-five (35) Business Days from the date the Administrative Agent has contested the Management Determination, the Administrative Agent receives a determination by auditors of international standard and reputation ("Auditor's Determination") appointed by the German Guarantor of the amount that would have been necessary to maintain its stated share capital without violation of sections 30 et seq. German Act on Limited Liability Companies (*GmbH-Gesetz*).

D. If and to the extent that the Relevant German Guarantee has been enforced without regard to the limitations set out in Section A. above because (i) the Management Determination or Auditor's Determination was not delivered within the relevant time frame or (ii) the realizable amount pursuant to the Auditor's Determination is lower than the respective amount stated in the Management Determination, the Administrative Agent shall upon written demand of the German Guarantor (procure to) repay to the German Guarantor any amount required to maintain such German Guarantor's stated share capital (*Stammkapital*) in accordance with sections 30 et seq. of the German Limited Liability Company Act (*GmbH-Gesetz*).

E. If the Administrative Agent disagrees with the Auditor's Determination it shall notify the German Guarantor accordingly. The Administrative and the Lenders shall only be entitled to enforce the Relevant German Guarantee up to the amount which is undisputed between themselves and the German Guarantor in accordance with the provisions of this Section 8. In relation to the amount which is disputed between the Administrative Agent and the German Guarantor, the Administrative Agent and the Lenders shall be entitled to further pursue claims (if any) in court.

F. In an enforcement situation the German Guarantor shall, upon the written request of the Administrative Agent and to the extent legally permitted, for the purposes of the determination of its net assets dispose of all assets which are shown in the balance sheet of the German Guarantor with a book value (*Buchwert*) which is significantly lower than the market value of such asset if such asset is not necessary for the operation of its business (*nicht betriebsnotwendig*) and to the extent it can be realized commercially justifiable.

G. The limitations set out in Section A. shall not apply (or, as the case may be, shall cease to apply):

1. if and to the extent the relevant German Guarantor guarantees any amounts borrowed under this Agreement which are lent, on-lent or otherwise passed on to such German Guarantor or any of its respective Subsidiaries from time to time;

2. if and to the extent the enforcement of the Relevant German Guarantee will result in a fully valuable recourse claim (*vollwertiger Rückgriffsanspruch*) of the German Guarantor within the meaning of sentence 2 of paragraph 1 of section 30 of the German Act on Limited Liability Companies (*GmbH-Gesetz*) against the Borrower or Guarantor whose obligations are guaranteed under the Relevant German Guarantee;

3. if and when a domination agreement (*Beherrschungsvertrag*) and/or a profit absorption agreement (*Gewinnabführungsvertrag*) within the meaning of sentence 2 of paragraph 1 of section 30 of the German Act on Limited Liability Companies (*GmbH-Gesetz*) (either directly or through a chain of domination and/or profit absorption agreements) is or becomes effective between the relevant German Guarantor and:

(a) in case the German Guarantor is a Subsidiary of the relevant Borrower or Guarantor whose obligations are guaranteed under the Relevant German Guarantee, that Borrower or Guarantor or a direct or indirect shareholder of that Borrower or Guarantor; or

(b) in case the German Guarantor is a sister company of the relevant Borrower or Guarantor whose obligations are guaranteed under the Relevant German Guarantee, any joint (direct or indirect) parent company of the German Guarantor and that Borrower or Guarantor,

as dominating entity (*beherrschendes Unternehmen*).

H. For the avoidance of doubt, nothing in this Agreement shall be interpreted as a restriction or limitation of (i) the enforcement of the Relevant German Guarantee to the extent such Relevant German Guarantee guarantees obligations of the German Guarantor itself in its capacity as Borrower or obligations of any of its direct or indirect Subsidiaries including in each case their legal successors or (ii) the enforcement of any claim of any Lender or the Administrative Agent against a Borrower (in such capacity) under this Agreement.

ABSTRACT ACKNOWLEDGEMENT OF DEBT

A. Each of the Borrowers and each Guarantor (together, the "Obligors") hereby irrevocably and unconditionally undertake to pay to the Administrative Agent amounts equal to any amounts owing from time to time by that Obligor to any the Administrative Agent and any Lender under any of the Loan Documents as and when those amounts are or become due; provided, however, no Obligor shall have any obligation under this section A. to pay to the Administrative Agent any amounts owing by any US Guarantor or US Borrower to the Administrative Agent or any Lender under any of the Loan Documents.

B. Each Obligor and the Administrative Agent acknowledge that the obligations of each Euro Obligor under section A. above are several and are separate and independent from, and shall not in any way limit or affect, the corresponding Obligations of that Obligor to the Administrative Agent or any Lender under any of the Loan Documents (its "Corresponding Debt") nor shall the amounts for which each Obligor is liable under section I.A. above (its "Parallel Debt") be limited or affected in any way by its Corresponding Debt provided that:

1. the Parallel Debt of each Obligor shall be decreased to the extent that its Corresponding Debt has been paid or (in the case of guarantee obligations) discharged;
2. the Corresponding Debt of each Obligor shall be decreased to the extent that its Parallel Debt has been paid or (in the case of guarantee obligations) discharged;
3. the amount of the Parallel Debt of a Obligor shall at all times be equal to the amount of its Corresponding Debt; and
4. the Parallel Debt shall irrespective of clauses 1-3 above at any time amount to at least one (1) Euro.

C. The Administrative Agent acts in its own name as an independent and separate right and not as a trustee, and its claims in respect of the Parallel Debt shall not be held on trust. The security granted under the Loan Documents to the Administrative Agent to secure the Parallel Debt is granted to the Administrative Agent in its capacity as agent for the independent and separate creditors of the Parallel Debt and shall not be held on trust.

D. Without limiting or affecting the Agents' rights against the Obligors (whether under this subsection D or under any other provision of the Loan Documents), each Obligor acknowledges that:

1. nothing in this section D shall impose any obligation on the Administrative Agent to advance any sum to any Obligor or otherwise under any Loan Document, except in its capacity as a Lender; and

2. for the purpose of any vote taken under any Loan Document, the Administrative Agent shall be regarded as having any participation or commitment other than those which it has in its capacity as a Lender.

EXHIBIT A
FORM OF
US BORROWER REVOLVING CREDIT NOTE

\$ _____, 20__

FOR VALUE RECEIVED, the undersigned, DMC GLOBAL INC., a Delaware, corporation, DYNAENERGETICS US, INC., a Colorado corporation, and DMC KOREA, INC., a Colorado corporation (collectively, the "US Borrowers", and individually, each a "US Borrower"), jointly and severally, promise to pay, on the last day of the applicable Commitment Period, as defined in the Credit Agreement (as hereinafter defined), to _____, or its registered assigns ("Lender") at the main office of KEYBANK NATIONAL ASSOCIATION, as the Administrative Agent, as hereinafter defined, 127 Public Square, Cleveland, Ohio 44114-1306 the principal sum of

_____ AND 00/100 DOLLARS

or the aggregate unpaid principal amount of all Revolving Loans, as defined in the Credit Agreement, made by Lender to the US Borrowers pursuant to Section 2.2(a) of the Credit Agreement, whichever is less (or, in the event of currency fluctuations on Alternate Currency Loans, such greater amount as may be outstanding) in lawful money of the United States of America; provided that Revolving Loans that are Alternate Currency Loans, as defined in the Credit Agreement, shall be payable in the applicable Alternate Currency, as defined in the Credit Agreement, at the place or places designated in the Credit Agreement. The US Borrowers also agree to pay any additional amount that is required to be paid pursuant to Section 12.19 of the Credit Agreement.

As used herein, "Credit Agreement" means the Credit and Security Agreement dated as of March 8, 2018, among the US Borrowers, the Foreign Borrowers, as defined therein, the Lenders, as defined therein, and KeyBank National Association, as the administrative agent for the Lenders (the "Administrative Agent"), as the same may from time to time be amended, restated or otherwise modified. Each capitalized term used herein that is defined in the Credit Agreement and not otherwise defined herein shall have the meaning ascribed to it in the Credit Agreement.

The US Borrowers also promise to pay interest on the unpaid principal amount of each Revolving Loan from time to time outstanding, from the date of such Revolving Loan until the payment in full thereof, at the rates per annum that shall be determined in accordance with the provisions of Section 2.4(a) of the Credit Agreement. Such interest shall be payable on each date provided for in such Section 2.4(a); provided that interest on any principal portion that is not paid when due shall be payable on demand.

The portions of the principal sum hereof from time to time representing Base Rate Loans and Fixed Rate Loans, interest owing thereon, and payments of principal and interest of any thereof, shall be shown on the records of Lender by such method as Lender may generally employ; provided that failure to make any such entry shall in no way detract from the obligations of the US Borrowers under this Note or the Credit Agreement.

If this Note shall not be paid at maturity, whether such maturity occurs by reason of lapse of time or by operation of any provision for acceleration of maturity contained in the Credit Agreement, the principal hereof and the unpaid interest thereon shall bear interest, pursuant to the terms of the Credit Agreement, until paid, at a rate per annum equal to the Default Rate. All payments of principal of and interest on this Note shall be made in immediately available funds.

This Note is one of the US Borrower Revolving Credit Notes referred to in the Credit Agreement and is entitled to the benefits thereof. Reference is made to the Credit Agreement for a description of the right of the undersigned to anticipate payments hereof, the right of the holder hereof to declare this Note due prior to its stated maturity, and other terms and conditions upon which this Note is issued.

Except as expressly provided in the Credit Agreement, each US Borrower expressly waives presentment, demand, protest and notice of any kind. This Note shall be governed by and construed in accordance with the laws of the State of New York.

JURY TRIAL WAIVER EACH US BORROWER, TO THE EXTENT PERMITTED BY LAW, HEREBY WAIVES ANY RIGHT TO HAVE A JURY PARTICIPATE IN RESOLVING ANY DISPUTE, WHETHER SOUNDING IN CONTRACT, TORT OR OTHERWISE, AMONG THE BORROWERS, THE FOREIGN FUNDING AGENT, THE ADMINISTRATIVE AGENT AND THE LENDERS, OR ANY THEREOF, ARISING OUT OF, IN CONNECTION WITH, RELATED TO, OR INCIDENTAL TO THE RELATIONSHIP ESTABLISHED AMONG THEM IN CONNECTION WITH THIS NOTE OR ANY OTHER NOTE OR INSTRUMENT, DOCUMENT OR AGREEMENT EXECUTED OR DELIVERED IN CONNECTION HERewith OR THE TRANSACTIONS RELATED THERETO.

DMC GLOBAL INC.

By:____
Name:____
Title:____

DYNAENERGETICS US, INC.

By:____
Name:____
Title:____

DMC KOREA, INC.

By:____
Name:____
Title:____

EXHIBIT B
FORM OF
FOREIGN BORROWER REVOLVING CREDIT NOTE

\$ _____, 20__

FOR VALUE RECEIVED, the undersigned, [_____] ("Foreign Borrower"), promises to pay, on the last day of the applicable Commitment Period, as defined in the Credit Agreement (as hereinafter defined), to _____, or its registered assigns ("Lender") at the main office of KEYBANK NATIONAL ASSOCIATION, as the Administrative Agent, as hereinafter defined, 127 Public Square, Cleveland, Ohio 44114-1306 the principal sum of

_____ AND 00/100 DOLLARS

or the aggregate unpaid principal amount of all Revolving Loans, as defined in the Credit Agreement, made by Lender to Foreign Borrower pursuant to Section 2.2(a) of the Credit Agreement, whichever is less (or, in the event of currency fluctuations on Alternate Currency Loans, such greater amount as may be outstanding) in lawful money of the United States of America; provided that Revolving Loans that are Alternate Currency Loans, as defined in the Credit Agreement, shall be payable in the applicable Alternate Currency, as defined in the Credit Agreement, at the place or places designated in the Credit Agreement. Foreign Borrower also agrees to pay any additional amount that is required to be paid pursuant to Section 12.19 of the Credit Agreement.

As used herein, "Credit Agreement" means the Credit and Security Agreement dated as of March 8, 2018, among the US Borrowers, as defined therein, the Foreign Borrowers, as defined therein, the Lenders, as defined therein, and KeyBank National Association, as the administrative agent for the Lenders (the "Administrative Agent"), as the same may from time to time be amended, restated or otherwise modified. Each capitalized term used herein that is defined in the Credit Agreement and not otherwise defined herein shall have the meaning ascribed to it in the Credit Agreement.

Foreign Borrower also promises to pay interest on the unpaid principal amount of each Revolving Loan from time to time outstanding, from the date of such Revolving Loan until the payment in full thereof, at the rates per annum that shall be determined in accordance with the provisions of Section 2.4(a) of the Credit Agreement. Such interest shall be payable on each date provided for in such Section 2.4(a); provided that interest on any principal portion that is not paid when due shall be payable on demand.

The portions of the principal sum hereof from time to time representing Alternate Currency Loans, interest owing thereon, and payments of principal and interest of any thereof, shall be shown on the records of Lender by such method as Lender may generally employ; provided that failure to make any such entry shall in no way detract from the obligations of the Foreign Borrower under this Note or the Credit Agreement.

If this Note shall not be paid at maturity, whether such maturity occurs by reason of lapse of time or by operation of any provision for acceleration of maturity contained in the Credit Agreement, the principal hereof and the unpaid interest thereon shall bear interest, pursuant to the terms of the Credit Agreement, until paid, at a rate per annum equal to the Default Rate. All payments of principal of and interest on this Note shall be made in immediately available funds.

This Note is one of the Foreign Borrower Revolving Credit Notes referred to in the Credit Agreement and is entitled to the benefits thereof. Reference is made to the Credit Agreement for a description of the right of the undersigned to anticipate payments hereof, the right of the holder hereof to declare this Note due prior to its stated maturity, and other terms and conditions upon which this Note is issued.

Except as expressly provided in the Credit Agreement, Foreign Borrower expressly waives presentment, demand, protest and notice of any kind. This Note shall be governed by and construed in accordance with the laws of the State of New York.

JURY TRIAL WAIVER. FOREIGN BORROWER, TO THE EXTENT PERMITTED BY LAW, HEREBY WAIVES ANY RIGHT TO HAVE A JURY PARTICIPATE IN RESOLVING ANY DISPUTE, WHETHER SOUNDING IN CONTRACT, TORT OR OTHERWISE, AMONG THE BORROWERS, THE FOREIGN FUNDING AGENT, THE ADMINISTRATIVE AGENT AND THE LENDERS, OR ANY THEREOF, ARISING OUT OF, IN CONNECTION WITH, RELATED TO, OR INCIDENTAL TO THE RELATIONSHIP ESTABLISHED AMONG THEM IN CONNECTION WITH THIS NOTE OR ANY OTHER NOTE OR INSTRUMENT, DOCUMENT OR AGREEMENT EXECUTED OR DELIVERED IN CONNECTION HERewith OR THE TRANSACTIONS RELATED THERETO.

[_____]

By:____
Name:____
Title:____

EXHIBIT C
FORM OF
SWING LINE NOTE

\$ _____, 20__

FOR VALUE RECEIVED, the undersigned, [_____, a _____ corporation], and [_____, a _____] corporation (collectively, the "Borrowers", and individually, each a "Borrower"), jointly and severally, promise to pay to the order of [KEYBANK NATIONAL ASSOCIATION], or its registered assigns (the "Swing Line Lender") at the main office of KEYBANK NATIONAL ASSOCIATION, as the Administrative Agent, as hereinafter defined, 127 Public Square, Cleveland, Ohio 44114-1306 the principal sum of

_____ AND 00/100 DOLLARS

or the aggregate unpaid principal amount of all Swing Loans, as defined in the Credit Agreement (as hereinafter defined), made by the Swing Line Lender to the Borrowers pursuant to Section 2.2(c) of the Credit Agreement, whichever is less, in lawful money of the United States of America on the earlier of the last day of the applicable Commitment Period, as defined in the Credit Agreement, or, with respect to each Swing Loan, the Swing Loan Maturity Date applicable thereto; provided that Loans that are Alternate Currency Loans, as defined in the Credit Agreement, shall be payable in the applicable Alternate Currency, as defined in the Credit Agreement, at the place or places designated in the Credit Agreement. The Borrowers also agree to pay any additional amount that is required to be paid pursuant to Section 12.19 of the Credit Agreement.

As used herein, "Credit Agreement" means the Credit and Security Agreement dated as of March 8, 2018, among the US Borrowers, as defined therein, the Foreign Borrowers, as defined therein, the Lenders, as defined therein, and KeyBank National Association, as the administrative agent for the Lenders (the "Administrative Agent"), as the same may from time to time be amended, restated or otherwise modified. Each capitalized term used herein that is defined in the Credit Agreement and not otherwise defined herein shall have the meaning ascribed to it in the Credit Agreement.

The Borrowers also promise to pay interest on the unpaid principal amount of each Swing Loan from time to time outstanding, from the date of such Swing Loan until the payment in full thereof, at the rates per annum that shall be determined in accordance with the provisions of Section 2.4(b) of the Credit Agreement. Such interest shall be payable on each date provided for in such Section 2.42(b); provided that interest on any principal portion that is not paid when due shall be payable on demand.

The principal sum hereof from time to time, and the payments of principal and interest thereon, shall be shown on the records of the Swing Line Lender by such method as the Swing Line Lender may generally employ; provided that failure to make any such entry shall in no way detract from the obligations of the Borrowers under this Note or the Credit Agreement.

If this Note shall not be paid at maturity, whether such maturity occurs by reason of lapse of time or by operation of any provision for acceleration of maturity contained in the Credit Agreement, the principal hereof and the unpaid interest thereon shall bear interest, pursuant to the terms of the Credit Agreement, until paid, at a rate per annum equal to the Default Rate. All payments of principal of and interest on this Note shall be made in immediately available funds.

This Note is a Swing Line Note referred to in the Credit Agreement and is entitled to the benefits thereof. Reference is made to the Credit Agreement for a description of the right of the undersigned to anticipate payments hereof, the right of the holder hereof to declare this Note due prior to its stated maturity, and other terms and conditions upon which this Note is issued.

Except as expressly provided in the Credit Agreement, each Borrower expressly waives presentment, demand, protest and notice of any kind. This Note shall be governed by and construed in accordance with the laws of the State of New York

JURY TRIAL WAIVER. EACH BORROWER, TO THE EXTENT PERMITTED BY LAW, HEREBY WAIVES ANY RIGHT TO HAVE A JURY PARTICIPATE IN RESOLVING ANY DISPUTE, WHETHER SOUNDING IN CONTRACT, TORT OR OTHERWISE, AMONG THE US BORROWERS, THE FOREIGN BORROWERS, THE FOREIGN FUNDING AGENT, THE ADMINISTRATIVE AGENT AND THE LENDERS, OR ANY THEREOF, ARISING OUT OF, IN CONNECTION WITH, RELATED TO, OR INCIDENTAL TO THE RELATIONSHIP ESTABLISHED AMONG THEM IN CONNECTION WITH THIS NOTE OR ANY OTHER NOTE OR INSTRUMENT, DOCUMENT OR AGREEMENT EXECUTED OR DELIVERED IN CONNECTION HERewith OR THE TRANSACTIONS RELATED THERETO.

[_____]

By:____
Name:____
Title:____

[_____]

By:____
Name:____
Title:____

EXHIBIT D
FORM OF
CAPEX NOTE

\$ _____, 20____

FOR VALUE RECEIVED, the undersigned, DMC GLOBAL INC., a Delaware corporation, DYNAENERGETICS US, INC., a Colorado corporation, and DMC KOREA, INC., a Colorado corporation (collectively, the "US Borrowers", and individually, each a "US Borrower"), jointly and severally, promise to pay to _____, or its registered assigns ("Lender") at the main office of KEYBANK NATIONAL ASSOCIATION, as the Administrative Agent, as hereinafter defined, at 127 Public Square, Cleveland, Ohio 44114-1306, the principal sum of

_____ AND 00/100 DOLLARS

or the aggregate unpaid principal amount of all Capex Draw Loans, as defined in the Credit Agreement, (as hereinafter defined), made by Lender to the US Borrowers pursuant to Section 2.3(a) of the Credit Agreement, whichever is less, in lawful money of the United States of America, or, with respect to Capex Draw Loans that have been converted to a Capex Term Loan, as defined in the Credit Agreement, payable pursuant to Section 2.3(b) of the Credit Agreement.

As used herein, "Credit Agreement" means the Credit and Security Agreement dated as of March 8, 2018, among the US Borrowers, the Foreign Borrowers, as defined therein, the Lenders, as defined therein, and KeyBank National Association, as the administrative agent for the Lenders (the "Administrative Agent"), as the same may from time to time be amended, restated or otherwise modified. Each capitalized term used herein that is defined in the Credit Agreement and not otherwise defined herein shall have the meaning ascribed to it in the Credit Agreement.

The US Borrowers also promise to pay interest on the unpaid principal amount of each Capex Loan from time to time outstanding, from the date of such Capex Loan until the payment in full thereof, at the rates per annum that shall be determined in accordance with the provisions of Section 2.4(c) and (d), as applicable, of the Credit Agreement. Such interest shall be payable on each date provided for in such Section 2.4(c) and (d), as applicable; provided that interest on any principal portion that is not paid when due shall be payable on demand.

The portions of the principal sum hereof from time to time representing Base Rate Loans and Eurodollar Loans, interest owing thereon, and payments of principal and interest of any thereof, shall be shown on the records of Lender by such method as Lender may generally employ; provided that failure to make any such entry shall in no way detract from the obligations of the US Borrowers under this Note or the Credit Agreement.

If this Note shall not be paid at maturity, whether such maturity occurs by reason of lapse of time or by operation of any provision for acceleration of maturity contained in the Credit Agreement, the principal hereof and the unpaid interest thereon shall bear interest, pursuant to the

terms of the Credit Agreement, until paid, at a rate per annum equal to the Default Rate. All payments of principal of and interest on this Note shall be made in immediately available funds.

This Note is one of the Capex Notes referred to in the Credit Agreement and is entitled to the benefits thereof. Reference is made to the Credit Agreement for a description of the right of the undersigned to anticipate payments hereof, the right of the holder hereof to declare this Note due prior to its stated maturity, and other terms and conditions upon which this Note is issued.

Except as expressly provided in the Credit Agreement, each US Borrower expressly waives presentment, demand, protest and notice of any kind. This Note shall be governed by and construed in accordance with the laws of the State of New York.

JURY TRIAL WAIVER. EACH US BORROWER, TO THE EXTENT PERMITTED BY LAW, HEREBY WAIVES ANY RIGHT TO HAVE A JURY PARTICIPATE IN RESOLVING ANY DISPUTE, WHETHER SOUNDING IN CONTRACT, TORT OR OTHERWISE, AMONG THE US BORROWERS, THE FOREIGN BORROWERS, THE ADMINISTRATIVE AGENT AND THE LENDERS, OR ANY THEREOF, ARISING OUT OF, IN CONNECTION WITH, RELATED TO, OR INCIDENTAL TO THE RELATIONSHIP ESTABLISHED AMONG THEM IN CONNECTION WITH THIS NOTE OR ANY OTHER NOTE OR INSTRUMENT, DOCUMENT OR AGREEMENT EXECUTED OR DELIVERED IN CONNECTION HERewith OR THE TRANSACTIONS RELATED THERETO.

DMC GLOBAL INC.

By:____
Name:____
Title:____

DYNAENERGETICS US, INC.

By:____
Name:____
Title:____

DMC KOREA, INC.

By:____
Name:____
Title:____

EXHIBIT E
FORM OF
NOTICE OF LOAN

_____, 20____

| | |
|--|--|
| With respect to US Revolving Loans and US Swing Loans | With respect to all other Loans |
| KeyBank National Association, as the Administrative Agent 127 Public Square Cleveland, Ohio 44114-0616 Attention: Commercial Banking | [_____] , as the Foreign Funding Agent [_____] , [_____] , Attn: [_____] |

Ladies and Gentlemen:

The undersigned, DMC Global Inc. a Delaware corporation, (the "Administrative Borrower") refers to the Creditand Security Agreement, dated as of March 8, 2018 (as the same may from time to time be amended, restated or otherwise modified, the "Credit Agreement", the terms defined therein being used herein as therein defined unless otherwise defined herein), among the US Borrowers, the Foreign Borrowers, the Lenders and KeyBank National Association, as the administrative agent for the Lenders (the "Administrative Agent"), and hereby gives you notice, pursuant to Section 2.6 of the Credit Agreement that the Borrowers hereby request a Loan (the "Proposed Loan") or interest change, as specified below, and in connection therewith sets forth below the information relating to the Proposed Loan as required by Section 2.6 of the Credit Agreement:

Revolving/Swing Loans

- (a) The Borrower requesting the Proposed Loan is _____, which is a US Borrower ____ / Foreign Borrower _____. (Check one.)
- (b) The Business Day of the Proposed Loan is _____, 20____.
- (c) The amount and currency of the of the Proposed Loan is _____ (if requesting for a Foreign Borrower, this must be in an Alternate Currency).
- (d) The Proposed Loan is to be a Base Rate Loan ____ / Eurodollar Loan ____ / Alternate Currency Loan ____ / Swing Loan _____. (Check one.)
- (e) If the Proposed Loan is a Eurodollar Loan or Alternate Currency Loan, the Interest Period requested is one month ____, two months ____, three months ____, six months ____, (Check one.)

Capex Loans

The Administrative Borrower hereby requests the following [Proposed Loan] [interest change with respect to a portion of a Capex Term Loan (the "Term Loan Interest Change")]:

- (a) The Borrower requesting the [Proposed Loan][Term Loan Interest Change] is _____.
- (b) The [Proposed Loan is to be][Term Loan Interest Change is for]:
a Capex Draw Loan ____ / Capex Term Loan _____. (Check one.)
- (c) The Business Day of the [Proposed Loan][Term Loan Interest Change] is _____,
20____.
- (d) The amount of the [Proposed Loan][Term Loan Interest Change] is
\$_____.
- (e) The [Proposed Loan][Term Loan Interest Change] is to be
a
Base Rate Loan ____ / Eurodollar Loan _____. (Check one.)
- (f) If the Proposed Loan] [Term Loan Interest Change] is a Eurodollar Loan, the Interest Period requested is one month ____, two months ____, three months ____, six
months ____, (Check one.)

The undersigned hereby certifies on behalf of the Borrowers that the following statements are true:

- (i) each of the representations and warranties contained in Article VI of the Credit Agreement are true and correct in all material respects (or, as to any representations and warranties which are subject to a materiality or Material Adverse Effect qualifier, true and correct in all respects) as if made on and as of the date of the applicable Credit Event, except to the extent that any thereof expressly relate to an earlier date, in which case they shall be true and correct in all material respects (or, as to any representations and warranties which are subject to a materiality or Material Adverse Effect qualifier, true and correct in all respects) as of such earlier date;
- (ii) no Default or Event of Default exists or immediately after the applicable Credit Event would exist; and
- (iii) the applicable conditions set forth in Section 2.6 and Article IV of the Credit Agreement have been satisfied.

DMC GLOBAL INC.

By: __
Name: __
Title: __

EXHIBIT F
FORM OF
LETTER OF CREDIT REQUEST

_____, 20____

| | |
|---|---|
| With respect to US Letters of Credit KeyBank National Association, as the Administrative Agent 127 Public Square Cleveland, Ohio 44114-0616 Attention: Institutional Banking | With respect to all other Letters of Credit [_____] , as the Foreign Funding Agent [_____] [_____] Attn: [_____] |
|---|---|

Ladies and Gentlemen:

The undersigned, [_____] ("Borrower"), refers to the Credit and Security Agreement, dated as of March 8, 2018 (as the same may from time to time be amended, restated or otherwise modified, the "Credit Agreement", the terms defined therein being used herein as therein defined), among the US Borrowers, the Foreign Borrowers, the Lenders and KeyBank National Association, as administrative agent for the Lenders, and hereby gives you notice, pursuant to Section 2.2(b) of the Credit Agreement, that the Borrower hereby requests the [issuance][renewal][amendment][extension] of a Letter of Credit (the "Proposed Letter of Credit") under the Credit Agreement, and in connection therewith sets forth below the information relating to the Proposed Letter of Credit as required by Section 2.2(b) of the Credit Agreement:

- (a) The Proposed Letter of Credit is being requested for the account of _____.
- (b) The Proposed Letter of Credit is to be a: US Letter of Credit ____ / Alternate Currency Letter of Credit _____. (Choose one.)
- (c) The beneficiary of the Proposed Letter of Credit is to be _____.
- (d) The Business Day of the requested Proposed Letter of Credit is _____, 201____.
- (e) The expiry date of the Proposed Letter of Credit is _____, 20____.
- (f) The face amount and currency of the Proposed Letter of Credit is _____.
- (g) The Proposed Letter of Credit is to be a: commercial documentary Letter of Credit ____ / standby Letter of Credit _____. (Check one.)

(h) The nature of the transaction or obligation to be supported by the Proposed Letter of Credit will be _____.

The undersigned hereby certifies on behalf of the Borrowers that the following statements are true:

(i) each of the representations and warranties contained in Article VI of the Credit Agreement are true and correct in all material respects (or, as to any representations and warranties which are subject to a materiality or Material Adverse Effect qualifier, true and correct in all respects) as if made on and as of the date of the applicable Credit Event, except to the extent that any thereof expressly relate to an earlier date, in which case they shall be true and correct in all material respects (or, as to any representations and warranties which are subject to a materiality or Material Adverse Effect qualifier, true and correct in all respects) as of such earlier date;

(ii) no Default or Event of Default exists or immediately after the applicable Credit Event would exist; and

(iii) the applicable conditions set forth in Section 2.2(b) and Article IV of the Credit Agreement have been satisfied.

_____]

By:____
Name:____
Title:____

EXHIBIT G
FORM OF
COMPLIANCE CERTIFICATE

For Fiscal Quarter ended _____

THE UNDERSIGNED HEREBY CERTIFIES THAT:

(1) I am the duly elected [President] or [Chief Financial Officer] of DMC Global Inc., a Delaware corporation (the "Administrative Borrower", and together with the other US Borrowers and the Foreign Borrowers, as defined in the Credit Agreement, as hereinafter defined, collectively, the "Borrowers");

(2) I am familiar with the terms of that certain Credit and Security Agreement, dated as of March 8, 2018, among the Borrowers, the lenders party thereto (together with their respective successors and assigns, collectively, the "Lenders"), as defined in the Credit Agreement, and KeyBank National Association, as the Administrative Agent (as the same may from time to time be amended, restated or otherwise modified, the "Credit Agreement", the terms defined therein being used herein as therein defined unless otherwise defined herein), and the terms of the other Loan Documents, and I have made, or have caused to be made under my supervision, a review in reasonable detail of the subject matter of this Compliance Certificate during the accounting period covered by the attached financial statements;

(3) The review described in paragraph (2) above did not disclose, and I have no knowledge of, the existence of any condition or event that constitutes or constituted a Default or Event of Default, at the end of the accounting period covered by the attached financial statements or as of the date of this Certificate;

(4) The representations and warranties made by the Borrowers contained in each Loan Document are true and correct in all material respects (or, as to any representations and warranties which are subject to a materiality or Material Adverse Effect qualifier, true and correct in all respects) as if made on and as of the date hereof, except to the extent that any thereof expressly relate to an earlier date, in which case they shall be true and correct in all material respects (or, as to any representations and warranties which are subject to a materiality or Material Adverse Effect qualifier, true and correct in all respects) as of such earlier date; and

(5) Set forth on Attachment I hereto are calculations of the financial covenants set forth in Section 5.7 of the Credit Agreement, which calculations show compliance with the terms thereof.

[Remainder of page intentionally left blank.]

IN WITNESS WHEREOF, I have signed this certificate the ____ day of _____, 20____.

DMC GLOBAL INC.

By:____
Name:____
Title:____

EXHIBIT H
FORM OF
ADDITIONAL BORROWER ASSUMPTION AGREEMENT

This ADDITIONAL BORROWER ASSUMPTION AGREEMENT ("Agreement") is made effective as of [_____, 20[___], by and among [_____, a[n] [_____] [corporation] (the "Obligor"), DMC GLOBAL INC., a Delaware corporation ("DMC Global"), each Domestic Subsidiary Borrower and each Foreign Borrower, as each term is defined in the Credit Agreement, as hereinafter defined (each such Domestic Subsidiary Borrower and each such Foreign Borrower, together with DMC Global shall be referred to herein, collectively, as the "Borrowers" and, individually, each a "Borrower"), and KEYBANK NATIONAL ASSOCIATION, as the administrative agent under the Credit Agreement (the "Administrative Agent"), on behalf of and for the benefit of the Lenders, as defined in the Credit Agreement.

WHEREAS, the Borrowers, the Administrative Agent and the Lenders are parties to that certain Credit and Security Agreement, dated as of March 8, 2018 (as the same may from time to time be amended, restated or otherwise modified, the "Credit Agreement", each capitalized term not defined herein being used herein as therein defined unless otherwise defined herein) wherein the Lenders have agreed to make Loans to the Borrowers, and the Issuing Lenders have agreed to issue Letters of Credit to the Borrowers, all upon certain terms and conditions;

WHEREAS, pursuant to Section 2.15[(a)][(b)] of the Credit Agreement, the Administrative Borrower has requested that, effective on [_____, 20[___] (the "Assumption Effective Date"), the Obligor shall be designated as a "[Domestic Subsidiary] [Foreign] Borrower" under the Credit Agreement; and

WHEREAS, the Administrative Agent and the Lenders are willing to permit the Obligor to become a "[Domestic Subsidiary] [Foreign] Borrower" under the Credit Agreement and the applicable Lenders are willing to make Loans to the Obligor and issue Letters of Credit for the account of the Obligor pursuant to the Revolving Credit Commitment, upon certain terms and conditions as set forth in the Credit Agreement, one of which is that the Obligor shall assume all of the obligations of a [Domestic Subsidiary][Foreign] Borrower under the Credit Agreement and the Related Writings, and this Agreement is being executed and delivered in consideration of each financial accommodation granted to the Obligor and the other Borrowers by the Administrative Agent and the Lenders, and for other valuable consideration;

NOW, THEREFORE, in consideration of the foregoing premises and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Obligor hereby agrees as follows:

1. Assumption. On and after the Assumption Effective Date, the Obligor irrevocably and unconditionally assumes all of the obligations of a [Domestic Subsidiary][Foreign] Borrower under the Credit Agreement and the Related Writings and shall be liable for [all of the] [the applicable] Obligations, as defined in the Credit Agreement, [on a joint and several basis with the

other [US] [Foreign] Borrowers], as fully as if the Obligor had been an original party to the Credit Agreement, including, but not limited, to assuming liability for (a) [DOMESTIC - all Revolving Loans and US Letters of Credit][FOREIGN – all Loans made to or for the benefit of the Obligor], (b) all other indebtedness and obligations now owing or hereafter incurred by one or more Borrowers to the Administrative Agent and the Lenders pursuant to the Credit Agreement and the other Loan Documents, and (c) each renewal, extension, consolidation or refinancing of any of the foregoing, in whole or in part. [FOREIGN - For the avoidance of doubt, the Obligor does not assume and shall not be liable for any Obligations of US Borrowers under the Credit Agreement (exclusive of Indebtedness of the Foreign Borrowers that is guaranteed by US Borrowers under the Credit Agreement).

2. The Obligor Party to the Credit Agreement. On and after the Assumption Effective Date, the Obligor shall (a) be designated a “[Domestic Subsidiary][Foreign] Borrower” pursuant to the terms and conditions of the Credit Agreement, and (b) become bound by all representations, warranties, covenants, provisions and conditions of the Credit Agreement and each other Loan Document applicable to the Borrowers, as if the Obligor had been the original party making such representations, warranties and covenants; provided that any representations and warranties made or deemed made by such Obligor shall be deemed to have been made only as of the Assumption Effective Date and such later dates that such representations and warranties are expressly deemed to be remade under the Credit Agreement.

3. Representations and Warranties of the Obligor. The Obligor represents and warrants to the Administrative Agent and each Lender that:

(a) the Obligor is duly organized, validly existing, and in good standing (or comparable concept in the applicable jurisdiction) under the laws of its state or jurisdiction of incorporation or organization, and is duly qualified and authorized to do business and is in good standing (or comparable concept in the applicable jurisdiction) as a foreign entity in each state or jurisdiction where the character of its property or its business activities makes such qualification necessary, except where a failure to so qualify or be in good standing would not reasonably be expected to result in a Material Adverse Effect;

(b) the Obligor has full power, authority and legal right to execute and deliver this Agreement, and to perform and observe the provisions hereof and of the Credit Agreement and the Notes (if any) executed by the Obligor, and the officers acting on behalf of the Obligor have been duly authorized to execute and deliver this Agreement;

(c) this Agreement, the Credit Agreement and the Notes (if any) executed by the Obligor are each valid and binding upon the Obligor and enforceable against the Obligor in accordance with their respective terms, except as enforceability thereof may be limited by bankruptcy, insolvency, moratorium and similar laws and by equitable principles, whether considered at law or in equity; and

(d) each of the representations and warranties set forth in Article VI of the Credit Agreement applicable to the Borrowers are true and complete in all material respects with

respect to the Obligor as a [Domestic Subsidiary] [Foreign] Borrower under the Credit Agreement, except to the extent that any thereof expressly relate to an earlier date.

(e) Attached hereto as Exhibit A are supplemental schedules to the Credit Agreement, which schedules set forth the information required by the Credit Agreement with respect to the Obligor, which supplemental schedules shall be deemed to supplement the corresponding Schedules attached to the Credit Agreement, and each such supplemented Schedule accurately sets forth all of the information with respect to the Obligor that is required by the Credit Agreement, in each case as of the Assumption Effective Date.

4. Representations and Warranties of the Borrowers and the Obligor. The Borrowers and the Obligor represent and warrant to the Administrative Agent and each Lender that:

(a) no Default or Event of Default exists under the Credit Agreement, nor will any occur immediately after the execution and delivery of this Agreement or by the performance or observance of any provision hereof; and

(b) neither the execution and delivery of this Agreement, nor the performance and observance of the provisions hereof, by the Obligor violate or conflict with the Organizational Documents of Obligor, or any law applicable to Obligor or result in a breach of any provision of or constitute a default under any material agreement to which Obligor is a party.

5. Obligations of the Borrowers and Each Guarantor Not Affected. Anything herein to the contrary notwithstanding, the Borrowers and each Guarantor of Payment shall remain bound by the terms and conditions of all of the Loan Documents to which such Borrower or Guarantor of Payment is a party, regardless of the assumption of the Obligations by the Obligor hereunder, or the enforceability thereof or of any of the Loan Documents. Each Borrower and [Guarantor of Payment] hereby confirms the Obligations of such Borrower or Guarantor of Payment, respectively, under the Loan Documents. [TO BE EXECUTED BY ANY GUARANTOR LIABLE AS TO THE OBLIGATIONS OF THE NEW OBLIGOR]

[FOREIGN] 6. Administrative Borrower as Process Agent. Obligor hereby irrevocably authorizes and appoints DMC Global as Process Agent pursuant to the provisions of Section 12.21(c) of the Credit Agreement.

7. Conditions Precedent. Concurrently with the execution of this Agreement, the Borrowers and the Obligor, as appropriate, shall:

(a) satisfy each of the conditions set forth in Section 2.15[(a)][(b)] of the Credit Agreement;

(b) pay all reasonable legal fees and expenses of the Administrative Agent incurred in connection with this Agreement;

- (c) cause each other Borrower and Guarantor of Payment to consent and agree to and acknowledge the terms of this Agreement; and
- (d) provide such other items as may be reasonably required by the Administrative Agent or the Lenders in connection with this Agreement.

8. Binding Nature of Agreement. All provisions of the Credit Agreement shall remain in full force and effect and, other than as expressly set forth herein, be unaffected hereby. This Agreement is a Related Writing as defined in the Credit Agreement. This Agreement shall bind and benefit the Borrowers, the Obligor, the Administrative Agent and the Lenders and their respective successors and permitted assigns.

9. Counterparts. This Agreement may be executed in any number of counterparts, by different parties hereto in separate counterparts and by facsimile or other electronic signature, each of which when so executed and delivered shall be deemed to be an original and all of which taken together shall constitute but one and the same agreement.

10. New York Law to Govern. The rights and obligations of all parties hereto shall be governed by the laws of the State of New York.

[Remainder of page intentionally left blank.]

JURY TRIAL WAIVER EACH OF THE UNDERSIGNED, TO THE EXTENT PERMITTED BY LAW, HEREBY WAIVES ANY RIGHT TO HAVE A JURY PARTICIPATE IN RESOLVING ANY DISPUTE, WHETHER SOUNDING IN CONTRACT, TORT, OR OTHERWISE, AMONG THE ADMINISTRATIVE AGENT, THE LENDERS, THE OBLIGOR AND THE BORROWERS, OR ANY THEREOF, ARISING OUT OF, IN CONNECTION WITH, RELATED TO, OR INCIDENTAL TO THE RELATIONSHIP ESTABLISHED AMONG EACH OF THEM IN CONNECTION WITH THIS AGREEMENT OR ANY NOTE OR OTHER AGREEMENT, INSTRUMENT OR DOCUMENT EXECUTED OR DELIVERED IN CONNECTION THEREWITH OR THE TRANSACTIONS RELATED HERETO.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement by their duly authorized officers as of the date first above written.

[OBLIGOR_____]

By:____
Name:____
Title:____

DMC GLOBAL INC.

By:____
Name:____
Title:____

[OTHER BORROWERS]

KEYBANK NATIONAL ASSOCIATION
as the Administrative Agent

By:____
Name:____
Title:____

GUARANTOR ACKNOWLEDGMENT

Each of the undersigned consents and agrees to and acknowledges the terms of the foregoing the Additional Borrower Assumption Agreement, dated as of [____], 20[___]. Each of the undersigned specifically agrees to the waivers set forth in such agreement, including, but not limited to, the jury trial waiver. Each of the undersigned further agrees that the obligations of each of the undersigned pursuant to the Guaranty of Payment and any other Loan Document to which any of the undersigned is a party shall remain in full force and effect and be unaffected hereby.

[_____]

[_____]

By:____
Name:____
Title:____

By:____
Name:____
Title:____

EXHIBIT I
FORM OF
ASSIGNMENT AND ASSUMPTION AGREEMENT

This Assignment and Assumption Agreement (this "Assignment Agreement") is dated as of the Effective Date set forth below and is entered into by and between [the][each] Assignor identified in Section 1 below ([the][each, an] "Assignor") and [the][each] Assignee identified in Section 2 below ([the][each, an] "Assignee"). [It is understood and agreed that the rights and obligations of [the Assignors][the Assignees] hereunder are several and not joint.] Capitalized terms used but not defined herein shall have the meanings given to them in the Credit Agreement identified below (as amended, the "Credit Agreement"), receipt of a copy of which is hereby acknowledged by [the][each] Assignee. The Standard Terms and Conditions set forth in Annex 1 attached hereto are hereby agreed to and incorporated herein by reference and made a part of this Assignment Agreement as if set forth herein in full.

For an agreed consideration, [the][each] Assignor hereby irrevocably sells and assigns to [the Assignee][the respective Assignees], and [the][each] Assignee hereby irrevocably purchases and assumes from [the Assignor][the respective Assignors], subject to and in accordance with the Standard Terms and Conditions and the Credit Agreement, as of the Effective Date inserted by the Administrative Agent as contemplated below (a) all of [the Assignor's][the respective Assignors'] rights and obligations in [its capacity as a Lender][their respective capacities as Lenders] under the Credit Agreement and any other documents or instruments delivered pursuant thereto to the extent related to the amount and percentage interest identified below of all of such outstanding rights and obligations of [the Assignor][the respective Assignors] under the respective facilities identified below (including without limitation any letters of credit, guaranties, and swing loans included in such facilities), and (b) to the extent permitted to be assigned under applicable [law][Law], all claims, suits, causes of action and any other right of [the Assignor (in its capacity as a Lender)][the respective Assignors (in their respective capacities as Lenders)] against any Person, whether known or unknown, arising under or in connection with the Credit Agreement, any other documents or instruments delivered pursuant thereto or the loan transactions governed thereby or in any way based on or related to any of the foregoing, including, but not limited to, contract claims, tort claims, malpractice claims, statutory claims and all other claims at law or in equity related to the rights and obligations sold and assigned pursuant to subpart (a) above (the rights and obligations sold and assigned by [the][any] Assignor to [the][any] Assignee pursuant to subparts (a) and (b) above being referred to herein collectively as [the][an] "Assigned Interest"). Each such sale and assignment is without recourse to [the][any] Assignor and, except as expressly provided in this Assignment Agreement, without representation or warranty by [the][any] Assignor.

1. Assignor[s]: _____

2. Assignee[s]: _____

[Assignee is an [Affiliate][Approved Fund] of [identify Lender]]

3. Borrower(s): DMC Global Inc., a Delaware corporation, the Domestic Subsidiary Borrowers and the Foreign Borrowers
4. Administrative Agent: KeyBank National Association, as the administrative agent under the Credit Agreement
5. Credit Agreement: The [amount] Credit and Security Agreement dated as of March 8, 2018 among the Borrowers, the Lenders parties thereto and the Administrative Agent.
6. Assigned Interest[s]:

| Assignor[s] | Assignee[s] | Commitment Assigned | Aggregate Amount of Commitment/Loans for all Lenders | Amount of Commitment/Loans Assigned | Percentage Assigned of Commitment/Loans | CUSIP Number |
|-------------|-------------|---------------------|--|-------------------------------------|---|--------------|
| | | | \$ | \$ | % | |
| | | | \$ | \$ | % | |
| | | | \$ | \$ | % | |

[7. Trade Date: _____]

8. Effective Date: _____, 20____ [TO BE INSERTED BY ADMINISTRATIVE AGENT AND WHICH SHALL BE THE EFFECTIVE DATE OF RECORDATION OF TRANSFER IN THE REGISTER THEREFOR.]

[Remainder of page intentionally left blank.]

The terms set forth in this Assignment Agreement are hereby agreed to:

ASSIGNOR[S]
[NAME OF ASSIGNOR]

By: __
Name: __
Title: __

[NAME OF ASSIGNOR]

By: __
Name: __
Title: __

ASSIGNEE[S]
[NAME OF ASSIGNEE]

By: __
Name: __
Title: __

[NAME OF ASSIGNEE]

By: __
Name: __
Title: __

Consented to and Accepted:

KEYBANK NATIONAL ASSOCIATION, as
Administrative Agent

By: __
Name: __
Title: __

Consented to:

DMC GLOBAL INC.

By: __
Name: __
Title: __

STANDARD TERMS AND CONDITIONS FOR
ASSIGNMENT AND ASSUMPTION AGREEMENT1. Representations and Warranties

1.1 Assignor[s]. [The][Each] Assignor (a) represents and warrants that (i) it is the legal and beneficial owner of [the][the relevant] Assigned Interest, (ii) [the][such] Assigned Interest is free and clear of any lien, encumbrance or other adverse claim, (iii) it has full power and authority, and has taken all action necessary, to execute and deliver this Assignment Agreement and to consummate the transactions contemplated hereby, and (iv) it is not a Defaulting Lender; and (b) assumes no responsibility with respect to (i) any statements, warranties or representations made in or in connection with the Credit Agreement or any other Loan Document, (ii) the execution, legality, validity, enforceability, genuineness, sufficiency or value of the Loan Documents or any collateral thereunder, (iii) the financial condition of the Borrower[s], any of [its][their] Subsidiaries or Affiliates or any other Person obligated in respect of any Loan Document, or (iv) the performance or observance by the Borrower[s], any of [its][their] Subsidiaries or Affiliates or any other Person of any of their respective obligations under any Loan Document.

1.2. Assignee[s]. [The][Each] Assignee (a) represents and warrants that (i) it has full power and authority, and has taken all action necessary, to execute and deliver this Assignment Agreement and to consummate the transactions contemplated hereby and to become a Lender under the Credit Agreement, (ii) it meets all the requirements to be an assignee under Section [10.9] of the Credit Agreement (subject to such consents, if any, as may be required thereunder), (iii) from and after the Effective Date, it shall be bound by the provisions of the Credit Agreement as a Lender thereunder and, to the extent of [the][the relevant] Assigned Interest, shall have the obligations of a Lender thereunder, (iv) it is sophisticated with respect to decisions to acquire assets of the type represented by the Assigned Interest and either it, or the Person exercising discretion in making its decision to acquire the Assigned Interest, is experienced in acquiring assets of such type, (v) it has received a copy of the Credit Agreement, and has received or has been accorded the opportunity to receive copies of the most recent financial statements delivered pursuant to Section 5.3 thereof, as applicable, and such other documents and information as it deems appropriate to make its own credit analysis and decision to enter into this Assignment Agreement and to purchase [the][such] Assigned Interest, (vi) it has, independently and without reliance upon the Administrative Agent or any other Lender, and based on such documents and information as it has deemed appropriate, made its own credit analysis and decision to enter into this Assignment Agreement and to purchase [the][such] Assigned Interest, and (vii) if it is a Foreign Lender, attached to the Assignment Agreement is any documentation required to be delivered by it pursuant to the terms of the Credit Agreement, duly completed and executed by [the][such] Assignee; and (b) agrees that (i) it will, independently and without reliance on the Administrative Agent, [the][any] Assignor or any other Lender, and based on such documents and information as it shall deem appropriate at the time, continue to make its own credit decisions in taking or not taking action under the Loan Documents, and (ii) it will perform in accordance with their terms all of the obligations which by the terms of the Loan Documents are required to be performed by it as a Lender.

2. Payments. From and after the Effective Date, the Administrative Agent shall make all payments in respect of [the][each] Assigned Interest (including payments of principal, interest, fees and other amounts) to [the][the relevant] Assignor for amounts which have accrued to but excluding the Effective Date and to [the][the relevant] Assignee for amounts which have accrued from and after the Effective Date. Notwithstanding the foregoing, the Administrative Agent shall make all payments of interest, fees or other amounts paid or payable in kind from and after the Effective Date to [the][the relevant] Assignee.

3. General Provisions. This Assignment Agreement shall be binding upon, and inure to the benefit of, the parties hereto and their respective successors and assigns. This Assignment Agreement may be executed in any number of counterparts, which together shall constitute one instrument. Delivery of an executed counterpart of a signature page of this Assignment Agreement by facsimile or electronic communication shall be effective as delivery of a manually executed counterpart of this Assignment Agreement. This Assignment Agreement shall be governed by, and construed in accordance with, the law of the State of New York.

EXHIBIT J-1
FORM OF
U.S. TAX COMPLIANCE CERTIFICATE

(For Foreign Lenders That Are Not Partnerships For U.S. Federal Income Tax Purposes)

Reference is hereby made to that certain Credit and Security Agreement, dated as of March 8, 2018 (the "Credit Agreement"), among DMC Global Inc., a Delaware corporation, the Domestic Subsidiary Borrowers named therein, the Foreign Borrowers named therein (collectively, the "Borrowers"), the Lenders, as defined therein, and KeyBank National Association, as the administrative agent for the Lenders (the "Administrative Agent").

Pursuant to the provisions of Section 3.2 of the Credit Agreement, the undersigned hereby certifies that (a) it is the sole record and beneficial owner of the Loan(s) (as well as any Note(s) evidencing such Loan(s)) in respect of which it is providing this certificate, (b) it is not a bank within the meaning of Section 881(c)(3)(A) of the Code, (c) it is not a ten percent (10%) shareholder of the Borrowers within the meaning of Section 871(h)(3)(B) of the Code and (iv) it is not a controlled foreign corporation related to the Borrowers as described in Section 881(c)(3)(C) of the Code.

The undersigned has furnished the Administrative Agent and the Borrowers with a certificate of its non-U.S. Person status on IRS Form W-8BEN-E. By executing this certificate, the undersigned agrees that (i) if the information provided on this certificate changes, the undersigned shall promptly so inform the Borrowers and the Administrative Agent, and (ii) the undersigned shall have at all times furnished the Borrowers and the Administrative Agent with a properly completed and currently effective certificate in either the calendar year in which each payment is to be made to the undersigned, or in either of the two calendar years preceding such payments.

Unless otherwise defined herein, terms defined in the Credit Agreement and used herein shall have the meanings given to them in the Credit Agreement.

[NAME OF LENDER]

By: __

Name:

Title:

Date: _____, 20[]

EXHIBIT J-2
FORM OF
U.S. TAX COMPLIANCE CERTIFICATE

(For Foreign Participants That Are Not Partnerships For U.S. Federal Income Tax Purposes)

Reference is hereby made to that certain Credit and Security Agreement, dated as of March 8, 2018 (the "Credit Agreement"), among DMC Global Inc., a Delaware corporation, the Domestic Subsidiary Borrowers named therein, the Foreign Borrowers named therein (collectively, the "Borrowers"), the Lenders, as defined therein, and KeyBank National Association, as the administrative agent for the Lenders (the "Administrative Agent").

Pursuant to the provisions of Section 3.2 of the Credit Agreement, the undersigned hereby certifies that (a) it is the sole record and beneficial owner of the participation in respect of which it is providing this certificate, (b) it is not a bank within the meaning of Section 881(c)(3)(A) of the Code, (c) it is not a ten percent (10%) shareholder of the Borrowers within the meaning of Section 871(h)(3)(B) of the Code, and (d) it is not a controlled foreign corporation related to the Borrower as described in Section 881(c)(3)(C) of the Code.

The undersigned has furnished its participating Lender with a certificate of its non-U.S. Person status on IRS Form W-8BEN-E. By executing this certificate, the undersigned agrees that (i) if the information provided on this certificate changes, the undersigned shall promptly so inform such Lender in writing, and (ii) the undersigned shall have at all times furnished such Lender with a properly completed and currently effective certificate in either the calendar year in which each payment is to be made to the undersigned, or in either of the two calendar years preceding such payments.

Unless otherwise defined herein, terms defined in the Credit Agreement and used herein shall have the meanings given to them in the Credit Agreement.

[NAME OF PARTICIPANT]

By: __

Name:

Title:

Date: _____, 20[]

EXHIBIT J-3
FORM OF
U.S. TAX COMPLIANCE CERTIFICATE

(For Foreign Participants That Are Partnerships For U.S. Federal Income Tax Purposes)

Reference is hereby made to that certain Credit and Security Agreement, dated as of March 8, 2018 (the "Credit Agreement"), among DMC Global Inc., a Delaware corporation, the Domestic Subsidiary Borrowers named therein, the Foreign Borrowers named therein (collectively, the "Borrowers"), the Lenders, as defined therein, and KeyBank National Association, as the administrative agent for the Lenders (the "Administrative Agent").

Pursuant to the provisions of Section 3.2 of the Credit Agreement, the undersigned hereby certifies that (a) it is the sole record owner of the participation in respect of which it is providing this certificate, (b) its direct or indirect partners/members are the sole beneficial owners of such participation, (c) with respect such participation, neither the undersigned nor any of its direct or indirect partners/members is a bank extending credit pursuant to a loan agreement entered into in the ordinary course of its trade or business within the meaning of Section 881(c)(3)(A) of the Code, (d) none of its direct or indirect partners/members is a ten percent (10%) shareholder of the Borrowers within the meaning of Section 871(h)(3)(B) of the Code and (e) none of its direct or indirect partners/members is a controlled foreign corporation related to the Borrowers as described in Section 881(c)(3)(C) of the Code.

The undersigned has furnished its participating Lender with IRS Form W-8IMY accompanied by one of the following forms from each of its partners/members that is claiming the portfolio interest exemption: (i) an IRS Form W-8BEN or W-8BEN-E or (ii) an IRS Form W-8IMY accompanied by an IRS Form W-8BEN or W-8BEN-E from each of such partner's/member's beneficial owners that is claiming the portfolio interest exemption. By executing this certificate, the undersigned agrees that (A) if the information provided on this certificate changes, the undersigned shall promptly so inform such Lender and (B) the undersigned shall have at all times furnished such Lender with a properly completed and currently effective certificate in either the calendar year in which each payment is to be made to the undersigned, or in either of the two calendar years preceding such payments.

Unless otherwise defined herein, terms defined in the Credit Agreement and used herein shall have the meanings given to them in the Credit Agreement.

[NAME OF PARTICIPANT]

By: __

Name:

Title:

Date: _____, 20[]

EXHIBIT J-4
FORM OF
U.S. TAX COMPLIANCE CERTIFICATE

(For Foreign Lenders That Are Partnerships For U.S. Federal Income Tax Purposes)

Reference is hereby made to that certain Credit and Security Agreement, dated as of March 8, 2018 (the "Credit Agreement"), among DMC Global Inc., a Delaware corporation, the Domestic Subsidiary Borrowers named therein, the Foreign Borrowers named therein (collectively, the "Borrowers"), the Lenders, as defined therein, and KeyBank National Association, as the administrative agent for the Lenders (the "Administrative Agent").

Pursuant to the provisions of Section 3.2 of the Credit Agreement, the undersigned hereby certifies that (a) it is the sole record owner of the Loan(s) (as well as any Note(s) evidencing such Loan(s)) in respect of which it is providing this certificate, (b) its direct or indirect partners/members are the sole beneficial owners of such Loan(s) (as well as any Note(s) evidencing such Loan(s)), (c) with respect to the extension of credit pursuant to the Credit Agreement or any other Loan Document, neither the undersigned nor any of its direct or indirect partners/members is a bank extending credit pursuant to a loan agreement entered into in the ordinary course of its trade or business within the meaning of Section 881(c)(3)(A) of the Code, (d) none of its direct or indirect partners/members is a ten percent (10%) shareholder of the Borrowers within the meaning of Section 871(h)(3)(B) of the Code and (e) none of its direct or indirect partners/members is a controlled foreign corporation related to the Borrowers as described in Section 881(c)(3)(C) of the Code.

The undersigned has furnished the Administrative Agent and the Borrowers with IRS Form W-8IMY accompanied by one of the following forms from each of its partners/members that is claiming the portfolio interest exemption: (i) an IRS Form W-8BEN or W-8BEN-E or (ii) an IRS Form W-8IMY accompanied by an IRS Form W-8BEN or W-8BEN-E from each of such partner's/member's beneficial owners that is claiming the portfolio interest exemption. By executing this certificate, the undersigned agrees that (A) if the information provided on this certificate changes, the undersigned shall promptly so inform the Borrowers and the Administrative Agent, and (B) the undersigned shall have at all times furnished the Borrowers and the Administrative Agent with a properly completed and currently effective certificate in either the calendar year in which each payment is to be made to the undersigned, or in either of the two calendar years preceding such payments.

Unless otherwise defined herein, terms defined in the Credit Agreement and used herein shall have the meanings given to them in the Credit Agreement.

[NAME OF LENDER]

By: __

Name:

Title:

AMENDED AND RESTATED NONQUALIFIED DEFERRED COMPENSATION PLAN

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DMC Global Inc.
Amended and Restated Nonqualified Deferred Compensation Plan

1. **Establishment of Plan.** DMC Global Inc. (formerly Dynamic Materials Corporation) (the "Company") hereby adopts this DMC Global Inc. Amended and Restated Nonqualified Deferred Compensation Plan (effective August 30, 2017), which is an unfunded deferred compensation plan intended to benefit a select group of key management or highly compensated employees of the Company and its participating Affiliates.

2. **Purpose of Plan.** The purpose of the Plan is to provide a select group of management or highly compensated employees (within the meaning of Sections 201(2), 301(a)(3) and 401(a)(1) of ERISA) of the Company and any Employer with supplemental retirement income benefits through the deferral of Compensation.

3. **Definitions.**

3.1 **"Acceleration Events"** is defined in Section 11.1 hereof.

3.2 **"Account"** means a hypothetical bookkeeping account established in the name of each Participant and maintained by the Company to reflect the Participant's interests under the Plan.

3.3 **"Affiliate"** means any corporation, limited liability, partnership or other entity of which the Company has the right to cast a majority of the votes through ownership of voting interests or by contractual right.

3.4 **"Base Salary"** means the annual rate of base pay paid by the Company to or for the benefit of the Participant for services rendered.

3.5 **"Beneficiary"** means any person or entity, designated in accordance with Section 15.7, entitled to receive benefits which are payable upon or after a Participant's death pursuant to the terms of the Plan.

3.6 **"Board"** means the Board of Directors of the Company, as constituted from time to time.

3.7 **"Bonus Compensation"** means any cash compensation earned by a Participant for services rendered by a Participant under any bonus or cash incentive plan maintained by the Company.

3.8 **"Change in Control"** means the occurrence of any of the following:

(a) The acquisition by any individual, entity or group (within the meaning of Section 13(d)(3) or 14(d)(2) of the Exchange Act) (a "Person") of beneficial ownership (within the meaning of Rule 13d-3 promulgated under the Exchange Act) of 25% of either (i) the then outstanding shares of common stock of the Company (the "Outstanding Company Common Stock") or (ii) the combined voting power of the then outstanding voting securities of the Company entitled

to vote generally in the election of directors (the "Outstanding Company Voting Securities"); provided, however, that for purposes of this subsection (a), the following acquisitions shall not constitute a Change in Control: (i) any acquisition directly from the Company, (ii) any acquisition by the Company, including any acquisition which, by reducing the number of shares outstanding, is the sole cause for increasing the percentage of shares beneficially owned by any such Person to more than the applicable percentage set forth above, (iii) any acquisition by any employee benefit plan (or related trust) sponsored or maintained by the Company or any corporation controlled by the Company or (iv) any acquisition by any corporation pursuant to a transaction which complies with clauses (i), (ii) and (iii) of subsection (c) of this definition.

(b) Individuals who, as of the date hereof, constitute the Board (the "Incumbent Board") cease for any reason within any period of 24 months to constitute at least a majority of the Board; provided, however, that any individual becoming a director subsequent to the date hereof whose election, or nomination for election by the Company's stockholders, was approved by a vote of at least a majority of the directors then comprising the Incumbent Board, shall be considered as though such individual were a member of the Incumbent Board, but excluding, for this purpose, any such individual whose initial assumption of office occurs as a result of an actual or threatened election contest with respect to the election or removal of directors or other actual or threatened solicitation of proxies or consents by or on behalf of a Person other than the Board.

(c) Consummation by the Company of a reorganization, merger or consolidation or sale or other disposition of all or substantially all of the assets of the Company or the acquisition of assets of another corporation (a "Business Combination"), in each case, unless, following such Business Combination, (i) more than 50% of, respectively, the then outstanding shares of common stock and the combined voting power of the then outstanding voting securities entitled to vote generally in the election of directors, as the case may be, of the corporation resulting from such Business Combination (including without limitation, a corporation which as a result of such transaction owns the Company or all or substantially all of the Company's assets either directly or through one or more subsidiaries) is represented by Outstanding Company Common Stock and Outstanding Company Voting Securities, respectively, that were outstanding immediately prior to such Business Combination (or, if applicable, is represented by shares into which such Outstanding Company Common Stock and Outstanding Company Voting Securities were converted pursuant to such Business Combination) and such ownership of common stock and voting power among the holders thereof is in substantially the same proportions as their ownership, immediately prior to such Business Combination of the Outstanding Company Common Stock and Outstanding Company Voting Securities, as the case may be, (ii) no Person (excluding any employee benefit plan (or related trust) of the Company or such corporation resulting from such Business Combination) beneficially owns, directly or indirectly, 20% or more of, respectively, the then outstanding shares of the corporation resulting from such Business Combination or the combined voting power of the then outstanding voting securities of such corporation except to the extent that such ownership existed prior to the Business Combination and (iii) at least a majority of the members of the board of directors of the corporation resulting from such Business Combination were members of the Incumbent Board at the time of the execution of the initial agreement, or of the action of the Board, providing for such Business Combination.

(d) Approval by the stockholders of the Company of a complete liquidation or dissolution of the Company.

3.9 “**Claimant**” has the meaning set forth in Section 16.

3.10 “**Code**” means the U.S. Internal Revenue Code of 1986, as amended, or any successor statute, and the Treasury Regulations and other authoritative guidance issued thereunder.

3.11 “**Committee**” means the person or persons appointed by the Board to administer the Plan in accordance with Section 13.

3.12 “**Company**” means DMC Global Inc., a Delaware corporation, or any successor thereto.

3.13 “**Compensation**” means amounts eligible for deferral under this Plan, which includes Base Salary, Bonus Compensation, Director's Fees, Incentive Compensation and Restricted Stock Awards.

3.14 “**Deferral Election**” means an election by an Eligible Employee to defer Compensation for a Plan Year.

3.15 “**Determination Date**” means the last Valuation Date reasonably preceding the payment date.

3.16 “**Director**” means a member of the Board.

3.17 “**Director's Fees**” means compensation for services, including Restricted Stock Awards, as a member of the Board, excluding reimbursement of expenses or other nonregular forms of compensation, before reductions for contributions to or deferrals under any deferred compensation plan sponsored by the Company.

3.18 “**Disabled or Disability**” means that a Participant is: (a) unable to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment which can be expected to result in death or can be expected to last for a continuous period of not less than 12 months; or (b) by reason of any medically determinable physical or mental impairment which can be expected to result in death or can be expected to last for a continuous period of not less than 12 months, receiving income replacement benefits for a period of not less than three months under an accident and health plan covering employees of the Company; or (c) determined to be totally disabled by the Social Security Administration.

3.19 “**Distribution Date**” means a date specified by a Participant in his or her Election Notice for the payment of all or a portion of such Participant's Account. A Distribution Date may be a specified date while the Participant remains an Eligible Employee, the attainment of a specific age, the Participant's Separation from Service or the Participant's Separation from Service within 12 months after a Change in Control.

3.20 "Effective Date" means January 1, 2015. The original Effective Date of the Plan was January 1, 2013, but no deferrals have been made to this Plan prior to January 1, 2015.

3.21 "Election Notice" means the notice or notices established from time to time by the Committee for making Deferral Elections under the Plan. The Election Notice includes the amount or percentage of Compensation to be deferred (subject to any minimum or maximum amounts established by the Committee); the Distribution Date(s); the form of payment (lump sum or installments); and the selected Investment Options. Each Election Notice shall become irrevocable as of the last day of the Election Period.

3.22 "Election Period" means the period established by the Committee with respect to each Plan Year during which Deferral Elections for such Plan Year must be made in accordance with the requirements of Section 409A of the Code, as follows:

(a) *General Rule.* Except as provided in subsections (b), (c) and (d) below, the Election Period shall end no later than the last day of the Plan Year immediately preceding the Plan Year to which the Deferral Election relates.

(b) *Performance-based Compensation.* If any Bonus Compensation or Incentive Compensation constitutes "performance-based compensation" within the meaning of Treas. Reg. Section 1.409A-1(e), then the Election Period for such amounts shall end no later than six months before the end of the Plan Year during which the Bonus Compensation or Incentive Compensation is earned (and in no event later than the date on which the amount of the Bonus Compensation or Incentive Compensation becomes readily ascertainable).

In order for an Eligible Employee to make a deferral election for Performance-Based Compensation in accordance with the Election Period described in this subsection(b), the Eligible Employee must have performed services continuously from the later of (i) the beginning of the performance period for such compensation, or (ii) the date upon which the performance criteria for such compensation are established, through the date upon which the Eligible Employee makes the Deferral Election for such Performance-Based Compensation.

(c) *Newly Eligible Employees.* The Election Period for newly Eligible Employees shall end no later than 30 days after the Employee first becomes eligible to participate in the Plan and shall apply only with respect to Compensation earned after the date of the Deferral Election.

(d) *Restricted Stock Awards.* The Election Period for deferrals of Restricted Stock Awards shall be as follows, as determined by the Committee:

(1) on or before December 31st of any Plan Year (or such earlier date established in the discretion of the Committee) with respect to Restricted Stock Awards granted to the Participant in the following Plan Year and any subsequent Plan Years as specified in the Deferred Election; provided, however, that no Deferral Election may be made under this subsection (1) with respect to any Restricted Stock Awards granted to an

Eligible Employee with respect to any services performed by such Eligible Employee prior to the applicable December 31st; or

(2) on or before the 30th day following the date of any Restricted Stock Award grant, provided, however, that no Deferral Election made pursuant to this subsection (2) shall be effective with respect to any Restricted Stock Award that vests prior to the date that is twelve months after the date of such Deferral Election, unless the vesting of such Restricted Stock Award during such twelve-month period may only occur in the event of the Participant's death, disability (as defined in Treas. Reg. §1.409A-3(i)(4)), or a change in control event (as defined in Treas. Reg. §1.409A-3(i)(5)).

3.23 "Elective Deferrals" means deferrals of Compensation.

3.24 "Elective Deferral Account" means a separate account maintained for each Participant to record the Elective Deferrals made to the Plan pursuant to Section 5 and all earnings and losses allocable thereto.

3.25 "Eligible Employee" means an Employee who is selected by the Committee to participate in the Plan and any member of the Board. Participation in the Plan is limited to a select group of the Company's key management or highly compensated employees.

3.26 "Employee" means an employee of any Employer.

3.27 "Employer" means the following:

(a) Except as provided in subsection (b) below, "Employer" means the Company and any of its Affiliates that have been selected by the Board to participate in the Plan and have adopted the Plan as a participating employer.

(b) For the purpose of determining whether a Participant has experienced a Separation from Service, the term "Employer" shall mean:

(1) The entity for which the Participant performs services and with respect to which the legally binding right to compensation deferred under this Plan arises; and

(2) All other entities with which the entity described above would be aggregated and treated as a single employer under Code Section 414(b) (controlled group of corporations) and Code Section 414(c) (a group of trades or businesses, whether or not incorporated, under common control), as applicable. In order to identify the group of entities described in the preceding sentence, the Committee shall use an ownership threshold of 50% as a substitute for the 80% minimum ownership threshold that appears in, and otherwise must be used when applying, the applicable provisions of (A) Code Section 1563 for determining a controlled group of corporations under Code Section 414(b), and (B) Treas. Reg. §1.414(c)-2 for determining the trades or businesses that are under common control under Code Section 414(c).

the Plan.

3.28 “Entry Date” means, with respect to an Eligible Employee, the first day of the pay period following the effective date of such Eligible Employee's participation in the Plan.

3.29 “ERISA” means the Employee Retirement Income Security Act of 1974, as amended from time to time.

3.30 “FICA Amount”

3.31 “409A Change in Control” means a Change in Control that is a “change in the ownership of a corporation,” a change in the effective control of a corporation,” or a change in the ownership of a substantial portion of a corporation's assets” described in Treas. Reg. § 1.409A-3(i)(5)(v), (vi), or (vii), respectively, where the Company is the relevant corporation for purposes of applying such subparagraphs.

3.31 “Incentive Compensation” shall mean any portion of the compensation attributable to a Plan Year that is earned by a Participant under a long-term incentive plan or any other long-term incentive arrangement designated by the Committee, before reductions for contributions to or deferrals under any pension, deferred compensation or benefit plans sponsored by the Company.

3.32 “Investment Option” means an investment fund, index or vehicle selected by the Committee and made available to Participants for the deemed investment of their Accounts.

3.33 “Participant” means an Eligible Employee who elects to participate in the Plan by filing an Election Notice in accordance with [Section 5.1](#) and any former Eligible Employee who continues to be entitled to a benefit under the Plan.

3.34 “Payment Event” has the meaning set forth in [Section 9.1](#).

3.35 “Plan” means this DMC Global Inc. Nonqualified Deferred Compensation Plan, as amended from time to time.

3.36 “Plan Year” means the twelve consecutive month period which begins on January 1 and ends on the following December 31.

3.37 “Re-deferral Election” has the meaning set forth in [Section 5.6](#).

3.38 “Restricted Stock Awards” shall mean awards of equity securities of the Company that are unvested and forfeitable when granted.

3.39 “Separation from Service” has the meaning set forth in Section 409A(a)(2)(A)(i) of the Code and Treas. Reg. Section 1.409A-1(h) including the default presumptions thereunder.

(a) For a Participant who provides services to an Employer as an employee, a Separation from Service shall occur when such Participant has experienced a termination of employment with the Employer. A Participant shall be considered to have experienced

a termination of employment when the facts and circumstances indicate that the Participant and his or her Employer reasonably anticipate that either (i) no further services will be performed for the Employer after a certain date, or (ii) that the level of bona fide services the Participant will perform for the Employer after such date (whether as an employee or as an independent contractor) will permanently decrease to no more than 20% of the average level of bona fide services performed by such Participant (whether as an employee or an independent contractor) over the immediately preceding 36-month period (or the full period of services to the employer if the Participant has been providing services to the Employer less than 36 months).

(b) If a Participant is on military leave, sick leave, or other bona fide leave of absence, the employment relationship between the Participant and the Employer shall be treated as continuing intact, provided that the period of such leave does not exceed 6 months, or if longer, so long as the Participant retains a right to reemployment with the Employer under an applicable statute or by contract. If the period of a military leave, sick leave, or other bona fide leave of absence exceeds 6 months and the Participant does not retain a right to reemployment under an applicable statute or by contract, the employment relationship shall be considered to be terminated for purposes of this Plan as of the first day immediately following the end of such 6-month period. In applying the provisions of this paragraph, a leave of absence shall be considered a bona fide leave of absence only if there is a reasonable expectation that the Participant will return to perform services for the Employer.

(c) For a Participant who is a Director, a Separation from Service shall occur when such Participant ceases to be a Director.

3.40 “State, Local and Foreign Tax Amount” has the meaning set forth in Section 11.1(f).

3.41 “Trust” has the meaning set forth in Section 15.5.

3.42 “Trust Agreement” has the meaning set forth in Section 15.5.

3.43 “Unforeseeable Emergency” means a severe financial hardship of the Participant resulting from (a) an illness or accident of the Participant, the Participant’s spouse, or the Participant’s dependent; (b) a loss of the Participant’s property due to casualty; or (c) such other similar extraordinary and unforeseeable circumstances arising as a result of events beyond the control of the Participant, all as determined in the sole discretion of the Committee.

3.44 “Valuation Date” means each business day of the Plan Year.

4. Eligibility; Participation.

4.1 Requirements for Participation. Before the beginning of each Plan Year, the Committee shall select those Employees who shall be Eligible Employees for such Plan Year. Any Eligible Employee may participate in the Plan commencing as of the Entry Date occurring on or after the date on which they become an Eligible Employee.

4.2 Election to Participate; Benefits of Participation An Eligible Employee may become a Participant in the Plan by making a Deferral Election in accordance with Section 5.

5. Election Procedures.

5.1 Deferral Election. An Eligible Employee may elect to defer Compensation by completing an Election Notice and filing it with the Committee during the Election Period. The Election Notice must specify:

- (a) The amount or percentage of Compensation to be deferred (subject to any minimum established in the Plan);
- (b) The Distribution Date for the Participant's Account (subject to the provisions of the Plan)
- (c) Whether a 409A Change in Control shall be a Payment Event;
- (d) The form of payment for the Participant's Account (lump sum or annual installments); and
- (e) The percentage or amount of the Participant's Account to be allocated to each Investment Option available under the Plan.

5.2 Base Salary Deferrals. A Participant may elect to defer up to 100% of the Participant's Base Salary for any Plan Year by making a Deferral Election in accordance with this Section 5. Base Salary deferrals shall be credited to a Participant's Elective Deferral Account as of the date the Base Salary otherwise would have been paid.

5.3 Bonus Compensation Deferrals. A Participant may elect to defer up to 100% of the Participant's Bonus Compensation for any Plan Year by making a Deferral Election in accordance with this Section 5. Bonus Deferrals shall be credited to the Participant's Elective Deferral Account as of the date the deferred Bonus Compensation otherwise would have been paid.

5.4 Incentive Compensation Deferrals. A Participant may elect to defer up to 100% of the Participant's Incentive Compensation for any Plan Year by making a Deferral Election in accordance with this Section 5. Incentive Compensation Deferrals shall be credited to the Participant's Elective Deferral Account as of the date the deferred Incentive Compensation otherwise would have been paid.

5.5 Restricted Stock Award Deferrals. A Participant may elect to defer up to 100% of the Participant's Restricted Stock Awards granted in any Plan Year by making a Deferral Election in accordance with this Section 5; provided, however, that the Committee, in its discretion, may require that a deferral of a Restricted Stock Award may be permitted only if 100% of a grant of Restricted Stock Awards is deferred under this Plan. Restricted Stock Award Deferrals shall be credited to the Participant's Elective Deferral Account as of the date the Restricted Stock Award is granted.

5.6 Re-deferrals and Changing the Form of Payment The Participant may make an election to re-defer all or a portion of the amounts in his or her Account until a later Distribution Date or to change the form of a payment (a "Re-deferral Election"); provided that, the following requirements are met:

- (a) The re-deferral election is made at least 12 months before the original Distribution Date;
- (b) The Distribution Date for the re-deferred amounts is at least five years later than the original Distribution Date; and
- (c) The re-deferral election will not take effect for at least 12 months after the re-deferral election is made.

5.7 Irrevocability of Elections Except as otherwise provided in Section 10, Election Notices shall become irrevocable at midnight of the last day of the applicable Election Period or, if earlier, the latest date under Section 409A of the Code that such Election Notice must be irrevocable to avoid the imposition of tax or interest under Section 409A of the Code.

6. Company Contributions The Company may make contributions to the Plan on behalf of any Participant in its sole discretion.

7. Accounts and Investment Options

7.1 Establishment of Accounts The Company shall establish and maintain an Account for each Participant. The Company may establish more than one Account on behalf of any Participant as deemed necessary by the Committee for administrative purposes.

7.2 Investment Options The Committee shall select the Investment Options to be made available to Participants for the deemed investment of their Accounts under the Plan. The Committee may change, discontinue, or add to the Investment Options made available under the Plan at any time in its sole discretion. A Participant must select the Investment Options for his or her Account in the Participant's Election Notice and may make changes to his or her selections in accordance with procedures established by the Committee.

(a) Notwithstanding any other provision of the Plan, the amount credited to an Account with respect to the deferral of Restricted Stock Awards shall be deemed to be invested in the common stock of the Company until such time as the Participant elects to change such deemed investment to the extent permitted under procedures established by the Committee, and the earnings and losses with respect to such deemed investments shall be the earnings or losses attributable to the Company's common stock. In no event will a Participant be permitted to change the deemed investment of deferred Restricted Stock Awards prior to the time such Restricted Stock Awards are vested.

(b) If any change shall occur in or affect shares of Company common stock on account of a merger, consolidation, reorganization, stock dividend, stock split or

combination, reclassification, recapitalization, distribution to holders of shares of Company common stock (other than cash dividends) or such similar event (as determined by the Committee in its discretion), the Committee shall make such adjustments, if any, that it deems necessary or equitable in each Participant's Account holding deferred Restricted Stock Awards in order to prevent the dilution or enlargement of the Participant's benefits under the Plan.

7.3 Investment Earnings. Each Account shall be adjusted for earnings or losses based on the performance of the Investment Options selected. Earnings and losses shall be computed on each Valuation Date. The amount paid to a Participant on the payment date shall be determined as of the applicable Determination Date.

7.4 Nature of Accounts. Accounts are not actually invested in the Investment Options available under the Plan and Participants do not have any real or beneficial ownership in any Investment Option. A Participant's Account is solely a device for the measurement and determination of the amounts to be paid to the Participant pursuant to the Plan and shall not constitute or be treated as a trust fund of any kind.

7.5 Statements. Each Participant shall be provided with statements setting out the amounts in his or her Account which shall be delivered at such intervals determined by the Committee.

8. Vesting. Participants shall be fully vested at all times in their Compensation deferrals and any earnings thereon; provided, however, that deferrals of Restricted Stock Awards shall become vested only when the underlying Restricted Stock Award otherwise becomes vested pursuant to the terms of such award.

9. Payment of Participant Accounts.

9.1 In General. Payment of a Participant's vested Account shall be made (or commence, in the case of installments) on the earliest to occur of the following events (each a "Payment Event"):

(a) The Distribution Date specified in the Participant's Deferral Election; provided that, the Participant must select from among the available Distribution Date(s) designated by the Committee and set forth in the Election Notice;

(b) The Participant's Separation from Service;

(c) The Participant's death;

(d) The Participant's Disability; and,

(e) A 409A Change in Control (if so elected by Participant in an Election Notice).

9.2 Timing of Valuation. The value of a Participant's Account on the payment date shall be determined as of the applicable Determination Date.

9.3 Timing of Payments. Except as otherwise provided in this Section 9, payments shall be made or commence within ninety (90) days following a Payment Event (and, should such 90-day period include more than one taxable year of the Participant, the Participant shall not have the right to specify the taxable year of payment) except that any payment that is triggered by the Participant's Separation from Service or Disability shall be made or commence on the first payroll date of the seventh (7th) month following such Separation from Service.

9.4 Participant Death following Separation from Service. Upon the Participant's death following a Separation from Service [or Disability], payment of the Participant's account shall be made as if the Payment Event is the Participant's death.

9.5 Form of Payment. Each Participant shall specify in his or her Election Notice the form of payment (lump sum or installments) for amounts in his or her Account that are covered by the election; provided that, if the Participant elects to have amounts paid in installments, the Participant must select from among the permissible installment schedules selected by the Committee and set forth in the Election Notice. In the absence of a valid election with respect to form of payment, amounts will be paid in a single lump sum.

9.6 Limit on Installment Payments. Notwithstanding the above, a Participant may not elect installment payments over a period that exceeds five (5) years for payments commencing on a specified date while a Participant is an Eligible Employee and may not exceed ten (10) years for payments commencing upon the Participant's Separation from Service.

9.7 Medium of Payment. Any payment from a Participant's Account shall be made in cash; provided, however, that the payment of any portion of an Account that is deemed invested in common stock of the Company shall be paid in the form of whole shares of common stock of the Company.

9.8 Cash Distributions in Respect of Dividends on Deferred Restricted Stock Awards With respect to each deferred Restricted Stock Award in a Participant's Account on the record date (the "Record Date") of any cash dividend or other distribution paid with respect to shares of common stock of the Company, the Company shall pay to each Participant an amount of cash or other property equal to the cash payment or other property that would have been paid to the Participant in respect of such cash dividend or other distribution under the terms of the applicable Restricted Stock Award agreement. Any amount payable pursuant to this Section 9.7 shall be paid to the Participant at the time the respective cash dividend or other distribution is paid to the holders of Company common stock, but in no event later than March 15 of the year following the year in which the Record Date with respect to such cash dividend or other distribution falls.

10. Unforeseeable Emergency.

10.1 Request for Payment. If a Participant suffers an Unforeseeable Emergency, he or she may submit a written request to the Committee for:

(a) payment of his or her vested Account in accordance with the provisions of this Section 13.10; or,

(b) cessation and cancellation of Elective Deferrals under the Plan;

provided that if a Participant receives payment on account of an Unforeseeable Emergency pursuant to Section 10.1(a), the Participant's Elective Deferrals will be cancelled pursuant to Section 10.1(b).

10.2 No Payment If Other Relief Available. The Committee will evaluate the Participant's request for payment due to an Unforeseeable Emergency taking into account the Participant's circumstances and the requirements of Section 409A of the Code. In no event will payments be made pursuant to this Section 10 to the extent that the Participant's hardship can be relieved: (a) through reimbursement or compensation by insurance or otherwise; (b) by liquidation of the Participant's assets, to the extent that liquidation of the Participant's assets would not itself cause severe financial hardship; or (c) by cessation of deferrals under the Plan.

10.3 Limitation on Payment Amount. The amount of any payment made on account of an Unforeseeable Emergency shall not exceed the amount reasonably necessary to satisfy the Participant's financial need, including amounts necessary to pay any Federal, state or local income taxes or penalties reasonably anticipated to result from the payment, as determined by the Committee.

10.4 Timing of Payment. Payment shall be made from a Participant's Account in one lump sum payment as soon as practicable and in any event within 30 days following the Committee's determination that an Unforeseeable Emergency has occurred and authorization of payment from the Participant's Account.

11. Acceleration Events.

11.1 Permissible Acceleration Events. Notwithstanding anything in the Plan to the contrary, the Committee, in its sole discretion, may accelerate payment of all or a portion of a Participant's Account upon the occurrence of any of the events ("Acceleration Events") set forth in this Section 11; provided, however, that no Committee member shall participate in a decision to accelerate payment under this Section 11 if such member would receive an accelerated payment of all or a portion of such member's Account pursuant to such action of the Committee. The Committee's determination of whether payment may be accelerated in accordance with this Section 11 shall be made in accordance with Treas. Reg. Section 1.409A-3(j)(4).

(a) **Domestic Relations Orders.** The Committee may accelerate payment of a Participant's Account to the extent necessary to comply with a domestic relations order (as defined in Section 414(p)(1)(B) of the Code).

(b) **Limited Cashouts.** The Committee may accelerate payment of a Participant's Account to the extent that (i) the aggregate amount in the Participant's Account does not exceed the applicable dollar amount under Section 402(g)(1)(B) of the Code, (ii) the payment results in the termination of the Participant's entire interest in the Plan and any plans that are

aggregated with the Plan pursuant to Treas. Reg. Section 1.409A-1(c)(2), and (iii) the Committee's decision to cash out the Participant's Account is evidenced in writing no later than the date of payment.

(c) **Payment of Employment Taxes.** The Committee may accelerate payment of all or a portion of a Participant's Account (i) to pay the Federal Insurance Contributions Act (FICA) tax imposed under Sections 3010, 3121(a) and 3121(v)(2) of the Code (the "**FICA Amount**"), or (ii) to pay the income tax at source on wages imposed under Section 3401 of the Code or the corresponding withholding provisions of applicable state, local or foreign tax laws as a result of the payment of the FICA Amount and the additional income tax at source on wages attributable to the pyramiding Section 3401 wages and taxes; provided, however, that the total payment under this **Section 11.1(c)** shall not exceed the FICA Amount and the income tax withholding related to the FICA Amount.

(d) **Payment Upon Income Inclusion.** The Committee may accelerate payment of all or a portion of a Participant's Account to the extent that the Plan fails to meet the requirements of Section 409A of the Code; provided that, the amount accelerated shall not exceed the amount required to be included in income as a result of the failure to comply with Section 409A of the Code.

(e) **Termination of the Plan.** The Committee may accelerate payment of all or a portion of a Participant's Account upon termination of the Plan in accordance with Treas. Reg. Section 1.409A-3(j)(4)(ix).

(f) **Payment of State, Local or Foreign Taxes** The Committee may accelerate payment of all or a portion of a Participant's Account for:

(1) the payment of state, local or foreign tax obligations arising from participation in the Plan that relate to an amount deferred under the Plan before the amount is paid or made available to the Participant (the "**State, Local and Foreign Tax Amount**"); provided, however, the accelerated payment amount shall not exceed the taxes due as a result of participation in the Plan; and/or

(2) the payment of income tax at source on wages imposed under Section 3401 of the Code as a result of such payment and the payment of the additional income tax at source on wages imposed under Section 3401 of the Code attributable to the additional Section 3401 wages and taxes; provided however, the accelerated payment amount shall not exceed the aggregate of the State, Local and Foreign Tax Amount and the income tax withholding related to such amount.

(g) **Certain Offsets.** The Committee may accelerate payment of all or a portion of the Participant's Account to satisfy a debt of the Participant to the Company or an Affiliate incurred in the ordinary course of the service relationship between the Company and the Participant; provided, however, the amount accelerated shall not exceed \$5,000 and the payment shall be made at the same time and in the same amount as the debt otherwise would have been due and collected from the Participant.

12. Section 162(m) of the Code. If the Committee reasonably anticipates that if a payment were made as scheduled under the Plan it would result in a loss of the Company's tax deduction due to the application of Section 162(m) of the Code, such payment can be delayed and paid (a) during the Participant's first taxable year in which the Committee reasonably anticipates that the Company's tax deduction will not be limited or eliminated by the application of Section 162(m) of the Code or (b) subject to Section 9.4, during the period beginning with the Participant's Separation from Service and ending on the later of the last day of the Company's taxable year in which the Participant separates from service or the 15th day of the third month following the Participant's Separation from Service. Notwithstanding the foregoing, no payment under the Plan may be deferred in accordance with this Section 12 unless all scheduled payments to the Participant that could be delayed in accordance with Treas. Reg. Section 1.409A-2(b)(7)(i) are also delayed.

13. Plan Administration.

13.1 Administration By Committee. The Plan shall be administered by the Committee, the members of which shall be appointed by the Board and which shall have the authority to:

- (a) construe and interpret the Plan and apply its provisions;
- (b) promulgate, amend and rescind rules and regulations relating to the administration of the Plan;
- (c) authorize any person to execute, on behalf of the Company, any instrument required to carry out the purposes of the Plan;
- (d) determine minimum or maximum amounts that Participants may elect to defer under the Plan;
- (e) select the Investment Options that will be available for the deemed investment of Accounts under the Plan and establish procedures for permitting Participants to change their selected Investment Options;
- (f) select, subject to the limitations set forth in the Plan, those Employees who shall be Eligible Employees;
- (g) evaluate whether a Participant who has requested payment from his or her Account on account of an Unforeseeable Emergency has experienced an Unforeseeable Emergency and the amount of any payment necessary to satisfy the Participant's emergency need;
- (h) calculate deemed investment earnings and losses;

(i) interpret, administer, reconcile any inconsistency in, correct any defect in and/or supply any omission in the Plan and any instrument, Election Notice or agreement relating to the Plan;

(j) exercise discretion to make any and all other determinations which it determines to be necessary or advisable for the administration of the Plan; and

(k) approve and adopt any amendment to the Plan.

13.2 Non-Uniform Treatment. The Committee's determinations under the Plan need not be uniform and any such determinations may be made selectively among Participants. Without limiting the generality of the foregoing, the Committee shall be entitled, among other things, to make non-uniform and selective determinations with regard to the terms or conditions of any Elective Deferral.

13.3 Committee Decisions Final. Subject to Section 16, all decisions made by the Committee pursuant to the provisions of the Plan shall be final and binding on the Company and the Participants, unless such decisions are determined by a court having jurisdiction to be arbitrary and capricious.

13.4 Indemnification. No member of the Committee or any designee shall be liable for any action, failure to act, determination or interpretation made in good faith with respect to the Plan except for any liability arising from his or her own willful malfeasance, gross negligence or reckless disregard of his or her duties.

14. Amendment and Termination. The Committee may, at any time, and in its discretion, alter, amend, modify, suspend or terminate the Plan or any portion thereof; provided, however, that no such amendment, modification, suspension or termination shall, without the consent of a Participant, adversely affect such Participant's rights with respect to amounts credited to or accrued in his or her Account and provided, further, that, no payment of benefits shall occur upon termination of the Plan unless the requirements of Section 409A of the Code have been met.

15. Miscellaneous.

15.1 No Employment or Other Service Rights. Nothing in the Plan or any instrument executed pursuant thereto shall confer upon any Participant any right to continue to serve the Company or an Employer or interfere in any way with the right of the Company or any Employer to terminate the Participant's employment or service at any time with or without notice and with or without cause.

15.2 Withholding. The Company and any Employer shall have the right to deduct from any amounts otherwise payable under the Plan any federal, state, local, or other applicable taxes required to be withheld and any other amounts permitted or required to be withheld.

15.3 Governing Law. The Plan shall be administered, construed and governed in all respects under and by the laws of Delaware, without reference to the principles of conflicts of law (except and to the extent preempted by applicable Federal law).

15.4 Section 409A of the Code. The Company intends that the Plan comply with the requirements of Section 409A of the Code such that payments and benefits under the Plan not be subject to the tax, interest, or early income inclusion rules of Section 409A and shall be operated and interpreted consistent with that intent. Notwithstanding the foregoing, the Company makes no representation that the Plan complies with Section 409A of the Code and shall have no liability to any Participant for any failure of the Plan to comply with Section 409A of the Code.

Each payment under the Plan, including each payment in a series of installment payments, shall be treated as a separate payment for purposes Section 409A of the Code, and each separate payment under the Plan shall be treated as a separately identified, determinable, designated and/or distinct payment for purposes of Section 409A of the Code.

Participants shall take any action, or refrain from any action, reasonably requested by the Company to comply with any correction procedure or regulation promulgated under Section 409A of the Code.

15.5 Trust. The Company may, in its discretion, enter into an agreement ("Trust Agreement") with a financial institution selected by Company management for purposes of this Plan pursuant to which such financial institution would serve as the trustee under an irrevocable trust ("Trust") to be used in connection with the Plan. Any such Trust is intended to be a rabbi trust and the assets of the Trust shall at all times be subject to the claims of the Company's general creditors. Notwithstanding the existence of any such Trust, the Plan is intended to be "unfunded" for purposes of ERISA and shall not be construed as providing income to Participants prior to the date that amounts deferred under the Plan are paid.

15.6 No Warranties. Neither the Company nor the Committee warrants or represents that the value of any Participant's Account will increase. Each Participant assumes the risk in connection with the deemed investment of his or her Account.

15.7 Beneficiary Designation. Each Participant under the Plan may from time to time name any beneficiary or beneficiaries to receive the Participant's interest in the Plan in the event of the Participant's death. Each designation will revoke all prior designations by the same Participant, shall be in a form reasonably prescribed by the Committee and shall be effective only when filed by the Participant in writing with the Company during the Participant's lifetime. If a Participant fails to designate a beneficiary, then the Participant's designated beneficiary shall be deemed to be the Participant's estate.

15.8 No Assignment. Neither a Participant nor any other person shall have any right to sell, assign, transfer, pledge, anticipate or otherwise encumber, transfer, hypothecate or convey any amounts payable hereunder prior to the date that such amounts are paid (except for the designation of beneficiaries pursuant to Section 15.7).

15.9 Expenses. The costs of administering the Plan shall be paid by the Company.

15.10 Severability. If any provision of the Plan is held to be invalid, illegal or unenforceable, whether in whole or in part, such provision shall be deemed modified to the extent of such invalidity, illegality or unenforceability and the remaining provisions shall not be affected.

15.11 Headings and Subheadings. Headings and subheadings in the Plan are for convenience only and are not to be considered in the construction of the provisions hereof.

16. Claims Procedures.

16.1 Filing a Claim. Any Participant or other person claiming an interest in the Plan (the "Claimant") may file a claim in writing with the Committee. The Committee shall review the claim itself or appoint an individual or entity to review the claim.

16.2 Claim Decision. The Claimant shall be notified within ninety (90) days after the claim is filed whether the claim is approved or denied, unless the Committee determines that special circumstances beyond the control of the Plan require an extension of time, in which case the Committee may have up to an additional ninety (90) days to process the claim. If the Committee determines that an extension of time for processing is required, the Committee shall furnish written or electronic notice of the extension to the Claimant before the end of the initial ninety (90) day period. Any notice of extension shall describe the special circumstances necessitating the additional time and the date by which the Committee expects to render its decision.

16.3 Notice of Denial. If the Committee denies the claim, it must provide to the Claimant, in writing or by electronic communication, a notice which includes:

- (a) The specific reason(s) for the denial;
- (b) Specific reference to the pertinent Plan provisions on which such denial is based;
- (c) A description of any additional material or information necessary for the Claimant to perfect his or her claim and an explanation of why such material or information is necessary;
- (d) A description of the Plan's appeal procedures and the time limits applicable to such procedures, including a statement of the Claimant's right to bring a civil action under Section 502(a) of ERISA following a denial of the claim on appeal; and
- (e) If an internal rule was relied on to make the decision, either a copy of the internal rule or a statement that this information is available at no charge upon request.

16.4 Appeal Procedures. A request for appeal of a denied claim must be made in writing to the Committee within sixty (60) days after receiving notice of denial. The decision on appeal will be made within sixty (60) days after the Committee's receipt of a request for appeal, unless special circumstances require an extension of time for processing, in which case a decision

will be rendered not later than one hundred twenty (120) days after receipt of a request for appeal. A notice of such an extension must be provided to the Claimant within the initial sixty (60) day period and must explain the special circumstances and provide an expected date of decision. The reviewer shall afford the Claimant an opportunity to review and receive, without charge, all relevant documents, information and records and to submit issues and comments in writing to the Committee. The reviewer shall take into account all comments, documents, records and other information submitted by the Claimant relating to the claim regardless of whether the information was submitted or considered in the initial benefit determination.

16.5 Notice of Decision on Appeal. If the Committee denies the appeal, it must provide to the Claimant, in writing or by electronic communication, a notice which includes:

- (a) The specific reason(s) for the denial;
- (b) Specific references to the pertinent Plan provisions on which such denial is based;
- (c) A statement that the Claimant may receive on request all relevant records at no charge;
- (d) A description of the Plan's voluntary procedures and deadlines, if any;
- (e) A statement of the Claimant's right to sue under Section 502(a) of ERISA; and
- (f) If an internal rule was relied on to make the decision, either a copy of the internal rule or a statement that this information is available at no charge upon request.

16.6 Claims Procedures Mandatory. The internal claims procedures set forth in this Section 16 are mandatory. If a Claimant fails to follow these claims procedures, or to timely file a request for appeal in accordance with this Section 16, the denial of the Claim shall become final and binding on all persons for all purposes.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, DMC Global Inc. has adopted this Plan as of the Effective Date written above.

DMC GLOBAL INC.

| | |
|--------|------------------------------|
| By | <u>/s/ Michelle Shepston</u> |
| Name: | <u>Michelle Shepston</u> |
| Title: | <u>Chief Legal Officer</u> |

**DMC GLOBAL INC.
2016 OMNIBUS INCENTIVE PLAN
RESTRICTED STOCK AWARD AGREEMENT**

Notice of Restricted Stock Grant

DMC Global Inc. (the "Company") grants to the Grantee named below, in accordance with the terms of the DMC Global Inc. 2016 Omnibus Incentive Plan (the "Plan") and the Restricted Stock Award Agreement attached hereto (the "Agreement"), the following number of Shares of Restricted Stock (the "Restricted Stock") on the terms set forth below and in the Agreement. All capitalized terms not defined herein or in the Agreement shall have the meanings given to such terms in the Plan.

GRANTEE: []

TOTAL NUMBER
OF
SHARES OF
RESTRICTED STOCK
GRANTED: []

DATE OF GRANT: _____, 20[]

PERIOD OF

RESTRICTION: Subject to the Plan and the Agreement attached hereto, the Period of Restriction shall lapse, and the Restricted Stock shall vest and become free of forfeiture and transfer restrictions contained in the Agreement 100% on the first anniversary of the Date of Grant.

The Grantee acknowledges receipt of a copy of the Plan and represents that he or she is familiar with the terms and provisions thereof, and hereby accepts the Agreement attached hereto subject to all of the terms and provisions thereof. The Grantee has reviewed the Plan, this Notice of Restricted Stock Grant, and the Agreement in their entirety, has had an opportunity to obtain the advice of counsel prior to executing this Notice of Restricted Stock Grant and fully understands all provisions hereof and of the Agreement. The Grantee hereby agrees to accept as binding, conclusive and final all decisions or interpretations of the Committee upon any questions arising under the Plan, this Notice of Restricted Stock Grant, and the Agreement. The Grantee further agrees to notify the Company upon any change in the residence address indicated below.

GRANTEE: **DMC GLOBAL INC.**

| | |
|-------------|--------------|
| By: _____ | By: _____ |
| Name: _____ | Name: _____ |
| Date: _____ | Title: _____ |
| | Date: _____ |

Restricted Stock Award Agreement

Section 1. Grant of Restricted Stock. The Company hereby grants to the Grantee the Restricted Stock set forth in the Notice of Restricted Stock Grant, subject to the terms, definitions and provisions of the Plan and this Agreement. All terms, provisions, and conditions applicable to the Restricted Stock set forth in the Plan and not set forth herein are incorporated by reference. To the extent any provision hereof is inconsistent with a provision of the Plan, the provisions of the Plan will govern. All capitalized terms that are used in this Agreement and not otherwise defined herein shall have the meanings ascribed to them in the Plan.

Section 2. Termination of Continuous Service.

(a) If the Grantee's Continuous Service as an Employee is terminated for any reason other than (i) death, (ii) Disability (as defined below), or (iii) termination by the Company and its Subsidiaries without Cause (as defined below), the Grantee shall, for no consideration, forfeit to the Company the Shares of Restricted Stock to the extent such Shares are subject to a Period of Restriction at the time of such termination of Continuous Service. If the Grantee's Continuous Service as an Employee terminates due to the Grantee's death or Disability, or is terminated by the Company and its Subsidiaries without Cause, while Shares of Restricted Stock are subject to a Period of Restriction, the Period of Restriction with respect to such Shares shall lapse, and the Shares shall vest and become free of the forfeiture and transfer restrictions described herein, on the date of the Grantee's termination of Continuous Service for such reason.

(b) For purposes of this Agreement, the term "Disability" shall have the meaning ascribed to such term in the Grantee's employment agreement with the Company or any Subsidiary. If the Grantee's employment agreement does not define the term "Disability," or if the Grantee has not entered into an employment agreement with the Company or any Subsidiary, the term "Disability" shall mean the Grantee's entitlement to long-term disability benefits pursuant to the long-term disability plan maintained by the Company or in which the Company's employees participate.

(c) For purposes of this Agreement, the term "Cause" shall have the meaning ascribed to such term in the Grantee's employment agreement with the Company or any Subsidiary. If the Grantee's employment agreement does not define the term "Cause," or if the Grantee has not entered into an employment agreement with the Company or any Subsidiary, the term "Cause" shall have the same meaning as provided in the Plan.

Section 3. Non-Transferability of Restricted Stock. Except as otherwise provided in the Plan and this Agreement or as determined by the Committee, the Grantee may not sell, assign, pledge, exchange, transfer, hypothecate or encumber any Shares of Restricted Stock until the Period of Restriction set forth in the Notice of Restricted Stock Grant shall lapse.

Section 4. Entire Agreement. The Plan is incorporated herein by reference. The Plan and this Agreement constitute the entire agreement of the parties with respect to the Shares of Restricted Stock and may not be modified adversely to the Grantee's interest except by means of a writing signed by the Company and the Grantee.

Section 5. Custody. As soon as practicable following the Date of Grant, the Shares of Restricted Stock shall be registered in the Grantee's name in certificate or book-entry form. If a certificate is issued, it shall bear an appropriate legend referring to the restrictions and it shall be held by the Company, or its agent, on behalf of the Grantee until the Period of Restriction has lapsed. If the Shares are registered in book-entry form, the restrictions shall be placed on the book-entry registration. The Grantee may be required to execute and return to the Company a blank stock power for each Restricted Stock certificate (or instruction letter, with respect to Shares registered in book-entry form), which will permit transfer to the Company, without further action, of all or any portion of the Restricted Stock that is forfeited in accordance with this Agreement.

Section 6. Voting Rights and Dividends. Except for the transfer restrictions, and subject to such other restrictions, if any, as determined by the Committee, the Grantee shall have all other rights of a holder of Shares, including the right to receive dividends paid (whether in cash or property) with respect to the Restricted Stock and the right to vote (or to execute proxies for voting) such Shares. Unless otherwise determined by the Committee, if all or part of a dividend in respect of the Restricted Stock is paid in Shares or any other security issued by the Company, such Shares or other securities shall be held by the Company subject to the same restrictions as the Restricted Stock in respect of which the dividend was paid.

Section 7. Release of Restrictions. Upon the lapse of the Period of Restriction, the Shares of Restricted Stock will be released from the restrictions. The Company or its designee will notify the Grantee in advance of the release of the restrictions and will make arrangements for the form in which the released Shares will be issued to the Grantee.

Section 8. Taxes. Pursuant to Section 17 of the Plan, the Committee shall have the power and the right to deduct or withhold, or require the Grantee to remit to the Company, an amount sufficient to satisfy any applicable tax withholding requirements applicable to the Shares of Restricted Stock. The Committee may condition the delivery of such Shares upon the Grantee's satisfaction of such withholding obligations. The Grantee may elect to satisfy all or part of such withholding requirement by tendering previously-owned Shares or by having the Company withhold Shares having a Fair Market Value equal to the minimum statutory tax withholding rate that could be imposed on the transaction (or such other rate that will not result in a negative accounting impact). Such election shall be irrevocable, made in writing, signed by the Grantee, and shall be subject to any restrictions or limitations that the Committee, in its sole discretion, deems appropriate.

Section 9. Company Policies to Apply. The sale of any Shares received hereunder is subject to the Company's policies regulating securities trading by employees, all relevant federal and state securities laws and the listing requirements of any stock exchange on which the Shares are then traded. In addition, participation in the Plan and receipt of remuneration as a result of laps of the Period of Restriction is subject in all respects to any Company compensation clawback policies that may be in effect from time to time.

Section 10. Miscellaneous Provisions.

(a) Notice. Any notice required by the terms of this Agreement shall be given in writing and shall be deemed effective upon personal delivery or upon deposit with the United States Postal Service, by registered or certified mail, with postage and fees prepaid. Notice shall be addressed to the Company at its principal executive office and to the Grantee at the address that he or she most recently provided in writing to the Company.

(b) Securities Laws. Upon the acquisition of any Shares pursuant to settlement of Restricted Stock, the Grantee shall make or enter into such written representations, warranties and agreements as the Committee may reasonably request in order to comply with applicable securities laws or with this Agreement.

(c) Choice of Law. THIS AGREEMENT SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF DELAWARE, EXCLUDING ANY CONFLICTS OR CHOICE OF LAW RULE OR PRINCIPLE THAT MIGHT OTHERWISE REFER CONSTRUCTION OR INTERPRETATION OF THIS AGREEMENT TO THE SUBSTANTIVE LAW OF ANOTHER JURISDICTION.

(d) Modification or Amendment. This Agreement may only be modified or amended by written agreement executed by the parties hereto; provided, however, that the adjustments permitted pursuant to Section 19 and 21(b) of the Plan or as required by any applicable law may be made without such written agreement.

(e) Severability. In the event any provision of this Agreement shall be held illegal or invalid for any reason, the illegality or invalidity shall not affect the remaining provisions of this Agreement, and this Agreement shall be construed and enforced as if such illegal or invalid provision had not been included.

- (f) Counterparts. This Agreement may be executed in two or more counterparts each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.
- (g) References to Plan. All references to the Plan shall be deemed references to the Plan as may be amended.
- (h) Headings. The captions used in this Agreement are inserted for convenience and shall not be deemed a part of this Agreement for construction or interpretation.
- (i) Interpretation. Any dispute regarding the interpretation of this Agreement shall be submitted by the Grantee or by the Company forthwith to the Board or the Committee, which shall review such dispute at its next regular meeting. The resolution of such dispute by the Committee shall be final and binding on all persons.

SUBLEASE

THIS SUBLEASE (the "Sublease"), entered into as of this 16th day of December, 2000, is by and between Mypodiamond, Inc., a Delaware corporation, having its principal office and place of business at 200 North Repauno Ave., Gibbstown, New Jersey 08027 ("SUBLANDLORD"), and Dynamic Materials Corporation, a Delaware corporation, having its principal office and place of business at 551 Aspen Ridge Drive, Lafayette, Colorado 80026 ("SUBTENANT").

BACKGROUND

(a) On March 31, 1999, SUBLANDLORD purchased the assets of the polycrystalline industrial diamond business (the "Business") from E.I. Dupont de Nemours & Company ("Dupont");

(b) Dupont is a tenant with respect to a lease dated October 19, 1985 (the "Owner Lease") with the Daniel Harper Estate as fee simple owners ("Owners") of an approximately 378 acre tract of land situate in Fayette County, Pennsylvania (the "Dunbar Facility"), of which approximately 27 acres (which includes the right to use the Blue Stone Mine ("Blue Stone Mine") located thereon (collectively with the Blue Stone Mine the "Leased Premises") is used in the Business;

(b) On July 22, 1996, Dupont sold its explosion bonding clad metal business ("Explosion Business") to SUBTENANT and entered into a sublease with SUBTENANT for the Leased Premises (the "Dupont Sublease");

(c) Dupont and Owners have terminated the Owner Lease as of December 16, 2000;

(d) SUBLANDLORD entered into a new lease with Owners effective December 16, 2000 ("Master Lease") for the Dunbar Facility.

(e) SUBLANDLORD wishes to enter into a new sublease with the SUBTENANT.

Therefore, it is the intent of the parties hereto that SUBLANDLORD shall sublease the Leased Premises to SUBTENANT upon and subject to the conditions and limitations herein.

NOW, THEREFORE, incorporating the foregoing Background herein by this reference, the parties hereto, intending to be legally bound, agree as follows:

1. MASTER LEASE. By the MASTER LEASE dated as of September 21, 2000 and effective on December 16, 2000 (the "Effective Date") by and between the Owners and SUBLANDLORD, as tenant, Owners have leased to SUBLANDLORD the Dunbar Facility. This Sublease is made subject to the MASTER LEASE except where the provisions of the MASTER LEASE are inconsistent with the provisions of this Sublease, in which case the provisions of this Sublease will control. Where in the MASTER LEASE there are duties owed by Owners to SUBLANDLORD which are necessary for the proper enjoyment of this Sublease, SUBLANDLORD will make all commercially reasonable efforts to obtain the performance of such duties by Owners in favor of SUBTENANT, but SUBLANDLORD shall not be liable for the failure of Owners under the terms of MASTER LEASE to perform said duties nor for the result of such failure. If Owners are in default of its obligations and SUBLANDLORD is unsuccessful in obtaining Owners' performance, then upon SUBTENANT's written request, SUBLANDLORD shall assign to SUBTENANT its rights to enforce such defaulted obligations of the MASTER LEASE against Owners. SUBTENANT hereby agrees to faithfully and

) promptly perform all of the obligations and duties of SUBLANDLORD to Owners under the
) MASTER LEASE with respect only to the Leased Premises except the obligation of
) SUBLANDLORD to pay rent, which obligation SUBLANDLORD agrees to continue to perform
) during the term hereof.

) 2. LEASED PREMISES. SUBLANDLORD, for and in consideration of the
) rents, covenants and agreements hereinafter reserved, mentioned and contained on the part of
) SUBTENANT, its successors and permitted assigns, does hereby lease, rent and demise unto
) SUBTENANT, and SUBTENANT does hereby take and hire, upon and subject to the conditions
) and limitations hereinafter expressed, a portion of the Dunbar Facility .

) The Dunbar Facility comprises the tract of land described as follows:

) ALL THAT CERTAIN TRACT OR PARCEL OF LAND situate
) in the Township of Dunbar, County of Fayette and Commonwealth
) of Pennsylvania, containing approximately 378 acres, more or less;
) said tract is as shown on the Mine Survey of the former New
) Castle Lime & Stone Company Mine, prepared by Sucevic
) Engineering, Hopwood, PA, in September 1979 (the "Plan")
) attached hereto, made a part hereof and marked Exhibit "A-1."

) The Leased Premises is the portion of the Dunbar Facility containing
) approximately 27 acres shown on the Plan attached hereto as Exhibit "A-2" and described as
) follows: the surface land bounded by (a) a 2,700 foot length of the Dunbar-Ohiopyle Road (L.R.
) 26047) (at its centerline) to the Southwest; (b) a line extending from the intersection of the mine
) access road and Dunbar-Ohiopyle Road approximately 800 feet to the edge of the mine face; (c)
) the mine face starting from the edge of the mine face and extending along the mine face to a
) point beyond the explosives magazine that is approximately 600 feet from the centerline of the
) easternmost mine portal; and (d) a line from the mine face (as extended) traveling approximately
) 700 feet to the Dunbar-Ohiopyle Road (L.R. 26047).

In addition, SUBLANDLORD hereby leases, rents and demises unto SUBTENANT as part of the Leased Premises the right to enter and use certain of the underground passages of the Blue Stone Mine, such passages being shown on the Plan attached as Exhibit "A-2," upon and subject to the limitations hereinafter expressed. The Plan is marked to show the primary access and operating areas, the emergency access areas, and the areas for explosions (the "Explosion Areas"). Except as expressly provided herein, SUBTENANT shall have no right to the surface portion of the Blue Stone Mine or to the underground passages which are not a part of the Leased Premises.

The Leased Premises are subleased subject to the following, in addition to the MASTER LEASE:

- (1) all matters of record concerning use of the Leased Premises and any state of facts that an inspection or survey of the Leased Premises would disclose;
- (2) present and future zoning laws, ordinances, resolutions, and regulations of all boards, bureaus, or commissions and bodies of any municipal, county, state, or federal sovereign now or hereafter having or acquiring jurisdiction of the Leased Premises and the use and improvements thereof;
- (3) the effect of all present and future laws and ordinances relating to SUBTENANT's use of the Leased Premises;
- (4) violations of laws and ordinances that might be disclosed by an examination and inspection or search of the Leased Premises as of the date first above written;

- (5) except as set forth in Section 12, the condition and state of repair of the Leased Premises as the same may be on the Effective Date;
- (6) all taxes, assessments, water meter, and water charges, sewer rents commencing as of the Effective Date.
- (7) existing oil and gas leases on the Leased Premises, under which SUBTENANT is not permitted to drill within the area actually occupied by the hereinbefore referred to Blue Stone Mine; and
- (8) the right of the Owners to enter on the surfaceland of Leased Premises to cut and remove timber (provided however that SUBLANDLORD AND SUBTENANT agree that each will use reasonable efforts to prevent such activities within the Leased Premises).

3. TOLL MANUFACTURING AGREEMENT. Pursuant to an assignment from Dupont dated as of March 31, 2000, SUBLANDLORD was assigned the Tolling/Services Agreement for Industrial Diamonds dated as of July 22, 1996 between Dupont and the SUBTENANT (the "Tolling Agreement"), pursuant to which SUBTENANT has agreed to perform certain services for the Business supplied originally by Dupont and now by SUBTENANT, involving detonating materials on the Leased Premises to make industrial diamonds with each party acknowledges is in full force and effect as of the date of this Sublease..

4. REQUIREMENTS OF PUBLIC AUTHORITY. During the term of this Sublease, SUBTENANT, at its own cost and expense, shall promptly observe and comply with all present and future laws, ordinances, requirements, orders, directives, rules, and regulations of the Federal, State, County, Town, Village, and City Governments, and of all other governmental authorities affecting the Leased Premises or any part thereof whether the same are in force at the

commencement of the term of this Sublease or may in the future be passed, enacted or directed, and, except as set forth in Section 12 herein, SUBTENANT shall pay all costs, expenses, liabilities, losses, damages, fines, penalties, claims, and demands, including reasonable counsel fees, that may in any manner arise out of or be imposed upon SUBLANDLORD because of the failure of SUBTENANT to comply with the covenants of this Paragraph. Without limiting the foregoing, SUBTENANT, at SUBTENANT's cost and expense, shall obtain and maintain all licenses, permits and approvals necessary to perform explosion bonding operations and services under the Tolling Agreement and SUBLANDLORD shall take all reasonable actions (so long as no out-of-pocket costs are incurred on its part) to assist SUBTENANT in obtaining the same.

5. TERM. Unless sooner terminated as provided herein, the term of this Sublease shall commence on December 16, 2000, said date being hereinafter referred to as the "Commencement Date," and shall expire at 11:59 p.m., eastern standard time, on December 15, 2005, provided, however, that assuming there is no Event of Default existing, or with the passage of time would exist, the term of this Sublease may be extended at SUBTENANT'S option as follows: for a first additional term of five (5) years from December 16, 2005 to expire at 11:59 p.m., eastern standard time, on December 15, 2010; for a second additional term of five (5) years from December 16, 2010 to expire at 11:59 p.m., eastern standard time on December 15, 2015; for a third additional five (5) year term from December 16, 2015 to expire at 11:59 eastern standard time on December 15, 2020; for a forth additional term from December 16, 2020 to expire at 11:59 eastern standard time on December 15, 2025; and for a fifth four(4) year term to commence on December 16, 2025 to expire at 11:59 p.m. eastern standard time on December 15, 2029 in each case by SUBTENANT giving SUBLANDLORD written notice of the exercise of such extension option prior to August 1st of the year prior to the year of expiration.

6. RENT. The rent for the Leased Premises shall be as follows:

From and after the Commencement Date and to the expiration or earlier termination of this Sublease, SUBTENANT shall pay monthly, in advance, the following sums: From the date hereof to December 15, 2001, the yearly rental shall be [REDACTED] to be paid in twelve equal monthly installments commencing on December 16, 2000 and continuing thereafter as provided herein. This rental rate is referred to as the "Annual Rent" and is subject to increase as provided herein. As used in this Section:

(a) "Index" shall mean the "Consumer Price Index for Urban Wage Earners and Clerical Workers" "(1967=100)" specified for "All Items", relating to PA-NJ-DE-MD and issued by the Bureau of Labor Statistics of the United States Department of Labor. In the event the Index shall hereafter be converted to a different standard reference base or otherwise revised, the determination of the Percentage Increase (defined below) shall be made with the use of such conversion factor, formula or table for converting the Index as may be published by the Bureau of Labor Statistics or, if said Bureau shall not publish the same, then with the use of such conversion factor, formula or table as may be published by Prentice Hall, Inc., or, failing such publication, by any other nationally recognized publisher of similar statistical information. In the event the Index shall cease to be published, then there shall be substituted for the Index such other index as SUBLANDLORD and SUBTENANT shall agree upon, and, if they are unable to agree within ninety (90) days after the Index ceases to be published, such matter shall be determined in Philadelphia, Pennsylvania by arbitration in accordance with the Rules of the American Arbitration Association.

(b) "New Index" shall mean the Index reported for the November immediately preceding each Anniversary Date.

(c) "Current Index" shall mean the index derived for the November of the year immediately preceding the year in which a New Index is derived.

(d) "Anniversary Date" shall mean December 16, 2001 and each successive December 16th during the term of this Sublease.

(e) "Percentage Increase" shall mean the percentage equal to the fraction, the numerator of which shall be the New Index less the Current Index, and the denominator of which shall be the Current Index.

The Annual Rent shall be increased on each Anniversary Date by the Percentage Increase, if any, as provided above. It is the intention of the parties that increases in the Annual Rent shall be determined based upon applying the Percentage Increase to the Annual Rent as adjusted in this Section 6. All other sums, charges or amounts which SUBTENANT has agreed to pay to SUBLANDLORD pursuant to this Sublease shall be hereinafter referred to as "Additional Rent," and shall be collectible as rent. The Annual Rent and Additional Rent shall be payable at the office of SUBLANDLORD at the address herein contained or at such other place or places as SUBLANDLORD shall from time to time give SUBTENANT written notice. In the event that the New Index is not available by the Anniversary Date, SUBTENANT shall pay the Annual Rent at the then current rate until such New Index is available, and shall, with the next scheduled payment thereafter, pay all amounts that would have otherwise been due had the New Index been available.

7. USE.

(a) The Leased Premises shall be used only for (i) the operation of the Explosion Business, including the explosion bonding of clad metals, and (ii) performance of services pursuant to the Tolling Agreement (together, the "Permitted Use"). SUBTENANT shall not use or occupy the Leased Premises, or permit the same to be used or occupied, for any purpose other than the Permitted Use. In particular, SUBTENANT shall have no rights to mine or extract minerals from any portion of the Leased Premises. Only the Explosion Areas may be used for explosions.

(b) In the event SUBTENANT's operations within the limestone mine situated on the Leased Premises result in necessary removal of rocks from the Blue Stone Mine, SUBTENANT shall pile said rocks so removed in a nearby place to be designated by SUBLANDLORD for disposal by Owners. SUBTENANT shall have no right to the rock thus removed nor to the proceeds therefrom. Owners and SUBLANDLORD shall have the right of egress and ingress in order to remove such rocks at their own risk.

(c) SUBTENANT acknowledges that the Blue Stone Mine can become damaged by overuse or improper use, in which case the Blue Stone Mine may be required to be closed or the frequency of explosions performed in the Blue Stone Mine may be required to be limited. In order to prolong the life of the Blue Stone Mine, SUBTENANT agrees to use no more than 17,500 lbs. of Explosive (as hereinafter defined) per detonation. As used in this Sublease, "Explosive" means the ammonium nitrate explosive material produced by SUBTENANT or such other materials that are approved by SUBLANDLORD from time to time in accordance with the operating procedures used by SUBTENANT, as amended from time to time by SUBTENANT in consultation with and approval from SUBLANDLORD which

approval shall not be unreasonably withheld (the "Procedures"). SUBTENANT shall not manufacture, test, use, or destroy any chemical or explosive materials on the Leased Premises, other than the Explosive identified in the Procedures, without the express written consent of SUBLANDLORD, which consent shall not be unreasonably withheld. SUBTENANT agrees to use and maintain the Blue Stone Mine in such a condition that maintains and maximally prolongs its integrity and useful life, provided, however, that SUBTENANT shall have no responsibility to SUBLANDLORD for adverse effects to the integrity or useful life of the Blue Stone Mine caused by (i) SUBTENANT's use of Explosives as specified in this paragraph, or (ii) SUBTENANT's operations according to the Procedures. SUBTENANT agrees to promptly notify SUBLANDLORD of any actions which it knows or reasonably believes may result in, or is likely to have resulted in, soil or groundwater contamination. In addition, SUBTENANT agrees to periodically inspect and repair the Blue Stone Mine, including without limitation the underhangs in the Blue Stone Mine, so that the Blue Stone Mine is (i) maintained in a safe, lawful condition during the term of this Sublease, and (ii) in substantially the same condition at the end of the term of this Sublease as it was at the commencement date of the DuPont Sublease, subject to normal wear and tear.

(d) SUBTENANT acknowledges that hazards may be involved in conducting explosions in the Blue Stone Mine, including providing the services under the Tolling Agreement. Accordingly, SUBTENANT agrees to perform all work at the Leased Premises in a careful and workmanlike manner and to take all reasonably necessary precautions in the processing, handling, transportation, and disposal of Explosives, to avoid damage to property or pollution and in compliance with all applicable laws, rules and regulations. In that

regard, SUBTENANT shall provide security precautions reasonably required by
SUBLANDLORD or Owners to safely process, handle, transport, and dispose of the Explosives.

(e) SUBLANDLORD shall have the right to immediately require the
suspension of the explosions on the Leased Premises upon written notice to SUBTENANT,
without liability on the part of SUBLANDLORD to SUBTENANT, if at any time
SUBLANDLORD in its reasonable judgment determines that SUBTENANT has materially
violated any material provision of this Section 7. The right to conduct explosions should remain
suspended until SUBTENANT corrects such violation; provided that SUBTENANT shall have a
right of access to the Leased Premises to correct such violations. If SUBTENANT fails to
correct any such violation within the time periods set forth in Section 13(a)(iii), an Event of
Default shall exist.

8. TAXES AND ASSESSMENTS.

(a) For the purpose of this Sublease, the term "Taxes" shall mean all
real estate taxes and assessments, including substitutes therefor or supplements thereto, assessed
upon, levied against or imposed on the Leased Premises and any improvements, fixtures, and
equipment located thereon.

(b) During the term of this Sublease, SUBTENANT shall pay to
SUBLANDLORD, as Additional Rent, for each year during the term of this Sublease, any
increase in the real estate taxes levied against the Dunbar Facility over and above the amount of
said real estate taxes for the year 1995. Such payment shall be made to SUBLANDLORD, who
shall pay such increase in real estate taxes to Owners. It is understood that, because this
Sublease is not on a calendar year basis, SUBTENANT's payment of any increase in real estate

) taxes levied against the Dunbar Facility over and above the 1995 taxes will be made on a prorata
) basis.

) (c) SUBTENANT shall pay any and all taxes on its personal property
) located on Leased Premises directly to the taxing authority.

) 9. REPAIR AND MAINTENANCE. SUBTENANT shall have the right to
) construct, operate, and maintain on the Leased Premises any and all improvements deemed
) necessary or convenient in connection with the Permitted Use, and shall have the further right at
) any time to remove any improvements, buildings or other structures of like nature. Facilities,
) such as protective fencing and gates permanently installed, electrical wiring and air-flow baffle
) walls are to be left in place at the termination of this Sublease or removed by SUBTENANT at
) its expense, at SUBLANDLORD's option.

) SUBTENANT agrees that, at its sole cost and expense, it shall keep and maintain
) the surface area of the Leased Premises (located adjacent to the entrance of the Blue Stone
) Mine), including all improvements constructed thereon by SUBTENANT, in good repair,
) replacement, and appearance during the term of this Sublease and will with reasonable
) promptness make all structural and nonstructural, foreseen and unforeseen, and ordinary and
) extraordinary changes and repairs of every kind and nature which may be required to be made
) upon or in connection with Leased Premises or any part thereof in order to keep and maintain
) Leased Premises in such good repair, replacement and appearance, so that the Leased Premises
) are in substantially the same condition at the end of the term of this Sublease as they were at the
) commencement of this Sublease, subject to normal wear and tear. Except as may be required
) pursuant to Section 12 herein, SUBLANDLORD shall not be required to maintain, repair, or
) rebuild, or to make any alterations, replacements, or renewals of any nature or description to

Leased Premises or any part thereof, whether ordinary or extraordinary, structural or nonstructural, foreseen or unforeseen or to maintain Leased Premises or any part thereof in any way, and except as may be required pursuant to Section 12 herein, SUBTENANT hereby expressly waives any right to make repairs or replacements at the expense of SUBLANDLORD which may be provided for in any statute or law in effect at the time of the execution of this Sublease or any statute or law which may thereafter be enacted.

10. ACCESS-LEASED PREMISES, RECORDS AND INSPECTIONS.

SUBLANDLORD or SUBLANDLORD's agents and designees, upon notice to SUBTENANT, shall have the right to enter upon the Leased Premises, including without limitation, the underground passages of the Blue Stone Mine, at all reasonable times with reasonable advance notice to SUBTENANT, to examine same or to perform any obligation it may have hereunder or with SUBLANDLORD, including without limitation, cleanup of residue from the underground passages of the Blue Stone Mine as provided in Section 12.5; or for any reasons pursuant to any rights under the Tolling Agreement; provided such access rights shall not interfere unreasonably with SUBTENANT's operation of the Leased Premises or performance of its obligations under the Tolling Agreement.

SUBTENANT agrees to maintain a record of all explosions performed at the Leased Premises in such form and content as SUBLANDLORD reasonably determines from time to time by notice to SUBTENANT. Such records shall include, without limitation, (a) the type and quantity of explosives, and (b) the results of inspections of the Leased Premises and scaling operations inside the Blue Stone Mine. SUBLANDLORD or its designee shall have the right from time to time, at SUBLANDLORD's cost, to inspect and verify the records kept by SUBTENANT in connection with this Sublease.

11. REPRESENTATIONS AND WARRANTIES. Except as expressly provided in this Sublease, SUBLANDLORD makes no representations, warranties, or guarantees to SUBTENANT, either expressed or implied, with respect to the subject matter of this Sublease. SUBLANDLORD makes no representations or warranties as to the condition of the underground passages that are not part of the Leased Premises. SUBLANDLORD warrants and represents (a) that the MASTER LEASE is subsisting and is in full force and effect, (b) SUBLANDLORD is not in default under the MASTER LEASE, (c) all rents and charges due thereunder are and shall be paid in accordance with the terms thereof, and (d) that SUBLANDLORD has full right, power and authority to enter into this Sublease. SUBLANDLORD is aware of no reason why the Leased Premises cannot be used by SUBTENANT for the Permitted Use. SUBLANDLORD covenants that, so long as SUBTENANT is not in breach of the terms and conditions of this Sublease, SUBTENANT shall peaceably and quietly have, hold, and enjoy the Leased Premises for the term hereof and any extensions to the term. Except as expressly provided herein, SUBLANDLORD covenants and agrees faithfully to observe and perform all of the terms, covenants, and conditions of the MASTER LEASE on the part of SUBLANDLORD to be performed with respect to the Leased Premises (except as required to be performed by SUBTENANT hereunder), and neither to do nor cause to be done, nor suffer, nor permit any act or thing to be done which would or might cause the MASTER LEASE TO BE canceled, terminated, forfeited, or surrendered or which shall make SUBLANDLORD liable for any damages, claims, or penalties under the provisions of the MASTER LEASE. SUBLANDLORD covenants and agrees to keep the MASTER LEASE in good standing for the term hereof and any extension hereof.

EACH PARTY DISCLAIMS AND WAIVES ALL OTHER WARRANTIES NOT EXPRESSLY SET FORTH HEREIN INCLUDING ANY IMPLIED WARRANTIES AND WARRANTIES IMPOSED BY LAW, INCLUDING WARRANTIES OF MERCHANTABILITY, AND WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE.

The parties acknowledge that the MASTER LEASE has not been signed by all Owners of the Dunbar Facility. SUBLANDLORD has no reason to believe that any of such Owners will disturb SUBTENANT's use or adversely affect SUBTENANT's peaceful, quiet enjoyment and possession of the Leased Premises. In the event that any of such Owners' attempt to disturb SUBTENANT's use of the Leased Premises or adversely impact SUBTENANT's peaceful, quiet enjoyment and possession of the Leased Premises, SUBLANDLORD and SUBTENANT shall cooperate to promptly seek to discontinue the acts of such Owners.

12. INDEMNIFICATION AND LIMITATION OF LIABILITY. The following indemnification and limitations of liability shall apply:

12.1 (a) SUBTENANT agrees to defend, indemnify and hold harmless SUBLANDLORD (including, its officers, directors, employees, subcontractors and agents) from and against any and all liability, claims, injuries (including death resulting therefrom), property damage, fine, penalty or assessment by any public agency, cost or expense (including costs of defense, settlement and reasonable attorneys' fees), which (1) except as provided in Section 12.2 below, are solely and directly caused by the SUBTENANT's acts including without limitation, acts of negligence, gross negligence or willful misconduct of SUBTENANT, its agents, employees or subcontractors associated with, or arising out of the use of the Leased Premises under this Sublease or the Dupont Sublease, or the performance of this

Sublease or the Dupont Sublease, including any failure to comply with any pertinent Federal, State or local law, statute, regulation, rule, or (2) are caused jointly by acts of SUBTENANT including without limitation, negligence, gross negligence or willful misconduct by SUBTENANT, its agents, employees or subcontractors and any acts by any third party or parties. The term "liability" employed in the preceding sentence, and SUBTENANT's indemnification obligation, includes any strict liability imposed at law, asserted against SUBLANDLORD. SUBTENANT's obligations under this Section 12.1(a) shall survive the expiration or termination of the Dupont Sublease or this Sublease.

(b) SUBLANDLORD agrees to defend, indemnify and hold harmless SUBTENANT (including its officers, directors, employees and agents) from and against any and all liability, claim, injury (including death resulting therefrom), property damage, fine, penalty or assessment by any public agency, cost or expense (including costs of defense, settlement and reasonable attorneys' fees), which (1) are solely and directly caused by the negligence, gross negligence or willful misconduct of SUBLANDLORD, its agents, employees or subcontractors associated with, or arising from SUBLANDLORD's obligations under this Agreement, or (2) are caused jointly by acts of SUBLANDLORD including without limitation negligence, gross negligence or willful misconduct by SUBLANDLORD, its agents, employees or subcontractors and any acts by any third party or parties. The term "liabilities" employed in the preceding sentence, and SUBLANDLORD's indemnification obligation, includes any strict liability imposed at law asserted against SUBTENANT.

(c) Where acts or omissions of the nature referred to in paragraphs 12.1(a) and (b) by both SUBTENANT and SUBLANDLORD (including their respective officers, directors, employees, subcontractors or agents) have caused any liabilities,

damages, fines, penalties, costs, claims, demands and expenses, whether or not a third party's acts or omissions also were causal (other than those arising out of or relating to any date prior to the date of this Sublease), SUBTENANT and SUBLANDLORD shall contribute to their common liability a pro rata share based upon the relative degree of fault of each. In such a case the parties shall share all costs equally until (i) there is a final court judgment allocating fault between the parties, or (ii) the parties agree to such an allocation.

SUBLANDLORD's indemnity shall not extend to acts or omissions of SUBLANDLORD or any third party with respect to the underground passages of the Blue Stone Mine that are not part of the Leased Premises.

(d) The provisions of this paragraph 12 shall survive the termination of this Sublease.

12.2 Notwithstanding paragraph 12.1, with respect to any environmental issue (e.g., any environmental contamination, hazardous wastes or substances, or compliance with any environmental law, regulation, and/or ordinance), the following indemnifications shall apply:

(a) Except as expressly provided in this Agreement, SUBTENANT agrees to defend, indemnify and hold harmless SUBLANDLORD (including, its officers, directors, employees and agents) from and against all liabilities (including third party liabilities) losses, claims, damages, property damage, demands, judgments, fines or penalties insofar as not prohibited by law, costs and expenses (including, without limitation, clean-up costs and reasonable attorneys' fees and disbursements) which arise, or are alleged to arise from and after July 22, 1996, from or in connection with (1) SUBTENANT's violation of, or SUBTENANT's non-compliance with, any federal, state or local environmental law relating to

or arising out of SUBTENANT's operation of the Explosion Business or operations under the Tolling Agreement at the Leased Premises. The foregoing shall survive the expiration or termination of this Sublease.

(b) Except as provided for in Section 12.5, SUBLANDLORD agrees to defend, indemnify and hold harmless SUBTENANT (including its officers, directors, employees, agents and partners, and the respective officers, directors, employees and agents of said partners) from and against all liabilities (including third party liabilities), losses, claims, damages, property damage, demands, judgments, fines or penalties insofar as not prohibited by law, costs and expenses (including, without limitation, clean-up costs and reasonable attorneys' fees and disbursements) which arise, or are alleged to arise after the date hereof and from or in connection with (1) SUBLANDLORD's violation of any federal, state or local environmental law, or (2) SUBLANDLORD's non-compliance with any federal, state or local environmental law relating to the Leased Premises.

12.3 Notwithstanding any other provisions in this Sublease to the contrary, neither party nor its shareholders, partners, agents, contractors, vendors or their employees, shall be liable to the other for consequential or indirect loss or damage, including loss of profit, loss of use, loss of operating time, loss of revenue, increased costs of producing revenues, cost of capital, or loss of goodwill, even if such party has been advised of the possibility of such damages. The parties further agree that the waivers and disclaimers of liability, indemnities, releases from liability, sole remedy provisions and limitations on liability expressed in this Sublease shall survive termination or expiration of this Sublease, and shall apply (unless otherwise expressly indicated), whether in contract, equity, tort or otherwise, even in the event of the fault, negligence, including sole negligence, strict liability, or breach of

warranty of the party indemnified, released or whose liabilities are limited, and shall extend to the partners, contractors, subcontractors, suppliers, directors, officers and employees, agents and related or affiliated entities of such party, and their partners, directors, officers and employees.

12.4 If the expiration or earlier termination of this Sublease activates any environmental law requiring audits and/or filings, (except as provided in Paragraph 12.5 and 12.6 below) SUBTENANT shall bear the cost of any such audits and filings required by such laws insofar as they effect the Leased Premises unless such termination is due to the fault of the SUBLANDLORD.

12.5 SUBLANDLORD and SUBTENANT acknowledge and agree that Dupont has been conducting explosive operations in the underground passages of the Leased Premises for thirty (30) years prior to the date of the Dupont Sublease, and that such underground passages contain residue resulting from the detonation of Explosives or other explosive materials (the "Explosive Residue"). Dupont has agreed to remove and dispose of the Explosive Residue at a reasonable time prior to expiration or termination of the MASTER LEASE, or as required by law, whichever is earlier. Dupont shall in consultation with SUBTENANT prepare a plan for removal and disposal of the Explosive Residue. Dupont and SUBTENANT agree to share the costs and expenses of removal and disposal of the Explosive Residue pro rata based on the number of years that the parties have been operating at the Leased Premises. The parties acknowledge that SUBTENANT may, at SUBTENANT's option and at SUBTENANT's cost and expense, partially remove and dispose of the Explosive Residue in order to facilitate operations of the Permitted Use at the Leased Premises. SUBLANDLORD shall have no responsibility for (a) the presence of the Explosive Residue in the underground passages of the Leased Premises, or (b) any removal and disposal of Explosive Residue.

SUBTENANT shall indemnify SUBLANDLORD for SUBTENANT's obligation with respect to the foregoing to the full extent set forth in Section 12.1.

13. DEFAULT.

(a) Any of the following occurrences, conditions or acts shall constitute an "Event of Default" under this Sublease:

(i) If SUBTENANT defaults in making payment when due of any installment of Annual Rent, Additional Rent or other amount payable hereunder by SUBTENANT to SUBLANDLORD, and such default continues for a period of fifteen (15) days after SUBLANDLORD shall have given notice to SUBTENANT specifying such default;

(ii) If SUBTENANT makes an assignment of this Sublease or sublets all or a portion of the Leased Premises, except as is provided in Paragraph 17 herein; or

(iii) If SUBTENANT defaults in the observance or performance of any provision of this Sublease (other than those provisions referenced hereinabove under subparagraph (a)(i) and (ii)), or fails to take the action required by Section 7, and such default continues for a period of thirty (30) days after SUBLANDLORD shall have given notice to SUBTENANT specifying such default; provided, however, if such default cannot be wholly cured within such thirty (30) day period, then SUBTENANT shall not be deemed to be in default so long as SUBTENANT has commenced the cure of such default within said thirty (30) day period and continues, with due diligence, to prosecute said cure;

(b) If an Event of Default shall occur, the following provisions shall apply and SUBLANDLORD shall have, in addition to all other rights and remedies available at law or in equity, the rights and remedies set forth therein, which rights and remedies may be exercised upon or at any time following the occurrence of an Event of Default unless, prior to

such exercise, SUBLANDLORD shall agree in writing with SUBTENANT that the Event(s) of Default has been cured by SUBTENANT in all respects.

(i) Acceleration of Rent. By notice to SUBTENANT, SUBLANDLORD shall have the right to accelerate all Annual Rent and any other amount due hereunder and otherwise payable in installments over the remainder of the Term, and, at SUBLANDLORD's option, any other Additional Rent to the extent that such Additional Rent can be determined and calculated to a fixed sum; and the amount of accelerated rent to the termination date, without further notice or demand for payment, shall be due and payable by SUBTENANT within five (5) days after SUBLANDLORD has so notified SUBTENANT, such amount collected from SUBTENANT shall be discounted to present value using an interest rate of six percent (6%) per annum. Additional Rent which has not been included, in whole or in part, in accelerated rent, shall be due and payable by SUBTENANT during the remainder of the Term, in the amounts and at the times otherwise provided for in this Sublease.

Notwithstanding the foregoing or the application of any rule of law based on election of remedies or otherwise, if SUBTENANT fails to pay the accelerated rent in full when due, SUBLANDLORD thereafter shall have the right by notice to SUBTENANT, (i) to terminate SUBTENANT's further right to possession of the Leased Premises and (ii) to terminate this Sublease under subparagraph (b) below; and if SUBTENANT shall have paid part but not all of the accelerated rent, the portion thereof attributable to the period equivalent to the part of the Term remaining after SUBLANDLORD's termination of possession or termination of this Sublease shall be applied by SUBLANDLORD against SUBTENANT's obligations owing to SUBLANDLORD, as determined by the applicable provisions of subparagraphs (c) and (d) below.

(ii) Termination of Sublease. By notice to SUBTENANT, SUBLANDLORD shall have the right to terminate this Sublease as of a date specified in the notice of termination and in such case, SUBTENANT's rights, including any based on any option to renew, to the possession and use of the Leased Premises shall end absolutely as of the termination date; and this Sublease shall also terminate in all respects except for the provisions hereof regarding SUBLANDLORD's damages and SUBTENANT's liabilities arising prior to, out of and following the Event of Default and the ensuing termination.

Following such termination and the notice of same provided above (as well as upon any other termination of this Sublease by expiration of the Term or otherwise) SUBLANDLORD immediately shall have the right to recover possession of the Leased Premises; and to that end, SUBLANDLORD may enter the Leased Premises and take possession, without the necessity of giving SUBTENANT any notice to quit or any other further notice, with or without legal process or proceedings, and in so doing SUBLANDLORD may remove SUBTENANT's property (including any improvements or additions to the Leased Premises which SUBTENANT made, unless made with SUBLANDLORD's consent which expressly permitted SUBTENANT to not remove the same upon expiration of the Term), as well as the property of others as may be in the Leased Premises, and make disposition thereof in such manner as SUBLANDLORD may deem to be commercially reasonable and necessary under the circumstances.

(c) Subtenant's Continuing Obligations/Sublandlord's Reletting Rights.

(i) Unless and until SUBLANDLORD shall have terminated this Sublease under subparagraph (b) above, SUBTENANT shall remain fully liable and responsible to perform all of the covenants and to observe all the conditions of this Sublease

throughout the remainder of the Term to the early termination date; and, in addition, SUBTENANT shall pay to SUBLANDLORD, upon demand and as Additional Rent, the total sum of all damages in (d) below, as SUBLANDLORD incurs, because of any Event of Default having occurred.

(ii) If SUBLANDLORD either terminates SUBTENANT's right to possession without terminating this Sublease or terminates this Sublease and SUBTENANT's leasehold estate as above provided, then, subject to the provisions below, SUBLANDLORD shall have the unrestricted right to relet the Leased Premises or any part(s) thereof to such tenant(s) on such provisions and for such period(s) as SUBLANDLORD may deem appropriate. If SUBLANDLORD relets the Leased Premises after such a default, the costs recovered from SUBTENANT shall be reallocated to take into consideration any additional rent which SUBLANDLORD receives from the new tenant which is in excess to that which was owed by SUBTENANT.

(d) Sublandlord's Damages.

(i) Upon the occurrence of an Event of Default, the damages which SUBLANDLORD shall be entitled to recover from SUBTENANT shall be the sum of:

(A) all Annual Rent and Additional Rent accrued and unpaid as of the termination date; and

(B) (1) all costs and expenses incurred by SUBLANDLORD in recovering possession of the Leased Premises, including removal and storage of SUBTENANT's property, (2) the costs and expenses of restoring the Leased Premises to the condition in which the same were to have been surrendered by SUBTENANT as of the expiration of the Term, and (3) the costs of reletting commissions; and

(C) all Annual Rent and Additional Rent (to the extent that the amount(s) of Additional Rent has been then determined) otherwise payable by SUBTENANT over the remainder of the Term as reduced to present value. Less deducting from the total determined under subparagraphs (A), (B) and (C) all Annual Rent and all other Additional Rent to the extent determinable as aforesaid, (to the extent that like charges would have been payable by SUBTENANT) which SUBLANDLORD receives from other tenant(s) by reason of the leasing of the Leased Premises or part during or attributable to any period falling within the otherwise remainder of the Term.

(ii) The damage sums payable by SUBTENANT under the preceding provisions of this paragraph (d) shall be payable on demand from time to time as the amounts are determined; and if from SUBLANDLORD's subsequent receipt of rent as aforesaid from reletting, there be any excess payment(s) by SUBTENANT by reason of the crediting of such rent thereafter received, the excess payment(s) shall be refunded by SUBLANDLORD to SUBTENANT, without interest.

(iii) SUBLANDLORD may enforce and protect the rights of SUBLANDLORD hereunder by a suit or suits in equity or at law for the specific performance of any covenant or agreement contained herein, and for the enforcement of any other appropriate legal or equitable remedy, including, without limitation, injunctive relief, and for recovery of all moneys due or to become due from SUBTENANT under any of the provisions of this Sublease.

(e) Sublandlord's Right to Cure. Without limiting the generality of the foregoing, if SUBTENANT shall be in default in the performance of any of its obligations hereunder, SUBLANDLORD, without being required to give SUBTENANT any notice or opportunity to cure, may (but shall not be obligated to do so), in addition to any other rights it

may have in law or in equity, cure such default on behalf of SUBTENANT, and SUBTENANT shall reimburse SUBLANDLORD upon demand for any sums paid or costs incurred by SUBLANDLORD in curing such default, including reasonable attorneys' fees and other legal expenses, together with interest at 10% per annum Rate from the dates of SUBLANDLORD's incurring of costs or expenses.

SUBTENANT further waives the right to any notices to quit as may be specified in the SUBLANDLORD and SUBTENANT Act of Pennsylvania, Act of April 6, 1951, as amended, or any similar or successor provision of law, and agrees that five (5) days notice shall be sufficient in any case where a longer period may be statutorily specified.

(i) Additional Remedies. In addition to, and not in lieu of any of the foregoing rights granted to SUBLANDLORD: **WHEN THIS SUBLEASE OR TENANT'S RIGHT OF POSSESSION SHALL BE TERMINATED BY COVENANT OR CONDITION BROKEN, OR FOR ANY OTHER REASON, EITHER DURING THE TERM OF THIS SUBLEASE OR ANY RENEWAL OR EXTENSION THEREOF, AND ALSO WHEN AND AS SOON AS THE TERM HEREBY CREATED OR ANY EXTENSION THEREOF SHALL HAVE EXPIRED, IT SHALL BE LAWFUL FOR ANY ATTORNEY AS ATTORNEY FOR TENANT TO FILE AN AGREEMENT FOR ENTERING IN ANY COMPETENT COURT AN ACTION TO CONFESS JUDGMENT IN EJECTMENT AGAINST TENANT AND ALL PERSONS CLAIMING UNDER SUBTENANT, WHEREUPON, IF SUBLANDLORD SO DESIRES, A WRIT OF EXECUTION OR OF POSSESSION MAY ISSUE FORTHWITH, WITHOUT ANY PRIOR WRIT OF PROCEEDINGS, WHATSOEVER, AND PROVIDED THAT IF FOR ANY REASON AFTER SUCH ACTION SHALL HAVE BEEN COMMENCED THE**

SAME SHALL BE DETERMINED AND THE POSSESSION OF THE PREMISES
HEREBY DEMISED REMAIN IN OR BE RESTORED TO SUBTENANT,
SUBLANDLORD SHALL HAVE THE RIGHT UPON ANY SUBSEQUENT DEFAULT
OR DEFAULTS, OR UPON THE TERMINATION OF THIS SUBLEASE AS
HEREINBEFORE SET FORTH, TO BRING ONE OR MORE ACTION OR ACTIONS
AS HEREINBEFORE SET FORTH TO RECOVER POSSESSION OF THE SAID
PREMISES.

In any action to confess judgment in ejectment, SUBLANDLORD shall
first cause to be filed in such action an affidavit made by it or someone acting for it setting forth
the facts necessary to authorize the entry of judgment, of which facts such affidavit shall be
conclusive evidence, and if a true copy of this Sublease (and of the truth of the copy such
affidavit shall be sufficient evidence) be filed in such action, it shall not be necessary to file the
original as a warrant of attorney, any rule of Court, custom or practice to the contrary
notwithstanding.

RA (INITIAL). SUBTENANT WAIVER. SUBTENANT SPECIFICALLY
ACKNOWLEDGES THAT SUBTENANT HAS VOLUNTARILY, KNOWINGLY AND
INTELLIGENTLY WAIVED CERTAIN DUE PROCESS RIGHTS TO A
PREJUDGMENT HEARING BY AGREEING TO THE TERMS OF THE FOREGOING
PARAGRAPHS REGARDING CONFESSION OF JUDGMENT IN EJECTION.
SUBTENANT FURTHER SPECIFICALLY AGREES THAT IN THE EVENT OF
DEFAULT, SUBLANDLORD MAY PURSUE MULTIPLE REMEDIES INCLUDING
OBTAINING POSSESSION PURSUANT TO A JUDGMENT BY CONFESSION OF
EJECTION AND ALSO OBTAINING A MONEY JUDGMENT FOR PAST DUE AND

ACCELERATED AMOUNTS AND EXECUTING UPON SUCH JUDGMENT.
SUBTENANT SPECIFICALLY WAIVES ANY CLAIM AGAINST SUBLANDLORD
AND SUBLANDLORD'S COUNSEL FOR VIOLATION OF SUBTENANT'S
CONSTITUTIONAL RIGHTS IN THE EVENT THAT EJECTION IS CONFESSED
PURSUANT TO THIS SUBLEASE.

(f) Interest on Damage Amounts. Any sums payable by
SUBTENANT hereunder, which are not paid after the same shall be due, shall bear interest from
that day until paid at the rate of four (4%) percent over the then Prime Rate as published daily
under the heading "Money Rates" in The Wall Street Journal, unless such rate be usurious as
applied to SUBTENANT, in which case the highest permitted legal rate shall apply (the "Default
Rate").

(g) SUBLANDLORD's Statutory Rights. SUBLANDLORD shall
have all rights and remedies now or hereafter existing at law or in equity with respect to the
enforcement of SUBTENANT's obligations hereunder and the recovery of the Leased Premises.
No right or remedy herein conferred upon or reserved to SUBLANDLORD shall be exclusive of
any other right or remedy, but shall be cumulative and in addition to all other rights and remedies
given hereunder or now or hereafter existing at law. SUBLANDLORD shall be entitled to
injunctive relief in case of the violation, or attempted or threatened violation, of any covenant,
agreement, condition or provision of this Sublease, or to a decree compelling performance of any
covenant, agreement, condition or provision of this Sublease.

(h) Remedies Not Limited. Nothing herein contained shall limit or
prejudice the right of SUBLANDLORD to exercise any or all rights and remedies available to
SUBLANDLORD by reason of default or to prove for and obtain in proceedings under any

bankruptcy or insolvency laws, an amount equal to the maximum allowed by any law in effect at the time when, and governing the proceedings in which, the damages are to be proved, whether or not the amount be greater, equal to, or less than the amount of the loss or damage referred to above.

(i) No Waiver by SUBLANDLORD. No delay or forbearance by SUBLANDLORD in exercising any right or remedy hereunder, or SUBLANDLORD's undertaking or performing any act or matter which is not expressly required to be undertaken by SUBLANDLORD shall be construed, respectively, to be a waiver of SUBLANDLORD's rights or to represent any agreement by SUBLANDLORD to undertake or perform such act or matter thereafter. Waiver by SUBLANDLORD of any breach by SUBTENANT of any covenant or condition herein contained (which waiver shall be effective only if so expressed in writing by SUBLANDLORD) or failure by SUBLANDLORD to exercise any right or remedy in respect of any such breach shall not constitute a waiver or relinquishment for the future of SUBLANDLORD's right to have any such covenant or condition duly performed or observed by SUBTENANT, or of SUBLANDLORD's rights arising because of any subsequent breach of any such covenant or condition nor bar any right or remedy of SUBLANDLORD in respect of such breach or any subsequent breach. SUBLANDLORD's receipt and acceptance of any payment from SUBTENANT which is tendered not in conformity with the provisions of this Sublease or following an Event of Default (regardless of any endorsement or notation on any check or any statement in any letter accompanying any payment) shall not operate as an accord and satisfaction or a waiver of the right of SUBLANDLORD to recover any payments then owing by SUBTENANT which are not paid in full, or act as a bar to the termination of this Sublease and the recovery of the Leased Premises because of SUBTENANT's previous default.

14. INSURANCE.

(a) SUBTENANT shall at its expense obtain and maintain, or cause to be obtained and maintained, insurance during the term of this Sublease. Comprehensive or Commercial General Liability Insurance with bodily injury and property damage combined single limits of at least Ten Million Dollars (\$10,000,000) per occurrence, with a deductible of not more than One Hundred Thousand Dollars (\$100,000). Such insurance shall include, but not necessarily be limited to, specific coverage for contractual liability encompassing the indemnification provisions in Paragraph 12, broad form property damage liability, personal injury liability, explosion and collapse hazard coverage, and products/completed operations liability.

(b) The amounts of insurance required in this Paragraph 14 may be satisfied by SUBTENANT purchasing primary coverage in the amounts specified or by buying a separate excess Umbrella Liability policy together with lower limit primary underlying coverage. The structure of the coverage is SUBTENANT's option, so long as the total amount of insurance meets the requirements of this Paragraph 14. The coverages described above and any Umbrella or Excess coverage should be "occurrence" form policies. The insurance requirements listed above are minimum requirements. SUBLANDLORD and SUBTENANT shall annually renegotiate these minimum insurance requirements to reflect increases in insured values where applicable. Further, neither failure to comply nor full compliance by either party with the insurance provisions of this Agreement shall limit or relieve SUBTENANT OR SUBLANDLORD from indemnifying and holding harmless SUBLANDLORD OR SUBTENANT, as the case may be, in compliance with the provisions of this Agreement.

(c) SUBLANDLORD shall at its expense obtain and maintain, or cause to be obtained and maintained, insurance covering its interests during the term of this Sublease.

(d) Upon SUBLANDLORD's request, certificates of insurance evidencing the coverages required above of SUBTENANT shall be filed with SUBLANDLORD. Such certificates shall provide that the insurer will give SUBLANDLORD thirty (30) days advance notice of any changes in or cancellation of coverage. SUBTENANT shall name SUBLANDLORD as an additional insured under all policies of insurance relating to the Leased Premises

Neither failure of SUBTENANT or SUBLANDLORD to comply with any or all of the insurance provisions of the Agreement, nor the failure to secure endorsements on the policies as may be necessary to carry out the terms and provisions of the Agreement, shall be construed to limit or relieve SUBTENANT or SUBLANDLORD from any of its obligations under the Agreement, including the Insurance Article.

15. WAIVER OF SUBROGATION. Each party hereto, and anyone claiming through or under them by way of subrogation, waives and releases any cause of action it might have against the other party and their respective employees, officers, members, shareholders, partners, trustees and agents, on account of any loss or damage that is insured against under any insurance policy required to be obtained hereunder (to the extent that such loss or damage is recoverable under such insurance policy) that covers the Leased Premises, SUBLANDLORD's or SUBTENANT's fixtures, personal property, leasehold improvements or business and which names SUBLANDLORD or SUBTENANT, as the case may be, as a party insured. Each party hereto agrees that it will cause its insurance carrier to endorse all applicable policies waiving the

carrier's right of recovery under subrogation or otherwise against the other party. During any period while such waiver of right of recovery is in effect, each party shall look solely to the proceeds of such policies for compensation for loss, to the extent such proceeds are paid under such policies.

16. **CASUALTY.** If, during the term of this Sublease, the Leased Premises, including the Blue Stone Mine, shall be destroyed, or so injured or damaged by fire, the elements, acts of God, or other insurable casualty, structural defects or from any other cause so as to be unfit for occupancy and not be economically feasible for the operation of the Explosion Business, this Sublease shall, at SUBTENANT's option, terminate and SUBTENANT shall not be liable to pay rent after such occurrence. If the injury or damage is such that SUBTENANT notifies SUBLANDLORD as soon as reasonably possible (but in no event more than ninety (90) days after such injury) that the SUBTENANT is diligently pursuing plans for restoration of the Leased Premises and within ninety (90) working days from the delivery of such notice, either restores the Leased Premises, or, if such restoration cannot be completed in ninety (90) working days, commences and diligently pursues such restoration, this Sublease shall not be terminated but the rent shall be suspended as to that portion of the Leased Premises rendered untenable or unsuitable for the operation of SUBTENANT's business and in such case any rent paid in advance but unearned shall be refunded to SUBTENANT. If SUBTENANT does not notify SUBLANDLORD within the time hereinabove specified or if as soon as possible (but in no event longer than ninety (90) working days after the date of the injury), SUBTENANT (a) is not diligently pursuing the necessary repairs, or (b) the Parties agree that the repairs cannot be completed within one hundred eighty (180) days following the date of such notice, then this

Sublease may immediately be terminated by SUBLANDLORD and neither party shall have any further obligations hereunder, except those specifically intended to survive termination.

17. QUIET ENJOYMENT. SUBLANDLORD covenants and warrants that, as long as no Event of Default shall have occurred and be continuing under this Sublease, SUBLANDLORD or persons claiming by, through or under SUBLANDLORD will take no action or neglect to take any action which interferes with the peaceful and quiet enjoyment and possession of the Leased Premises by SUBTENANT for the term hereof and any extensions to the term.

18. ASSIGNMENT AND SUBLETTING.

(a) SUBTENANT shall have the right to assign its rights and duties under this Sublease, either as collateral security or to an affiliate of SUBTENANT created in connection with the financing arrangements entered into by SUBTENANT or otherwise, by notifying SUBLANDLORD of such assignment. In the event of any such assignment, SUBTENANT shall continue to remain primarily liable for performance hereunder for the term of this Sublease, including any renewals. "Affiliate" means an entity controlled by or under the control of SUBTENANT or SUBTENANT's parent, SNPE, Inc. "Control" or "Controlled" means ownership of more than 50% of the ownership interests of such entity or the ability to elect a majority of the board or other governing body of such entity.

(b) Except as provided in this Sublease, neither party may assign this Sublease in whole or in part, or any rights granted hereunder, without the prior written consent of the other party, which consent shall not be unreasonably withheld so long as no Event of Default shall have occurred and then be continuing. Except as provided in this Sublease, any transfer, assignment, delegation or attempted transfer, assignment or delegation under this Sublease or of

any of such rights or duties herein granted or imposed whether voluntary, by operation of law or otherwise, without consent in writing, shall cause this Sublease to be terminated at the election of the party whose written consent has not been obtained. SUBTENANT shall not, without the prior written consent of SUBLANDLORD, sublet any portion of the Leased Premises. Subject to the foregoing, this Sublease shall be binding upon and shall inure to the benefit of the parties and their successors and assigns.

Notwithstanding anything to the contrary contained herein, SUBLANDLORD may assign this Sublease to the purchaser of all or substantially all of SUBLANDLORD's Business.

19. GOVERNING LAW. This Sublease and the performance thereof shall be governed, interpreted, construed and regulated by the laws of the Commonwealth of Pennsylvania.

20. CONSENT TO JURISDICTION. SUBTENANT hereby consents to the exclusive jurisdiction of the state and federal courts located in any county in the Commonwealth of Pennsylvania to resolve any dispute arising under this Sublease or in connection with SUBTENANT's use, occupancy or enjoyment of the Leased Premises.

21. SURRENDER. SUBTENANT hereby agrees to surrender the Leased Premises in good condition and repair, normal wear and tear excepted. Notwithstanding anything herein to the contrary (except if required by law), SUBTENANT shall be required to have performed a Phase 1 environmental audit upon the termination or expiration of this Sublease at its sole expense. SUBTENANT shall have no right to hold over beyond the expiration of the Term and in the event SUBTENANT shall fail to deliver possession of the Leased Premises as herein provided, such occupancy shall not be construed to effect or constitute

other than a tenancy at sufferance. During any period of occupancy beyond the expiration of the Term the amount of rent owed to SUBLANDLORD by SUBTENANT shall automatically become one hundred fifty percent (150%) the Annual Rent as those sums are at that time calculated under the provisions of the Sublease. If SUBTENANT fails to surrender the space within thirty (30) days of the termination date, SUBLANDLORD may elect to automatically extend the Term for an additional month or additional year, at SUBLANDLORD's option, with an Annual Rent of one hundred and fifty percent (150%) the sum of the Annual Rent as those sums are at that time calculated under the provisions of the Sublease. The acceptance of rent by SUBLANDLORD or the failure or delay of SUBLANDLORD in notifying or evicting SUBTENANT following the expiration or sooner termination of the Term shall not create any tenancy rights in SUBTENANT and any such payments by SUBTENANT may be applied by SUBLANDLORD against its costs and expenses, including attorney's fees incurred by SUBLANDLORD as a result of such holdover. The provisions of this Paragraph shall survive the expiration or sooner termination of this Sublease.

22. AMENDMENT AND RECORDATION. This Sublease may not be amended, supplemented, or modified, except by an instrument in writing, signed by SUBLANDLORD and SUBTENANT. This Sublease may not be recorded by either party provided that either party may record a memorandum of lease of this Sublease.

23. WAIVER. Failure of SUBLANDLORD or SUBTENANT to complain of any act or omission on the part of the other party, no matter how long the same may continue, shall not be deemed to be a waiver by said party of any of its rights hereunder. No waiver by SUBLANDLORD or SUBTENANT at any time, express or implied, of any breach of any

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provision of this Sublease shall be deemed a waiver of a breach of any other provision of this Sublease or a consent to any subsequent breach of the same or any other provision.

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24. BROKER. Each party hereby represents and warrants to the other party that it has not dealt with any real estate broker or finder in connection with the transaction evidenced by this Sublease, and said party agrees to indemnify, defend and hold harmless the other party from and against any threatened or asserted claims, liabilities, losses or judgments (including reasonable attorneys' fees and disbursements) by any such broker or finder claiming to have dealt with the indemnifying party. This provision shall survive the termination or expiration of this Sublease.

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25. NOTICES. Every notice, approval, consent or other communication required or permitted under this Sublease shall be in writing, shall be deemed to have been duly given three days after mailing by US Mail and or next day if by nationally known overnight carrier for priority next day delivery, and shall be valid only if either served personally on the party to whom notice is to be given, or mailed to the party to whom notice is to be given, by first class registered or certified mail, return receipt requested, or by nationally recognized overnight carrier for next day priority delivery, in each case postage prepaid, and addressed to the addressee at the address stated opposite its name below, or at the most recent address specified by written notice given to the other party in the manner provided in this Paragraph.

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To SUBLANDLORD
Mypodiamond, Inc.
200 North Repauno Ave.
Gibbstown, NJ 08027
)

with a copy to:

Richard P. Eckman
Pepper Hamilton LLP
1201 Market Street
Suite 1600
Wilmington, DE 19801

To SUBTENANT

Dynamic Materials Corporation
551 Aspen Ridge Drive
Lafayette, CO 80026
Attn: Chief Executive Officer

26. PARTIAL INVALIDITY. If any term, covenant, condition or provision of this Sublease or the application thereof to any person or circumstance shall, at any time or to any extent, be invalid or unenforceable, the remainder of this Sublease, or the application of such term or provision to persons or circumstances other than those as to which it is held invalid or unenforceable, shall not be affected thereby, and each term, covenant, condition and provision of this Sublease shall be valid and be enforced to the fullest extent permitted by law. Any provision of this Sublease which is invalid or unenforceable in any jurisdiction shall, as to such jurisdiction, be ineffective to the extent to which it is held invalid or unenforceable, but any such invalidity or unenforceability shall not invalidate or render unenforceable such provision in any other jurisdiction.

27. NO PARTNERSHIP. Nothing in this Sublease or the transaction for which it is written shall constitute or create a joint venture, partnership, agency or any other similar arrangement between SUBLANDLORD and SUBTENANT, and neither party is authorized to act as agent for the other party.

28. CAPTIONS. Titles or captions of Paragraphs contained in this Sublease are inserted only as a matter of convenience and for reference, and in no way define, limit,

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extend, describe or otherwise affect the scope or meaning of this Sublease or the intent of any provision hereof. All Exhibits attached hereto shall be considered a part hereof as though fully set forth herein.

)

29. COUNTERPARTS. The parties may execute this Sublease in two (2) or more counterparts, which shall, in the aggregate, be signed by both the parties; and each counterpart shall be deemed an original instrument as against any party who has signed it.

)

30. SUCCESSION. All of the covenants, agreements, conditions and undertakings of this Sublease shall extend and inure to and be binding upon the successors and permitted assigns of the respective parties hereto.

)

31. WAIVER OF JURY TRIAL. EACH PARTY KNOWINGLY WAIVES THEIR RIGHT TO A JURY TRIAL.

)

32. THIRD PARTY BENEFICIARIES. There are no third party beneficiaries to this Sublease.

)

33. TIME OF THE ESSENCE. Time is of the essence under this Sublease.

)

IN WITNESS WHEREOF, the parties hereunto have caused this Agreement to be
executed on the day and year first above written.

MYPODIAMOND, INC.

By: 

Print Name: William E. Mancini

Title: PRESIDENT

Date: 12/27/2000

DYNAMIC MATERIALS CORPORATION

By: _____

Print Name: _____

Title: _____

Date: _____

IN WITNESS WHEREOF, the parties hereunto have caused this Agreement to be
executed on the day and year first above written.

MYPODIAMOND, INC.

By: _____

Print Name: _____

Title: _____

Date: _____

DYNAMIC MATERIALS CORPORATION

By: Richard A. Santa

Print Name: Richard A. Santa

Title: Vice President + CFO

Date: 12/15/00

LICENSE AGREEMENT

THIS LICENSE AGREEMENT is made as of this 21st day of July, 2008 by and between COOLSPRING STONE SUPPLY COMPANY, INC., a Pennsylvania corporation with its principal office in North Union Township, Pennsylvania 15401 ("Licensor") and DYNAMIC MATERIALS CORPORATION, a Delaware corporation with an address at 1138 Industrial Park Drive, Mt. Braddock, Pennsylvania 15465 ("Licensee").

WITNESS

WHEREAS, Licensor is the tenant under an Agreement of Lease dated April 1, 1978 ("Agreement of Lease") with James K. Moyer and Althea Moyer, his wife, William E. Moyer and Frances Moyer, his wife, and Russell B. Mechling, Jr. and Eleanor Mechling, his wife (collectively, the "Lessors"), as assigned to Licensor's predecessor-in-interest, Marsolino Coolspring Quarry, Inc. by Assignment made June 29, 1981 ("Assignment") and as amended by Amendment of Lease made June 1, 1999 ("Amendment") and recorded Memorandum of Lease made June 1, 1999 ("Memorandum of Lease") (hereinafter, the Agreement of Lease, Assignment, Amendment and Memorandum of Lease are referred to, collectively, as the "Lease"); and

WHEREAS, pursuant to the Lease, Licensor leases from Lessors those tracts of land described in deeds recorded in the Office of the Recorder of Deeds of Fayette County at DBV 1137, Page 783; DBV 1145, Page 814; DBV 1137, Page 309; DBV 1168, Page 377 and DBV 1289, Page 1066 (the "Properties") for mining and

quarrying operations including blasting, removal of minerals and deposits and other activities as set forth in the Lease; and

WHEREAS, in addition to the Properties, Licensor leases and makes use of other adjoining properties for mining and quarrying operations and in connection with such operations makes use of the Properties for access and related activities; and

WHEREAS, a portion of the Properties leased by Licensor pursuant to the Lease is designated and known as "Coolspring Mine No. 1", the approximate location of which is shown on Map 1 attached hereto as Attachment "No. 1" ("Coolspring Mine No. 1"); and

WHEREAS, Licensee wishes to have access to and use of a portion of Coolspring Mine No. 1 located within the Properties, as shown on the shaded area of Attachment No. 1 hereto to perform explosion bonding of dissimilar metals and related activities; and

WHEREAS, Licensor has obtained the consent of the Lessors to permit such activities by Licensee in a portion of Coolspring Mine No. 1 through the Second Amendment to Lease Agreement dated as July 1, , 2008, a copy of which is attached hereto as Attachment "No. 2" ("Second Amendment"); and

WHEREAS, Licensor is willing to permit Licensee to conduct its explosion bonding activities in a portion of Coolspring Mine No. 1 but only on the terms and conditions set forth in this License Agreement.

NOW, THEREFORE, in consideration of the mutual promises and consideration set forth herein and intending to be legally bound hereby, Licensor and Licensee agree as follows:

1. Grant of License. Subject to the terms and conditions of this License Agreement, Licensor hereby grants to Licensee, and its employees, agents, representatives and contractors, a revocable license: (a) for access from public roads to, and ingress and egress from the area within the Properties designated as Coolspring Mine No. 1; and (b) to occupy and use such portions within the shaded areas of Coolspring Mine No. 1 shown on Attachment No. 1 as are designated by agreement from time to time by Licensor and Licensee for Licensee's explosion bonding operations and associated activities (the "Licensed Area"). Licensor contemplates that the Licensed Area will be unbench areas of Coolspring Mine No. 1. All use of the license granted hereunder and the Licensed Area shall be in accordance with and subject to the requirements and provisions of this License Agreement, and shall be undertaken on a coordinated and cooperative basis to accommodate to the extent reasonably practicable the operations of both Licensor and Licensee, subject to Licensor's prior and superior right to conduct its operations on the Properties, as set forth in Sections 7 and 8 of this License Agreement, and to terminate the license and this License Agreement in accordance with Section 10.

2. License Fee. In consideration of the grant and use of the license made hereunder, Licensee agrees to pay to Licensor the sum of [REDACTED] per year, for each year that this License Agreement is in effect, payable in advance on or before the first day of each

month in equal monthly installments of [REDACTED] each, which monthly installments shall be paid to Licensor at the address set forth in Section 23. This License Agreement shall become effective and the obligation to pay the License Fee shall commence as of the first day that Licensee is given access to the Licensed Area pursuant to the terms of this License Agreement (the "Commencement Date"). The License Fee shall be pro-rated for any partial month that the License Agreement is in effect.

3. Term; Option for Extended Term. The term of this License Agreement shall be ten (10) years, commencing on the Commencement Date and ending on the earlier of: (a) the tenth anniversary of the last day of the month in which the Commencement Date occurs; or (b) December 31, 2018 (the "Initial Term"), subject to the termination rights set forth in Section 10 hereof. Provided Licensee is not in default of any obligation and provided the Lease between Lessor and Licensor is extended, at the option of Licensor, beyond its current expiration of December 31, 2018 for a period of at least ten (10) years, Licensee shall have the option at the expiration of the Initial Term to extend the term of this License Agreement for an additional term through and including December 31, 2028 (the "Extended Term") on terms, including the amount of the License Fee during the Extended Term, that are mutually agreeable to Licensor and Licensee. Licensee shall provide Licensor with written notice of its intention to exercise the option for the Extended Term not later than December 31, 2017. If Licensee timely provides written notice of its intention to exercise the option for

the Extended Term, Licensor and Licensee shall engage in good faith negotiations regarding the terms applicable to the Extended Term, including the Licensee Fee. If mutually acceptable terms are agreed to, the terms shall be set forth in an Amendment to this License Agreement. If, despite good faith negotiations, Licensor and Licensee cannot agree on mutually acceptable terms for the Extended Term by March 31, 2018, then the option to extend this License Agreement shall expire and be null and void, and this License Agreement shall terminate at the end of the Initial Term.

4. Licensee's Use of the Premises. The license granted hereunder and Licensee's access to and use of the the Licensed Area shall be limited to the Licensee's explosion bonding operations and associated activities consisting of detonations, transportation and hauling of explosives and products into and out of the the Licensed Area, and transportation and use of necessary equipment to conduct detonations, including tools, wiring, activation devices, exhaust fans, and other required items. No license to use the Licensed Area for any other use or purpose is granted by this License Agreement.

All use of the license granted hereunder and access to and use of the Licensed Area by Licensee shall be subject to the following:

- a. Licensee may use and occupy the Licensed Area to conduct no more than (1) detonation event per day (which one detonation event may consist of a serial detonations timed to occur within less than one minute). Each detonation event shall consist of

not more than 2,500 pounds of explosives and shall be of the same chemical composition, design and type currently conducted by Licensee at its Dunbar, Pennsylvania facility. The parties may by mutual agreement amend this License Agreement if they agree upon mutually acceptable terms for more than one (1) detonation per day or agree upon mutually acceptable terms for increasing the maximum detonation poundage for explosives.

- b. All detonations shall take place at a time and on a schedule that is mutually acceptable to Licensor and Licensee. Licensor may, in its sole discretion, advise Licensee at any time and from time to time to delay its detonations or change the time or times for the detonations by Licensee. Licensee agrees that except in cases of emergency or where issues of safety arise, Licensee will use its best efforts to provide Licensor with at least 24 hours advance notice of any direction to delay Licensee's detonations or change the time or times for the detonations by Licensee.
- c. Licensee's access to the Properties and use of the Licensed Area for any purpose granted by this License Agreement shall not exceed a total of ten (10) to twelve (12) hours per day.
- d. Licensee shall take all reasonable and commercially viable steps to minimize the impact of all detonations on the operations and activities of Licensor in the Coolspring Mine No. 1 and in all

adjoining mines and areas of the Properties. Such steps shall include but not be limited to minimization of dust and restricting the proximity of detonations to mine entrances and Licensor's equipment. Licensee shall be responsible, at its cost, for any repairs required to either entry to Coolspring Mine No. 1 at any time during the term of this License Agreement. Licensor will reimburse Licensee for its pro rata share of the costs of any repairs to either entry made by Licensee to be based upon the amount of time Licensor conducts activity in Coolspring Mine No. 1 following the making of the repairs and the assumption that Licensee will continue this Agreement through the Extended Term. By way of example, if the repairs cost \$80,000 and there are 8 years remaining on the Initial Term of this Agreement, then the annualized cost of the repairs are \$4,444.00 a year (\$80,000 divided by 18 (the years remaining on the Initial term plus the Extended Term)) or \$12.17 a day and Licensee would reimburse Licensee for its pro rated (one-half) share based on the number of days it conducts activity in Coolspring Mine No. 1.

- e. Licensee shall not be permitted to store any explosives or similar materials within the Licensed Area, Coolspring Mine No. 1 or other mines, on the Properties or on any adjacent areas. All explosives and similar materials shall be brought to and

removed by Licensee from the Licensed Area and the Properties on a daily basis. Subject to Licensor's prior approval as to the materials, the location and the manner of storage, and subject to Licensor's right to withdraw its approval at any time, Licensee may store other, non-explosive materials in designated areas of the Licensed Area. Licensee shall be permitted to dispose of sand material used in its operations as ground support for plates within areas of Coolspring Mine No. 1 that are mutually acceptable to Licensor and Licensee. The designated storage area is shown on Map 2 attached hereto as Attachment "No. 3", and may be used by Licensee, subject to the terms and provisions of this Agreement (including but not limited all provisions regarding insurance, indemnity, environmental, lawful use and registration), for maintenance of an office trailer, installation at Licensee's cost of utilities (telephone, electric), a shed for storage of helium bottles, tanks for diesel fuel storage and kerosene, and storage of mobile equipment (including tractor trailers, fork lifts, diesel trucks and scaling equipment).

- f. All employees, contractors and personnel of Licensee who transport, use or handle any explosive material or are engaged in any detonation activities shall have received all licenses and

training for such activity as required by law, by Licensee's policies and the policies of Licensor.

- g. All activities of Licensee shall be conducted in accordance with the Operating Plan attached hereto as Attachment "No. 4", as it may be changed or modified from time to time.
- h. Licensee, its employees, agents, contractors and invitees entering the Properties, Coolspring Mine No. 1 or the Licensed Area shall comply with all security and safety procedures established from time to time by Licensor. Licensee shall have a Pennsylvania mine-certified foreman on site before any underground work begins.

5. Licensee Safety Responsibility. Licensee shall be fully responsible at all times for conducting its operations and activities in a safe manner, in accordance with Licensor's policies and rules and in compliance with all federal and state law, statutes, rules and regulations. Licensee shall be fully responsible at all times for the safety of its employees, agents, contractors, representatives, invitees and guests engaged in the Licensee's operations and activities or at any time on the Properties. Licensor shall not be responsible for the safety of Licensee's employees, contractors, consultants, invitees or guests, which shall at all times remain the obligation of Licensee without reliance on Licensor. The imposition by Licensor of policies and safety rules applicable to all persons coming on the Properties shall be adhered to by Licensee but shall not give rise to any

obligation or liability on the part of Licensor for the safety of Licensee's employees, agents, contractors, representatives, invitees or guests. Licensee shall at all times have a mine rescue agreement with the Pennsylvania Department of Environmental Protection, separate from Licensor's mine rescue agreement

6. Permits. Licensee shall be responsible for obtaining and maintaining all permits and licenses required for its operations and activities, and for fully complying with all requirements of such permits and licenses. Upon request, Licensee will provide to Licensor a copy of all of its permits and licenses. Licensor will advise Licensee of applicable requirements of Licensor's permits affecting Licensee's operations and activities and Licensee agrees to abide by all such requirements and to indemnify and hold Licensor harmless from all fines, penalties, costs, expenses, damages and losses arising from any violation by Licensee of such requirements.

7. Licensee's Operations Subordinate to Licensor's Operations and Activity. Licensee acknowledges that Licensor is engaged in and will continue to engage in its own mining and related operations in mines adjacent to Coolspring Mine No. 1 and that Licensor continues from time to time to mine, quarry and remove materials from Coolspring Mine No. 1, including sandstone. Licensor and Licensee agree to undertake their respective activities on a coordinated basis and to cooperate in establishing the location, time and manner of their respective

operations. Licensee agrees nevertheless that the rights granted to it under this License Agreement and its access to and use of the Licensed Area are at all times subject and subordinate to the uses, operations and activities of Licensor both within Coolspring Mine No. 1 and in the adjacent mines and areas of the Properties. Licensee agrees to conduct its operations and activities such that Licensor's operations and activities are not curtailed, restricted, impeded or interrupted by Licensee's use, operations and activities. Without limiting the foregoing, Licensee agrees to follow Licensor's directives with respect to the scheduling and timing of detonations and blasting respectively by Licensee and Licensor.

8. Licensee's Agreement to Cease Activity. Licensee agrees that in the event any its operations or activities cause or result in a curtailment, diminution or cessation of Licensor's operations or activities, upon the directive of Licensor, Licensee will immediately cease its operations and activities until they can be resumed at a time or in a manner that does not cause or result in a curtailment, diminution or cessation of Licensor's operations and activities. Without limiting the foregoing, by way of example, if Licensee's operations or activity give rise to or contribute to an air quality or other issue requiring a diminution or cessation of activity in any area (whether within Coolspring Mine No. 1, the Properties or elsewhere), Licensee agrees to cease its operations and activity until the air quality or other issue abates or is corrected and Licensee's operations and activities can be resumed without impairing Licensor's operations and activities.

9. Insurance. Licensee agrees to obtain and maintain at all times during the term of this License Agreement the following insurances with insurance companies satisfactory to Licensor and policyholders' ratings of no less than "A" in the most current edition of Best's Insurance Reports:

- a. comprehensive general liability insurance against all claims on account of bodily injury and property damage, personal injury and advertising injury and medical payments of at least \$10 million in the aggregate and a \$5 million sub-limit per occurrence, without any exclusions for hazardous activity of the type and nature engaged in by Licensee .
- b. workers compensation insurance, as required by law; and
- c. automobile and vehicle coverage.

All insurance obtained by Licensee shall name as additional insureds, Licensor and the Lessors. For the benefit of Licensor and Lessors, Licensee's policies shall contain a clause that: (a) the coverage of the Licensee's policy shall be primary with respect to any policies carried by Licensor and Lessors; and that any coverage carried by Licensor shall be excess insurance; (b) the insurer will not cancel or refuse to renew the policy, or change in any material way the nature or extent of the coverage provided without first giving Licensor and Lessors 30 days' prior written notice; and (c) the insurer waives all right of subrogation against Licensor and Lessors. Licensee shall provide Licensor and

Lessors with certificates of insurance on ACORD form 27 certifying Licensee's compliance with this provision.

10. Right To Terminate License Agreement.

- a. Licensor's Right to Terminate. In addition to its right to terminate this License Agreement in the event of a default under Section 16 hereof, Licensor shall have the right to terminate, on 30 days advance written notice to Licensee, if Licensor, in its sole judgment, makes a good faith judgment that Licensee's operations and activities curtail or interfere with Licensor's operations and activities in a manner that, despite good faith efforts, cannot be ameliorated through coordination or reasonable procedures and accommodations.
- b. Licensee's Right to Terminate. Licensee shall have the right, on 30 days advance written notice to Licensor, to terminate this License Agreement if it determines that the frequency and requirements of the occasions in which it is required to cease or curtail operations pursuant to the provisions of this License Agreement are such that it cannot conduct its operations in a commercially viable manner and no mutually agreeable steps to ameliorate the circumstance(s) are agreed to within the thirty (30) day period after notice by Licensee.

11. Taxes.

- a. Licensee shall be responsible for the collection and payment of all taxes assessed or imposed on its operations or activities, including all sales and use taxes, income taxes, mercantile taxes, gross receipts taxes and similar taxes.
- b. Licensee shall not be responsible for the payment of all real estate taxes, except that in the event of any increase in real estate taxes as a result of an increase in the assessment on Coolspring Mine No. 1 or the Properties that is attributable to Licensee's operations, Licensee shall be responsible for and shall pay the amount of the real estate taxes attributable to the increase in the assessment, and Licensee may deduct the amount actually paid from the installments of the License Fee next payable following Licensee's payment of the taxes.

12. Additional Charges. Licensee acknowledges that its operations and activities in the Licensed Area may from time to time require use of equipment, ventilation fans and systems, and water provided by Licensor. Licensee shall reimburse Licensor for the costs of all items supplied by Licensor, including ventilation and utilities required by or used by Licensee in its operations and activities, and Licensee shall reimburse Licensor for any damage caused by Licensee to the Licensor's equipment, fans, ventilation system or other property. Licensee shall reimburse Licensor for such uses at an agreed-upon hourly rate determined from time to time by Licensor and Licensee based on the cost of utilities, maintenance

and depreciation. In addition, Licensee shall be fully responsible for the costs of all utilities (e.g., electric, telephone service, sanitary facilities) installed by Licensee for its use.

13. Indemnity. A. Licensee agrees to indemnify and hold harmless Licensor, its affiliates and their respective directors, officers, employees, shareholders, agents and consultants from and against any and all losses, damages, injuries, claims, demands and expenses, including legal expenses of any kind and nature incurred in defending claims (hereafter "Claims"), resulting from or in any manner relating to any death or personal injury to Licensor's employees, contractors, agents, or invitees or damage to Licensor's property, including equipment located within or adjoining Coolspring Mine No. 1, the Properties or adjoining areas, where such Claims are caused by or contributed to by Licensee's use of the license, its access to, use of the Licensed Area and its operations, including but not limited to all blasting activities, except to the extent that such Claims are caused solely by the negligence of Licensor. Licensee's indemnity shall extend to death, personal injuries or property damage caused by it or its employees, agents, consultants, contractors or any other individuals or entities utilized by Licensee in any of its operations and activities conducted on, in or near the Licensed Area.

B. Licensee also agrees to indemnify and hold harmless Licensor, its affiliates and their respective directors, officers, employees, shareholders, agents and consultants from and against any Claims asserted against Licensor by any

third parties that are caused by or contributed to by Licensee's use of the license, its access to, use of the Licensed Area and its operations, including but not limited to all blasting activities but, in such event, Licensee shall have the right to defend and hold harmless Licensor against such claims and any attorney's fees incurred in the defense thereof instead of reimbursing Licensor directly for the defense, settlement or payment of such claims.

14. Assignment and Subletting. Licensee shall not mortgage, pledge, encumber or assign or otherwise transfer this License Agreement or sublet in whole in part any of the rights hereunder to any other person or entity without the prior written consent of Licensor.

15. Environmental/Hazardous Material Requirements.

A. To the extent permitted by this License Agreement and subject to its requirements, Licensee may bring on to the Licensed Area the explosive material required for its permitted operations; provided that such material is not stored on the Property and all transportation, handling and use of such materials is undertaken by Licensee in accordance with all applicable laws, statutes, rules and regulations.

B. Except for those items expressly permitted under this Agreement (helium bottles, diesel fuel, kerosene) the use, handling storage and transportation of which shall be undertaken in accordance with all applicable laws, statutes, rules and regulations, Licensee shall not cause or permit any other Hazardous

Material (as defined herein) to be released, brought upon, stored, produced, emitted, disposed of or used upon the Licensed Area or the Properties by Licensee, its agents, employees, representatives, consultants, contractors, subcontractors or invitees.

C. Without limiting Licensee's indemnification obligations under Section 13 of this License Agreement, Licensee shall indemnify, defend and hold Licensor harmless from and against any and all: (a) Claims arising out or related to any failure by Licensor to perform the transportation, handling and use of the explosive or other materials used in its operations in accordance with all applicable laws, statutes, rules and regulations; and (b) all Environmental Claims (as defined herein) which arise from the presence upon, about or beneath Coolspring Mine No. 1 or the Properties of any Hazardous Materials which Licensee causes or permits to be released, brought upon, stored, produced, emitted, disposed of or used upon, about or beneath the Properties.

D. For purposes of this Lease, "Environmental Claims" shall mean: i) all claims, judgments, damages, penalties, fines, costs, expenses, liabilities and losses; ii) all sums paid for settlement of claims; iii) all attorneys' fees, consultants' fees and experts' fees, and iv) all costs incurred in connection with investigation of any Hazardous Material upon, about or beneath the Coolspring Mine No. 1 or the Properties, including the preparation of any feasibility studies or reports and the performance of any clean-up, remediation, removal or

restoration work required by any federal, state or local governmental agency or political subdivision.

E. For purposes of this License Agreement, "Hazardous Material" shall mean any material or substance: (i) defined as a "hazardous substance" pursuant to the Comprehensive Environmental Response Compensation and Liability Act, 42 U.S.C. § 9601 et seq. ("CERCLA") and amendments thereto and regulations promulgated thereunder; (ii) containing gasoline, oil, diesel fuel or other petroleum products; (iii) defined as a "hazardous waste" pursuant to the Federal Resource Conservation and Recovery Act, 42 U.S.C. § 6901 et seq., and amendments thereto and regulations promulgated thereunder; (iv) containing polychlorinated biphenyls ("PCB's"); (v) containing asbestos; (vi) which is radioactive; (vii) the presence of which requires investigation or remediation under any federal, state or local statute, regulation, ordinance or policy or which is or becomes defined as a "hazardous waste" or "hazardous substance" under any federal, state or local statute, regulation or ordinance; or (viii) any toxic, explosive, corrosive or otherwise hazardous substance, material or waste which is or becomes regulated by any federal, state or local governmental authority or which causes a nuisance upon or waste to the Properties; but "Hazardous Material" Shall not include the explosive material required for Licensor's permitted operations.. The obligations under this Paragraph 15 shall survive the expiration or sooner termination of this License Agreement.

16. Default; Remedies. An "Event of Default" shall occur (a) if Licensee shall fail to pay when due any installment of the Licensee Fee, or any taxes, utility or use reimbursement charges or other charges due hereunder and such default is not remedied within ten (10) days after notice thereof; (b) Licensee shall fail to perform any of the other covenants, conditions or agreements applicable to Licensee hereunder; or (c) any voluntary or involuntary proceeding is commenced against Licensee under the federal bankruptcy laws or for the appointment of a receiver or trustee under any state or federal law. Upon the occurrence of an Event of Default, Licenser (a) may terminate this License Agreement in which event Licensee shall vacate the Licensed Area and the Properties and this License Agreement shall be of no further force and effect, except for Licensee's obligation to pay any unpaid sums due hereunder through the effective date of the termination and to the extent that obligations hereunder survive termination; (b) may with or without terminating this License Agreement, deliver notice to Licensee to cease all operations and activities in the Licensed Area and remove from the Licensed Area all equipment, explosives, materials, tools, products and other items belonging to Licensee and its employees, agents, consultants, customers and contractors; and c) may pursue all remedies available to Licenser under this License Agreement and at law.

17. Force Majeure. Each party shall be excused from performing any obligation or undertaking provided for in this License Agreement (other than the obligations of Licensee to pay any Licensee Fees and other charges as the same become due

under the applicable provisions of this License Agreement) for so long as such performance is prevented or delayed, retarded or hindered by act of God, fire, earthquake, flood, explosion, action of the elements, war, invasion, insurrection, riot, mob violence, sabotage, inability to procure or general shortage of labor, equipment, facilities, materials or supplies in the open market, failure of transportation, strike, lockout, action of labor unions, requisition, laws, orders of government or civil or military or naval authorities, or any other cause, whether similar or dissimilar to the foregoing, not within the reasonable control of the party prevented, retarded or hindered thereby, including reasonable delays for adjustments of insurance.

18. Relationship of The Parties. Nothing contained in this License Agreement shall be construed by the parties hereto, or by any third party, as constituting the parties as principal and agent, partners, joint venturers or joint employers, nor (except for obligations of indemnity set forth herein) shall anything herein render either party liable for the debts and obligations of any other party, it being understood and agreed that the only relationship between Licensor and Licensee is that of Licensor and Licensee.

19. Entire Agreement; Modifications. This License Agreement embodies the entire agreement and understanding between the parties, supersedes all prior negotiations, agreements and understandings, including but not limited to all letters or agreements of intent, if any. No provision of this License Agreement

may be modified, waived or discharged except by an instrument in writing signed by the party against which enforcement of such modification, waiver or discharge is sought.

20. No Representation by Licensor. Neither Licensor nor any agent of Licensor has made any representations, warranties, or promises with respect to the Properties, Coolspring Mine No. 1, the Licensed Area or any adjacent mines or areas except as herein expressly set forth.

21. Memorandum of License Agreement. At the request of either party, the other will execute a Memorandum of License Agreement in recordable form setting forth such provisions of this License Agreement as Licensor deems desirable. The party recording the Memorandum of License Agreement shall pay for the cost of recordation.

22. Successors and Assigns. Without limiting the restrictions on Licensee's right and authority to assign or sublease this License Agreement under Section 14, the conditions, covenants and agreements contained herein shall be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns.

23. Notices; Payment Addresses. Any notices and other communications hereunder shall be in writing and mailed by first class registered, overnight

delivery, or certified mail, postage prepaid, return receipt requested, addressed as follows or to such other address as shall have last been designated by notice in writing to the appropriate party:

Licensors:

COOLSPRING STONE SUPPLY
COMPANY, INC.,
North Union Township, Pennsylvania
15401

Licensee:

Dynamic Materials Corporation
1138 Industrial Park Drive
P.O. Box 317
Mt. Braddock, PA 15465

with a copy to:

Joseph F. McDonough, Esq.
Manion McDonough & Lucas, P.C.
600 Grant Street, Suite 1414
Pittsburgh, PA 15219

If notice is sent by Certified Mail, it shall be considered given when mailed.

All payments required to be made under this License Agreement shall be sent to the following addresses:

Licensors:

Coolspring Stone & Supply
P.O. Box 945
Uniontown, PA 15401

24. Brokerage. Licensee represents that it has not dealt with any broker, agent or finder in connection with this License Agreement other than a representative of Licensor, and covenants to pay, hold harmless and indemnify Licensor from and against any and all costs, expense or liability (including reasonable attorneys' fees) to any broker, agent or finder with respect to this License Agreement or the negotiation thereof.

25. Applicable Law and Construction. The law of the Commonwealth of Pennsylvania shall govern the validity, performance and enforcement of this License Agreement. The invalidity or unenforceability of any provision of this License Agreement shall not affect or impair any other provision.

26. Attachments. All Attachments attached to this License Agreement are a part hereof and are incorporated herein by reference and all provisions of such Attachments shall constitute agreements, promises and covenants of this License Agreement.

27. Qualification. Each party represents that it is duly authorized to do business in Pennsylvania and will remain so during the term hereof, and that it has been in all respects duly authorized to enter into and perform this License Agreement.

28. Captions. The captions and headings herein and in the Attachments are for convenience and reference only and in no way define or limit the scope or content of this License Agreement or in any way affect its provisions.

29. Counterparts. This License Agreement may be executed in any number of counterparts, each of which shall be an original, but all of which shall together constitute one and the same instrument.

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{NEXT PAGE IS SIGNATURE PAGE}

IN WITNESS WHEREOF, the parties hereto have executed this License Agreement as
of the date written above.

COOLSPRING STONE SUPPLY COMPANY, INC.

A handwritten signature in black ink, appearing to read "D. J. Grady", written over a horizontal line.

DYNAMIC MATERIALS CORPORATION

A handwritten signature in black ink, appearing to read "Paul A. H.", written over a horizontal line.
Senior Vice President & CFO

FIRST AMENDMENT TO LICENSE AGREEMENT

THIS FIRST AMENDMENT TO LICENSE AGREEMENT is made as of this 26th day of September 2012 by and between COOLSPRING STONE SUPPLY COMPANY, INC., a Pennsylvania corporation with its principal office in North Union Township, Pennsylvania 15401 ("Licensor") and DYNAMIC MATERIALS CORPORATION, a Delaware corporation with a business address at 1138 Industrial Park Drive, Mt. Braddock, Pennsylvania 15465 ("Licensee").

WITNESS:

WHEREAS, Licensor (hereinafter "Coolspring") and Licensee (hereinafter "DMC") are parties to a July 29, 2008 License Agreement ("License Agreement") relating to access and use of a portion of Coolspring Mine No. 1 located within the boundaries of real estate leased to Coolspring pursuant to a Lease (as said term is defined in the License Agreement); and

WHEREAS, pursuant to the License Agreement DMC has conducted explosion bonding operations and associated activities consisting of detonations, transportation and hauling of explosives into and out of real estate subject to the Lease; and

WHEREAS, Licensor Coolspring and DMC wish to amend the License Agreement as set forth herein.

NOW, THEREFORE, in consideration of the mutual promises and consideration set forth herein and intending to be legally bound hereby, Coolspring and DMC agree as follows:

1. Reaffirmation. Except as specifically modified and amended pursuant to this First Amendment, the License Agreement is hereby ratified and reaffirmed in all respects.

2. Area of Operation. Pursuant to a July 1, 2008 Second Amendment to April 1, 1978 Lease between Coolspring and the Lessors, the Lease was amended to permit DMC to conduct explosion bonding activities on and in that portion of the premises subject to the Lease consisting of Coolspring Mine No. 1; an underground limestone mine comprising part of the real estate subject to the Lease. Under the authority granted to Coolspring under the Lease as amended by the July 1, 2008 Second Amendment to April 1, 1978 Lease, Coolspring authorizes

DMC to conduct its explosion bonding activities on that portion of the Premises leased to Coolspring consisting of undersurface/underground portions of Coolspring Mine No. 1 without limiting such activities only to the Licensed Area referenced in Section 1 of the License Agreement. As used herein, "explosion bonding activities" shall be inclusive of the manufacturing operations that consist of or relate to explosive metal working/bonding and explosive industrial diamond synthesis/bonding.

3. License Fee. Beginning with the month in which DMC conducts a detonation on any day in excess of the 2,500 pounds of explosives permitted under the License Agreement prior to this Amendment, the License Fee under the License Agreement will increase from [REDACTED] per month to [REDACTED] per month, payable in advance on or before the first day of each month in equal monthly installments, which monthly installments shall continue to be paid to Coolspring at the address set forth in Section 23 of the License Agreement. In the event, however, that DMC subsequently elects to terminate this First Amendment which it may do at its sole discretion upon 30 days' prior written notice to Coolspring, the License Fee shall thereafter revert to the [REDACTED] per month as described in the License Agreement as it existed prior to this Amendment.

4. Term / Option for Extension. The term of the License Agreement shall not be diminished nor extended by virtue of this First Amendment and shall remain as set forth in Section 3 of the License Agreement.

5. DMC's Use of Coolspring Mine No. 1. The license granted to DMC under the License Agreement shall be extended by this First Amendment to include explosion bonding activities as defined in Section 2 above. The following additional permissions and restrictions shall, during the time this First Amendment remains in effect, modify those set forth in Section 4 of the License Agreement:

- a. DMC may conduct one detonation event per day (which detonation event may consist of serial detonations timed to occur within less than one minute) that shall consist of not more than 10,000 pounds of explosives that are of the same chemical composition, design and type currently conducted by DMC at its Dunbar, Pennsylvania

facility. Notwithstanding the foregoing, however, providing that no material overall aggregate increase in dust and particulates emitting from Coolspring Mine No. 1 occurs, DMC may conduct up to four detonation events per day consisting of not more than 10,000 pounds of explosives cumulatively if DMC concludes it can do so in a safe and efficient manner and if DMC adopts similar practices at its Dunbar, Pennsylvania facility.

b. DMC agrees that that portion of its explosion bonding activities that consist of or related to industrial diamond synthesis/bonding shall be distributed in approximately equal amounts between its facility at Dunbar, Pennsylvania and Coolspring Mine No. 1 and that, without the prior written consent of Coolspring, it will limit the conduct of any explosive industrial diamond synthesis/bonding at Coolspring Mine No. 1 to no more than 96 days in any 12-month period.

c. While all detonations shall continue to take place at a time and on a schedule that is mutually agreeable to Coolspring and DMC and while Coolspring may, in its sole discretion, advise DMC at any time and from time to time to delay its detonations or change the time or times for the detonations by DMC, Coolspring and DMC agree that DMC's typical detonation schedule shall occur between the hours of Noon and 4:00 p.m. (except that if multiple detonation events are scheduled for a single day they may be sequenced between Sunrise and 4:30 p.m.) and that, except in cases of emergency or where issues of safety arise, Coolspring will use its best efforts to provide DMC with at least 24 hours advance notice of any direction to delay DMC's detonations or change the time or times for the detonations by DMC.

d. In addition to using sand material as ground support for metal plates, DMC may use pipes and other material and components necessary to facilitate, buffer, protect or enable its conduct of "explosion bonding activities."

e. Any portal repair/modification activities and components required for DMC's activities as permitted by this First Amendment shall be submitted by DMC for approval by Coolspring before being implemented and shall be performed entirely at DMC's expense. Notwithstanding the foregoing, DMC and Coolspring agree that

Coolspring's approval will not be unreasonably withheld nor delayed and will relate solely to insuring that the modifications or repairs do not interfere with Coolspring's other operations. Coolspring's review and approval will not extend to matters of suitability, utility or safety; all of which will remain the sole responsibility of DMC.

f. DMC, its employees, agents, contractors and invitees entering any of the premises encompassed by the Lease shall comply with all procedures established from time to time by Coolspring, but Coolspring shall use good faith efforts to establish and maintain procedures that create the minimum reasonable constraints on DMC's operations. For all transportation of explosives and all operations of any kind conducted by DMC on the premises encompassed by the Lease (including in Coolspring Mine No. 1), DMC shall comply with all local, state and federal laws, rules and regulations that apply to the transportation, storage, setup and use of explosives, in particular, and explosion bonding activities in general.

g. In the event DMC installs any equipment or adopts any additional practices relating to dust control or safety at its Dunbar mine, DMC agrees to provide similar equipment and implement similar practices at Coolspring Mine No. 1.

6. DMC Safety Responsibility. The last sentence of Section 5 of the License Agreement shall be deleted in that Coolspring has determined it is not appropriate for it to provide specific direction to DMC regarding mine usage or rescue, it being the agreement and intent of both DMC and Coolspring that DMC shall be fully responsible at all times for conducting its operations and activities in a safe manner and in compliance with all local, state and federal laws, rules and regulations.

7. Coolspring's Operations. Given that Coolspring has completed all anticipated mining activities within Coolspring Mine No. 1, Coolspring agrees that DMC's operations within Coolspring Mine No. 1 need no longer be subordinated to those previously conducted by Coolspring; provided, however, that nothing in this provision shall diminish nor curtail Coolspring's rights under the License Agreement to limit as necessary DMC's operations and activity from interfering with Coolspring's overall limestone mining activities around and

adjacent to Coolspring Mine No. 1. Notwithstanding the foregoing, DMC shall continue to provide Coolspring with an Operating Plan which shall be revised from time to time to the extent DMC alters its operations.

8. Termination of First Amendment. Provided 30 days' advance written notice is delivered to Coolspring, DMC may terminate this First Amendment at any time but termination of this First Amendment shall not terminate the License Agreement. Said License Agreement shall expire in accordance with its terms and shall remain terminable as presently set forth in Section 10 thereof. Upon termination of this First Amendment, DMC's License Fee shall revert from [REDACTED] per month to [REDACTED] per month as set forth in the License Agreement.

9. Applicability of License Agreement Provisions. It is the intent of Coolspring and DMC that all provisions of the License Agreement prior to entry into this First Amendment shall apply with equal force and effect to operations conducted by DMC after execution of this First Amendment except and only to the extent specifically modified hereby.

10. Miscellaneous. Without limiting the generality of DMC's obligations under the License Agreement as amended by this First Amendment, the parties agree to the following additional stipulations:

a. To the extent sinkholes develop on the surface above or immediately adjacent to Coolspring Mine No. 1, DMC will fence off and/or repair them so that they will cause no safety issues nor disrupt Coolspring's operations. Additionally, DMC will restore any sinkholes to grade no later than the end of the term of the License Agreement.

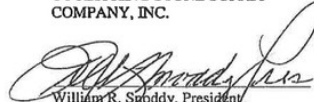
b. In addition to the materials and equipment referenced in Section 15(B) of the License Agreement, DMC may store argon bottles and other consumables utilized in, or in connection with, its explosion bonding activities but shall not store explosives themselves on any part of the premises encompassed within the Lease including, but not limited to, Coolspring Mine No. 1 itself.

11. Captions / Counterparts. The captions and headings herein are for convenience and reference only and in no way define or limit the scope or content of this First Amendment or

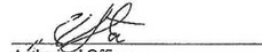
in any way affect its provisions. This First Amendment may be executed in any number of counterparts, each of which shall be an original, but all of which shall together constitute one in the same instrument.

IN WITNESS WHEREOF, the parties hereto have executed this First Amendment to License Agreement as of the date first written above.

COOLSPRING STONE SUPPLY
COMPANY, INC.


William R. Sabody, President

DYNAMIC MATERIALS
CORPORATION


Authorized Officer

Richard A. Smith
Senior VP & CFO

RISK ALLOCATION, CONSULTING AND SERVICES AGREEMENT

THIS RISK ALLOCATION, CONSULTING AND SERVICES AGREEMENT is made as of the 1st day of April, 2008 by and between SNODDY MANAGEMENT, INC. a Florida corporation, with an address at 21304 Powerline Road, Suite 204, Boca Raton, Florida 33433 ("SMI") and DYNAMIC MATERIALS CORPORATION, a Delaware corporation with an address at 1138 Industrial Park Drive, Mt. Braddock, Pennsylvania 15465 ("DMC").

WITNESS:

WHEREAS, DMC intends to enter into a License Agreement with Coolspring Stone Supply Company, Inc. ("Coolspring Stone") permitting a certain portion) of property used by Coolspring Stone in its mining and quarry operations to be used by DMC for its explosion bonding operations; and

WHEREAS, Coolspring Stone is wholly-owned by William R. Snoddy ("Snoddy"); and

WHEREAS, the License Agreement provides for compensation to be paid for the fair value of the use of the property by DMC under the License Agreement; and

WHEREAS, the explosion bonding operations and related activities to be conducted by DMC pose additional risks to the business, operations and profitability of Coolspring Stone that would be suffered by Snoddy, as the owner of Coolspring Stone, but would not be compensated by the payments under the License Agreement: and

WHEREAS, the parties hereto acknowledge the existence of the risk of the DMC operations to the profits and economic returns that could be received by William R. Snoddy; and

WHEREAS, the operations and activities to be conducted by DMC require coordination with the operations and activities of Coolspring Stone in order to minimize the risk of interruption to or curtailment of their respective operations; and

WHEREAS, SMI is a Florida entity that is wholly-owned by Snoddy; and

WHEREAS, DMC has requested SMI to provide to it certain services to facilitate and assist its operations and to minimize the risk of interruption and impairment of Coolspring Stone's operations, and the parties hereto have agreed upon a payment to compensate for the services and the risk to the profits receivable by Snoddy; and

NOW, THEREFORE, in consideration of the mutual covenants and promises set forth herein, and intending to be legally bound hereby, the parties hereto agree as follows:

1. Basis for Agreement. The parties hereto acknowledge that the explosion bonding operations to be conducted by DMC in a portion of Coolspring Mine No. 1 pose a risk to the operations of Coolspring Stone and could result in the cessation, curtailment, interruption or suspension of the business and operations of Coolspring Stone. The result of such events would be a loss of sales by Coolspring Stone and a corresponding loss of profits and income to Snoddy. The effects of lost sales resulting from a curtailment or cessation of operations have a disproportionately negative impact on the profitability and income received by Snoddy because (a) lost

sales result in a loss of royalty payments equal to 4-6% of each sale but a loss of income to Coolspring Stone equal to 94-96% of each sale; and (b) any minerals not mined as a result of curtailment or cessation of operations remain available, without cost, for subsequent sale or lease (and generation of royalty payments) but during periods of curtailment or cessation, Coolspring Stone is nevertheless required to maintain and pay fixed cost obligations for its equipment, employees, insurance, mine maintenance, permit requirements and similar expenditures. Payments provided for under the License Agreement compensate for the use of the property but do not compensate for the risk of curtailed operations or the loss of profits and income. The parties hereto have determined and agree that it is difficult to predict the likelihood, duration or specific consequences of any curtailment or cessation of operations or to quantify the resulting amount of the potential lost income and profitability and that it is not practical to obtain business loss or other insurance to cover the risks and its consequences to Snoddy. Accordingly, the parties have determined to enter in this Agreement to provide for a reasonably estimated payment to compensate for the additional and different risk imposed on the operations of Coolspring Stone and risk of lost income and profit by Snoddy, and to provide for the provision of consulting and services to facilitate and assist DMC in its operations and minimize the risk of interruption and impairment of Coolspring Stone's operations.

2. Compensation. Beginning as of April 1, 2008 and each year thereafter that this Agreement is in effect, DMC shall pay to SMI the annual sum of [REDACTED] payable quarterly in advance in equal installments of [REDACTED] each on or before the first day of April, July, October and January of each year that this Agreement

is in effect; provided that the annual amount payable as compensation for services shall be increased every three (3) years by the amount of the increase in the Consumer Price Index.

In this Paragraph:

(1) **"Base Year"** means the full calendar year preceding the date of this Agreement (i.e. 2007);

(2) **"Consumer Price Index"** means the consumer price Index published by the Bureau of Labor Statistics of the United States Department of Labor, Pittsburgh-Beaver Valley, PA, All Items and Major Group Figures for Urban Wage Earners and Clerical Workers (1982-84 = 100); and

(3) **"Consumer Price Index for the Base Year"** means the average of the monthly price indexes for each of the twelve (12) months of the base year.

Beginning with the payment due in April 2011, and every three (3) years thereafter that this Agreement is in effect (i.e., 2014, 2017, 2020 and so on), the amount of the annual compensation shall be increased by the same percentage that the Consumer Price Index for the immediately preceding year (i.e., 2010, 2013, 2016 and so on) exceeds the Consumer Price Index for the Base Year. By way of illustration, the annual payment due in each of the three years in the period from April 2010 through March 2014 shall be [REDACTED] increased by a percentage amount equal to the percentage by which the Consumer Price Index for 2010 exceeds the Consumer Price Index for the Base Year of 2007, and beginning in April 2014, the annual amount payable in each of the three years in the period April 2014 through March 2017 shall be [REDACTED] increased by a percentage amount equal to the percentage by which the

Consumer Price Index for 2013 exceeds the Consumer Price Index for the Base Year of 2007.

All payments shall be made to the address of SMI set forth in the preamble above, or such other address as shall be provided from time to time by SMI.

3. Services. SMI agrees to provide to DMC consulting and advice services relating to DMC's operations and activities under the License Agreement, as requested by DMC. The services shall include but not be limited to: a) coordination of communications, scheduling, notices, reports and information between Coolspring Stone and DMC relating to their respective operations and activities; b) contact, communications, liaison services and facilitating relations with local governmental and public officials; c) information and advice with respect to permit requirements applicable to the operations and activities within Coolspring Mine No. 1 and the adjoining mines and areas, and coordination of the requirements of the permits required and obtained by DMC and Coolspring Stone, respectively; d) coordination of the respective activities of all users of Coolspring Mine No. 1, including DMC, Coolspring Stone, haulers and trucking firms and coordination of deliveries, shipping, hauling, equipment delivery and renewal and inspections; f) advice and coordination of insurance requirements and any claims processing; g) coordination of billing and collection for all fees and charges including equipment usage and utility reimbursement charges; and h) such other consultation and services as shall arise or be requested by DMC from time to time.

4. Term. The term of this Agreement shall be twenty (20) years, commencing as of April 1, 2008 and ending on March 31, 2028 (the "Term").

5. DMC's Right To Terminate the Agreement. The parties agree that this Agreement may be terminated by DMC at any time, on written notice to SMI, in the event that DMC has completely and permanently ceased operations at the Coolspring Mine No. 1 as a result of (x) the expiration of the License Agreement, (y) an order or action taken by a governmental entity; or (z) the exercise by DMC of any right to terminate the License Agreement in accordance with the provisions thereof and, as a consequence, no longer requires the services being provided pursuant to this Agreement; provided that as of the effective date of such termination by DMC, DMC has paid all accrued compensation payments to SMI.

6. Other Terminations of the Agreement.

(a) If the Agreement is not sooner terminated as provided herein, this Agreement shall terminate at the expiration of the Term unless it is extended by the mutual agreement of the parties in writing.

(b) This Agreement may be terminated at any time by mutual agreement of the parties; provided that as of such termination, DMC has paid to SMI all amounts required by Section 3 through the date of termination.

7. Entire Agreement; Amendments. This Agreement sets forth the entire agreement and understanding between the parties as to the subject matter hereof, and supersedes all prior negotiations, agreements and understandings. The provisions of this Agreement may be modified, waived or discharged except by an instrument in writing signed by both parties.

8. Successors and Assigns. This Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns.

9. Applicable Law. The law of the Commonwealth of Pennsylvania shall govern the validity, performance and enforcement of this Agreement.

10. Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be an original, but all of which shall together constitute one document.

[REMAINDER OF PAGE LEFT BLANK INTENTIONALLY]


[NEXT PAGE IS SIGNATURE PAGE]

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date written above.

SNODDY MANAGEMENT, INC.

A handwritten signature in black ink, appearing to read "D. Snoddy", is written over a horizontal line.

DYNAMIC MATERIALS CORPORATION

A handwritten signature in black ink, appearing to read "Paul D. H.", is written over a horizontal line.
Senior Vice President & CFO

**FIRST AMENDMENT TO RISK ALLOCATION,
CONSULTING AND SERVICES AGREEMENT**

THIS FIRST AMENDMENT TO RISK ALLOCATION, CONSULTING AND SERVICES AGREEMENT is made as of this 24 day of September 2012 by and between SNODDY MANAGEMENT, INC. ("SMI") and DYNAMIC MATERIALS CORPORATION ("DMC").

WITNESS:

WHEREAS, SMI and DMC are parties to a Risk Allocation, Consulting and Services Agreement made as of the first day of April 2008 and wish, by this First Amendment, to amend it as set forth herein.

NOW, THEREFORE, in consideration of the mutual promises and payments set forth herein and intending to be legally bound hereby, SMI and DMC agree as follows:

1. Concurrently with entry into this First Amendment, DMC and Coolspring Stone Supply, Inc. have entered into a First Amendment to a July 29, 2008 License Agreement. For so long as said First Amendment to License Agreement remains in force and effect, the compensation payable to SMI under the Risk Allocation, Consulting and Services Agreement shall increase to [REDACTED] per annum, payable monthly in advance in equal installments of [REDACTED] beginning with the payment due October 1, 2012. Should the First Amendment to License Agreement be terminated, the compensation payable under this First Amendment shall cease and revert instead to the [REDACTED] per annum (as adjusted) presently set forth therein. DMC and SMI stipulate and agree that this increase is appropriate in light of the additional risk and consultation that will occur as a result of DMC's increase in the size, nature and frequency of DMC's explosive bonding activities on a portion of the leased premises on which Coolspring conducts its own business operations.

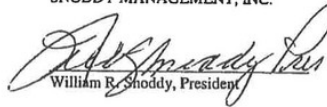
2. The [REDACTED] per annum payable pursuant to this First Amendment shall be increased every 36 months by a percentage equal to the increase in the Consumer Price Index as defined in the Risk Allocation, Consulting and Services Agreement except that the "base year" shall mean 2012 and the adjustments shall occur every 36 months beginning with October 2015.

In the event, however, that the First Amendment to License Agreement is terminated and the payments due hereunder revert to the base level of [REDACTED] per annum, the [REDACTED] amount shall be restored as increased and adjusted as set forth in the Risk Allocation, Consulting and Services Agreement without regard to this First Amendment. For the avoidance of doubt, it is the parties' intent that increases in the annual amount shall begin anew with respect to the [REDACTED] annual payment but, in the event that this increased payment is eliminated, the [REDACTED] annual payment shall be increased as provided in the Risk Allocation, Consulting and Services Agreement as if this First Amendment thereto had never been written.

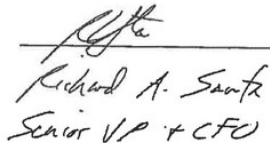
3. Except as amended hereby, SMI and DMC ratify and reaffirm all of the terms and provisions of the Risk Allocation, Consulting and Services Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this First Amendment to as of the date first written above.

SNODDY MANAGEMENT, INC.


William R. Snoddy, President

DYNAMIC MATERIALS
CORPORATION


Richard A. Santa
Senior VP + CFO

DMC Global Inc.
Ratio of Earnings to Fixed Charges
\$ in millions

| | Year Ended December 31, | | | | |
|---|-------------------------|------------------|------------------|--------|--------|
| | 2017 | 2016 | 2015 | 2014 | 2013 |
| Income (loss) before income taxes, discontinued operations and non-controlling interest | \$ (15.3) | \$ (5.7) | \$ (26.1) | \$ 5.8 | \$ 9.8 |
| Plus: | | | | | |
| Interest expensed and capitalized | 1.7 | 1.1 | 1.9 | 0.7 | 1.0 |
| Interest expense within rent | 0.7 | 0.6 | 0.9 | 1.0 | 1.0 |
| Less: | | | | | |
| Interest capitalized | — | — | (0.1) | (0.1) | (0.3) |
| Adjusted earnings | (12.9) | (4.0) | (23.4) | 7.4 | 11.5 |
| Fixed charges ¹ | 2.4 | 1.7 | 2.8 | 1.7 | 2 |
| Ratio of earnings to fixed charges | N/A ² | N/A ³ | N/A ⁴ | 4.4x | 5.8x |

(1) Fixed charges include interest expensed and capitalized as well as interest expense within rent.

(2) The ratio of earnings to fixed charges was negative for the year ended December 31, 2017. Additional earnings of \$15.2 million would be needed to have a one-to-one ratio of earnings to fixed charges.

(3) The ratio of earnings to fixed charges was negative for the year ended December 31, 2016. Additional earnings of \$5.7 million would be needed to have a one-to-one ratio of earnings to fixed charges.

(4) The ratio of earnings to fixed charges was negative for the year ended December 31, 2015. Additional earnings of \$26.2 million would be needed to have a one-to-one ratio of earnings to fixed charges.

SUBSIDIARIES OF THE COMPANY

| Name of Subsidiary | State or Jurisdiction of Incorporation |
|---|--|
| DMC Korea Inc. | Colorado |
| DynaEnergetics Beteiligungs GmbH | Germany |
| DYNAenergetics Canada Inc | Canada |
| DynaEnergetics GmbH & Co., KG | Germany |
| DynaEnergetics Holding GmbH | Germany |
| DynaEnergetics US, Inc | Colorado |
| Dynamic Materials Corporation (HK) Ltd | Hong Kong |
| Dynamic Materials Luxembourg 1 S.a r.L | Luxembourg |
| Dynamic Materials Luxembourg 2 S.a r.L | Luxembourg |
| Nobelclad Europe GmbH & Co., KG | Germany |
| Nobelclad Europe Holdings GmbH | Germany |
| DYNAenergetics Siberia Limited | Russia |
| Nobelclad Europe SAS | France |
| Dynamic Materials Corporation (Shanghai) Trading Co. Ltd. | China |

**CONSENT OF INDEPENDENT REGISTERED PUBLIC
ACCOUNTING FIRM**

We consent to the incorporation by reference in the following Registration Statements of DMC Global Inc. (the "Company"):

- (1) Registration Statement (Form S-3 No. 333-216591) of the Company,
- (2) Registration Statements (Form S-8 No. 333-143355, Form S-8 No. 333-188796 and Form S-8 No. 333-211328) pertaining to the Company's 2006 Stock Incentive Plan,
- (2) Registration Statements (Form S-8 No. 333-182979 and Form S-8 No. 333-218177) pertaining to the Company's Employee Stock Purchase Plan, and
- (3) Registration Statement (Form S-8 No. 333-214460) pertaining to the Company's 2016 Omnibus Incentive Plan;

of our reports dated March 8, 2018, with respect to the consolidated financial statements and schedules of DMC Global Inc. and the effectiveness of internal control over financial reporting of DMC Global Inc. included in this Annual Report (Form 10-K) of DMC Global Inc. for the year ended December 31, 2017.

/s/ Ernst & Young LLP

Denver, Colorado
March 8, 2018

CERTIFICATIONS

I, Kevin T. Longe, certify that:

1. I have reviewed this annual report on Form 10-K of DMC Global Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: March 8, 2018

/s/ Kevin T. Longe

Kevin T. Longe
President and Chief Executive Officer
of DMC Global Inc.

CERTIFICATIONS

I, Michael Kuta, certify that:

1. I have reviewed this annual report on Form 10-K of DMC Global Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):
 - a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: March 8, 2018

/s/ Michael Kuta

Michael Kuta

Chief Financial Officer of DMC Global Inc.

**CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Annual Report of DMC Global Inc. (the "Company") on Form 10-K for the period ended December 31, 2017 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Kevin T. Longe, President and Chief Executive Officer of the Company, certify pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

- (i) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (ii) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

March 8, 2018

/s/ Kevin T. Longe

Kevin T. Longe
President and Chief Executive Officer
of DMC Global Inc.

A signed original of this written statement required by Section 906 has been provided to DMC Global Inc. and will be retained by DMC Global Inc. and furnished to the Securities and Exchange Commission or its staff upon request.

**CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Annual Report of DMC Global Inc. (the "Company") on Form 10-K for the period ended December 31, 2017 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Michael Kuta, Chief Financial Officer of the Company, certify pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

- (i) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (ii) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

March 8, 2018

/s/ Michael Kuta

Michael Kuta

Chief Financial Officer of DMC Global Inc.

A signed original of this written statement required by Section 906 has been provided to DMC Global Inc. and will be retained by DMC Global Inc. and furnished to the Securities and Exchange Commission or its staff upon request.