

# SECURITIES & EXCHANGE COMMISSION EDGAR FILING

**DMC Global Inc.**

**Form: 10-K**

**Date Filed: 2017-03-09**

Corporate Issuer CIK: 34067

**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, 2016**

☐ **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)

**Dynamic Materials Corporation**

(Former Name or Former Address if Changed Since Last Report)

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

Title of each class	Name of each exchange on which registered
Common Stock, \$.05 Par Value	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, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting 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 ☐

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 \$125,064,812 as of June 30, 2016.

The number of shares of Common Stock outstanding was 14,761,024 as of March 9, 2017.

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 2014 Annual Meeting of Shareholders, 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, 2016.

# TABLE OF CONTENTS

	<b>Page</b>
<b>Part I</b>	
<a href="#"><u>Item 1. Business</u></a>	<a href="#"><u>3</u></a>
<a href="#"><u>Item 1A. Risk Factors</u></a>	<a href="#"><u>12</u></a>
<a href="#"><u>Item 1B. Unresolved Staff Comments</u></a>	<a href="#"><u>22</u></a>
<a href="#"><u>Item 2. Properties</u></a>	<a href="#"><u>22</u></a>
<a href="#"><u>Item 3. Legal Proceedings</u></a>	<a href="#"><u>26</u></a>
<a href="#"><u>Item 4. Mine Safety Disclosures</u></a>	<a href="#"><u>27</u></a>
<b>Part II</b>	<a href="#"><u>28</u></a>
<a href="#"><u>Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities</u></a>	<a href="#"><u>28</u></a>
<a href="#"><u>Item 6. Selected Financial Data</u></a>	<a href="#"><u>30</u></a>
<a href="#"><u>Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations</u></a>	<a href="#"><u>31</u></a>
<a href="#"><u>Item 7A. Quantitative and Qualitative Disclosures about Market Risk</u></a>	<a href="#"><u>51</u></a>
<a href="#"><u>Item 8. Financial Statements and Supplementary Data</u></a>	<a href="#"><u>52</u></a>
<a href="#"><u>Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure</u></a>	<a href="#"><u>85</u></a>
<a href="#"><u>Item 9A. Controls and Procedures</u></a>	<a href="#"><u>85</u></a>
<a href="#"><u>Item 9B. Other Information</u></a>	<a href="#"><u>88</u></a>
<b>Part III</b>	<a href="#"><u>89</u></a>
<a href="#"><u>Item 10. Directors, Executive Officers and Corporate Governance</u></a>	<a href="#"><u>89</u></a>
<a href="#"><u>Item 11. Executive Compensation</u></a>	<a href="#"><u>89</u></a>
<a href="#"><u>Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters</u></a>	<a href="#"><u>89</u></a>
<a href="#"><u>Item 13. Certain Relationships and Related Transactions, and Director Independence</u></a>	<a href="#"><u>89</u></a>
<a href="#"><u>Item 14. Principal Accounting Fees and Services</u></a>	<a href="#"><u>89</u></a>
<b>Part IV</b>	<a href="#"><u>89</u></a>
<a href="#"><u>Item 15. Exhibits and Financial Statement Schedules</u></a>	<a href="#"><u>89</u></a>
<b>Signatures</b>	<a href="#"><u>92</u></a>

## 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. (formerly Dynamic Materials Corporation) and its consolidated subsidiaries.*

#### Overview

DMC Global Inc. (formerly “Dynamic Materials Corporation”) operates a diversified family of technical product and process businesses serving the energy, industrial and infrastructure markets. Our businesses operate globally through an international network of manufacturing, distribution and sales facilities.

Our business is organized into 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. 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 business segments each provide a suite of unique technical products to niche segments of the global energy, industrial and infrastructure markets; and each of our businesses has established a strong or leading position in the markets in which it participates. With an underlying focus on free-cash flow generation, 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 also intend to explore potential acquisitions of complementary businesses that could strengthen or add to our existing product portfolio, or expand our geographic footprint and market presence.

#### 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 large portion of the demand for our clad metal products is driven by new plant construction and large plant expansion projects, maintenance and retrofit projects at existing chemical processing, petrochemical processing, oil refining, and aluminum smelting facilities 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 of the 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 steels.

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 2016. 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. Clad is commonly used in these facilities. 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, hot, and operate at high pressures. Clad metal is extensively used in a broad range of equipment including desulfurization hydrotreaters, coke drums, distillation columns, separators and heat exchangers. The increasing 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, a precursor product for polyester, which is used in everything from carpets to 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 traditional 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.

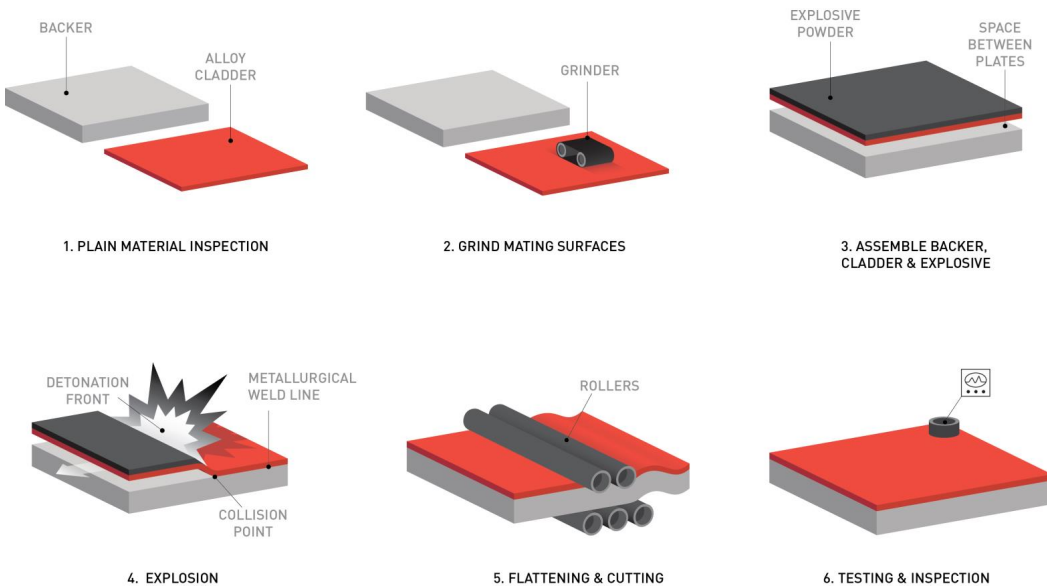
*Industrial Refrigeration:* Heat exchangers are a core component of refrigeration systems. When the cooling fluid is seawater, brackish, or even slightly polluted, corrosion resistant metals are necessary. Metal selection can range from stainless steel to copper alloy to titanium. Explosion-welded clad 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, 2016, 2015 and 2014, the NobelClad segment represented approximately 58%, 54% and 48% of our consolidated net sales, respectively. The three manufacturing plants and their respective shooting sites in Pennsylvania, Germany and France provide the production capacity to address concurrent projects for NobelClad's international customer base.

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 yielding rejection rates and costs of quality significantly less than 1%. 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, and Southeast Asia. NobelClad also has sales offices in South Korea and China to address these markets. These sales teams are further supported by local sales offices in the Middle East and India, with contract agents in most other developed countries, including Russia and Brazil. Contract agents typically work under multi-year agreements which are subject to sales performance 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 the writing of specifications, both by our customers and American Society of Mechanical Engineers and ASTM industry standards, 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, NobelClad produces the order at any of its production sites, prioritizing timing. The various production sites allow NobelClad to meet customer production needs in a timely manner.

### ***Research and Development***

We prepare a formal research and development plan annually. It is implemented at our cladding sites in France, Germany, and the U.S. 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, and special customer-paid projects.

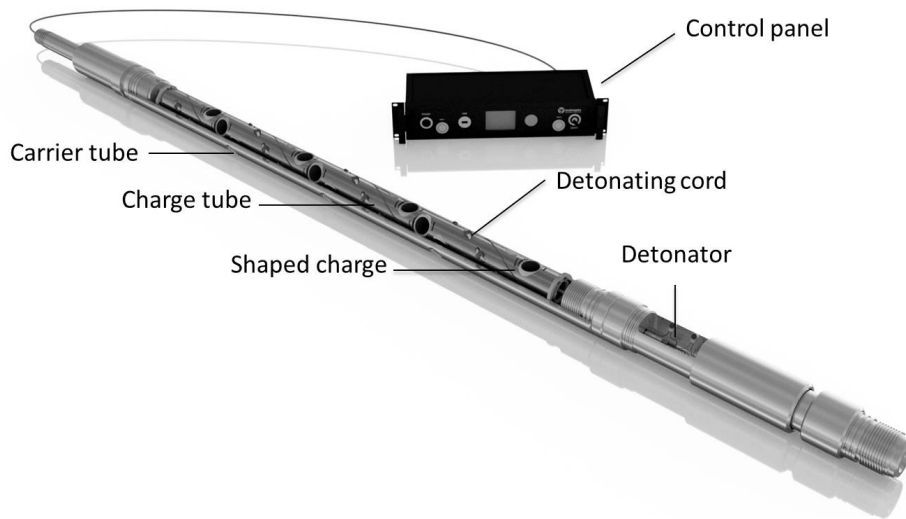
### ***DynaEnergetics***

DynaEnergetics designs, manufactures, markets, and sells perforating explosives 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, 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 fired, 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 GUN



The perforating products manufactured by DynaEnergetics are essential to certain types of modern oil and gas recovery. These products are sold to large, mid-sized, and small 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, 2016, 2015 and 2014, the DynaEnergetics segment represented approximately 42%, 46% and 52% 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 intrinsically safe integrated switch-detonators. DynaSelect detonators require a specific electronic code for firing and are immune to 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 detonator models. This improves set-up times and significantly increases reliability. The DynaSelect detonator is controlled by our Multitronic IV Firing Panel. This system enables safe and reliable firing of up to 20 guns in a single run and incorporates a signal output function to monitor the movement and position of the tool string, resulting in significant time and cost savings.

Our DynaStage™ factory-assembled, quality assured, 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 our latest Multitronic V Firing Panel, and can be tested before going down hole using our Surface Tester. 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. By safely checking perforating guns on the surface, the DynaStage Surface Tester greatly reduces the risk of lost time, mishaps, misruns and misfires due to a system fault. The Surface Tester is fully RP67 compliant and cannot initiate any type of detonator or explosive device. 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. The fully integrated design of DynaStage minimizes uncertainty and operational risks, achieving industry-leading perforating performance.

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 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 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, 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. During 2013 DynaEnergetics completed a new shaped charge manufacturing facility in Blum, Texas and a perforating gun manufacturing facility in Tyumen, Siberia. The construction of a new shaped charge manufacturing facility in Tyumen, Siberia, was completed in 2015, and in 2016, we received all the necessary permits to start production of charges. The facility was fully operational by the end of the third quarter 2016. These investments have significantly expanded our global capacity for shaped charge and perforating gun production and improve our delivery and customer service capabilities in these two 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 (RDX, HMX, HNS), 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 producers of perforating products and from each of 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 four broad categories: purchasing centers of large service companies, international 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, the establishment of international distribution centers to better service our customers, 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, Russia and Kazakhstan, 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 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. An R&D Plan, which focuses on new technology, products, process support and contracted projects, is prepared and reviewed at least quarterly. Research and development costs are included in our cost of products sold and were \$4.0 million, \$2.4 million, and \$2.5 million for the years ended December 31, 2016, 2015 and 2014, 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 Liebenscheld, 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., as it is no longer a materials company as implied by the name Dynamic Materials Corporation but is instead the parent company to a diversified portfolio of technical product and process businesses serving niche markets around the world.

## **Employees**

As of December 31, 2016, we had 428 employees (200 U.S. and 228 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.

In the last three years, the Company has experienced two work stoppages, which lasted for three days in November 2014 and eight days in December 2014, at NobelClad's production facility in Rivesaltes, France. The stoppages related to a consolidation program of NobelClad's European explosion welding operations. A restructuring agreement with the labor union at Rivesaltes was reached in January 2015, at which point work was restarted. 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 numerous 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, Russia and Kazakhstan. 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,			
	2016	2015	2014
United States	\$ 78,999	\$ 81,634	\$ 91,009
Canada	16,021	13,000	23,532
United Arab Emirates	7,449	7,891	3,694
France	3,744	6,624	5,478
South Korea	1,690	5,709	7,362
Germany	5,979	5,182	7,721
Russia	3,731	4,937	7,992
India	5,066	4,566	7,617
Egypt	1,942	4,080	2,227
Spain	1,500	3,858	892
Iraq	13	3,758	11,348
China	7,012	2,426	1,800
Italy	2,577	2,327	2,350
Hong Kong	699	2,207	1,967
Sweden	2,124	1,699	1,227
Rest of the world	20,029	17,020	26,345
Total	\$ 158,575	\$ 166,918	\$ 202,561

## 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](http://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](http://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, 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 in a low-metals price environment, with sales of \$91.3 million in 2016, compared to sales of \$195.0 million in 2008. If demand or metals prices fail to improve 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 \$31.6 million, \$41.8 million, and \$41.2 million in 2016, 2015 and 2014, 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, the specific geological characteristics of the site, and the ability to comply with local noise and vibration abatement regulations in conducting the process. 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 and in South Korea 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. In rollbond technology, the clad and base metal are bonded together during a hot rolling process in which slab is converted to plate. In weld overlay, which is typically performed by our fabricator customers, the cladding layer is deposited on the base metal through a fusion welding process. 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 strongly 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 taken 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. In addition, our shooting facilities located in Pennsylvania and in Dillenburg, Germany are located in mines. If a mine were seriously damaged, we might not be able to locate a suitable replacement site to continue our operations.

**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. Expenditures in the oil and gas industry and related demand for oilfield services remains well below 2014 levels, which has had, and may continue to 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. Since 2014, oil and gas prices have declined significantly, resulting in lower expenditures by the oil and gas industry. As a result, many of our customers have 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 charge. These conditions have had, and may continue to have, an adverse impact on our financial condition. DynaEnergetics' revenues were 36.2% less in 2016 than in 2014 and 27.0% less in 2015 than in 2014.

A decline in oil and gas prices could cause a further reduction in cash flows for our customers, which could have significant adverse effects on the financial condition of some 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. There can be no assurance that the demand or pricing for oil and natural gas will follow historic patterns or recover in the near term. Worsening conditions in the oil and gas industry could further adversely affect 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. Shortage 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.

**The adoption of any future laws or regulations imposing reporting obligations on, or limiting or banning, the hydraulic fracturing process could cause a decrease in natural gas and oil well perforating and could materially adversely affect DynaEnergetics' sales and economic performance.**

DynaEnergetics' perforating products are used for oil and gas well hydraulic fracturing processes, among other uses. Various federal, state and local legislative and regulatory initiatives have been undertaken, which could result in additional requirements or restrictions being imposed on hydraulic fracturing operations. The adoption of these or other laws or implementation of regulations imposing reporting obligations on, or limiting or banning, the hydraulic fracturing process could make it more difficult to use hydraulic fracturing for natural gas and oil well development, which would reduce the demand for some of DynaEnergetics' products and could have a material adverse effect on its sales and financial 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 could be materially and adversely affected, and the value of our intellectual property may be reduced.**

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 could be materially and adversely affected, and the value of our intellectual property may be reduced. 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 explosive 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' continued 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 quality, safety, 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. Fluctuations in operating results may also result in fluctuations in the price of our common stock. See "Management's Discussion and Analysis of Financial Condition and Results of Operations."

**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%, 23%, and 32% of total sales for the years ended 2016, 2015 and 2014, 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. 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 our operations in Tyumen, Siberia.

**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, 2016, we had an outstanding balance of approximately \$16.3 million on our syndicated credit agreement. This agreement includes various covenants and restrictions and certain of these relate to the incurrence of additional indebtedness, 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, 2016, we were in compliance with all financial covenants and other provisions of the credit agreement and our other loan agreements. On March 6, 2017, we entered into an amendment of our syndicated credit agreement which reduced the amount of U.S. borrowings available under the credit facility, increased the maximum debt-to-EBITDA leverage ratio for the first, second, and third quarters of 2017, waived the applicability of the minimum debt service coverage ratio for first, second, and third quarters of 2017, and added a minimum EBITDA covenant for those same periods, which is inapplicable thereafter.

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.

**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. While none of these customers represented more than 10% of consolidated revenue in any period presented, 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 which 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 facilities in Tautavel, France are located outdoors, our shooting facilities 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 conducted 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, substantial civil or criminal sanctions, as well as the assessment of strict liability and/or joint and several liability under applicable law. 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 where such contamination was caused by a predecessor. 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, 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.

**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. The employees at our U.S. manufacturing facilities are not unionized. While we believe our relations with employees are good, 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 7 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 services and products. 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 services and products 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. 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. Royalty payments under licenses from third parties, if available, would increase our costs. Additionally, developing non-infringing technologies would increase our costs. If a license were not available, we might not be able to continue providing a particular service or product, which could adversely affect our financial condition, results of operations and cash flows.

**We are dependent upon information technology systems, which are subject to disruption, damage, failure and risks associated with implementation and integration.**

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 could also be adversely affected by system or network disruptions if new or upgraded information technology systems are defective, not installed properly or not properly integrated into our operations. Various measures have been implemented to manage our risks related to system implementation and modification, but system modification failures could have a material adverse effect on our business, financial position and results of operations and could, if not successfully implemented, adversely impact the effectiveness of our internal controls over financial reporting.

**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 provide increased returns to our shareholders and to expand our operations and, potentially, generate synergies. The success of any acquisition would depend 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 are unable to maintain effective internal controls, our operating results and financial condition could be harmed.**

In early 2015, we identified material weaknesses in our internal control over financial reporting and at that time restated our previously-issued financial statements included in our 2014 annual report on Form 10-K. Such material weaknesses were remediated; however, we continue to be subject to a number of requirements as a public company, including the reporting requirements of the Exchange Act, the Sarbanes-Oxley Act of 2002 (the "Sarbanes-Oxley Act") and the listing standards of the Nasdaq Stock Market. These requirements have placed significant demands on our systems and resources. The Exchange Act

requires, among other things, that we file annual, quarterly and current reports with respect to our business and financial condition. The Sarbanes-Oxley Act requires, among other things that our internal control over financial reporting be assessed by management and attested to by our auditors as of December 31 of each year. In order to maintain and improve the effectiveness of our disclosure controls and procedures and internal control over financial reporting, significant resources and management oversight are required. As a result, our management's attention might be diverted from other business concerns, which could have a material adverse effect on our business, prospects, financial condition and results of operations. In addition, if we experience a material weakness, investors could lose confidence in our financial reporting, particularly if such weakness results in a restatement of our financial results, and our stock price could decline. For more information relating to the Company's internal control over financial reporting and disclosure controls and procedures, see Part II, Item 9A, "Controls and Procedures."

### ***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 not only to general stock market conditions but also to 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 that is located within a few miles of our Mount Braddock, Pennsylvania manufacturing facility. The shooting site in Dunbar and the nearby secondary shooting site support our Mount Braddock manufacturing 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, but we have options to renew these agreements through December 31, 2028.

NobelClad owns a manufacturing site in Liebenscheld, Germany and leases a shooting site in Dillenburg, Germany. The Dillenburg shooting site lease expires 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. DynaEnergetics also leases office and warehouse space in various cities throughout Alberta, Canada and also leases bunkers for storage of its explosives in various locations throughout Alberta, Canada. These agreements are on a month to month basis. In the United States, DynaEnergetics owns manufacturing and assembly sites in Texas and Pennsylvania and leases storage bunkers and office and warehouse space in various cities throughout Texas and Louisiana. We also lease office space in Moscow, Russia and office and warehouse space in Aktobe, Kazakhstan. 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	Facility Type	Facility 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	Facility Type	Facility Size	Owned/Leased	Expiration Date of Lease (if applicable)
Mt. Braddock, Pennsylvania (a)	Clad plate manufacturing and administration office	Land: 14 acres Buildings: 100,129 sq. ft.	Owned	
Dunbar, Pennsylvania	Clad plate shooting site	Land: 322 acres Buildings: 18,040 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
Rivesaltes, France	Clad plate manufacturing	6.6 acres	Owned	
Rivesaltes, France	Clad plate manufacturing, sales and administration office	49,643 sq. ft.	Owned	
Tautavel, France (b)	Clad shooting site	116 acres	109 acres owned, 7 acres leased	December 31, 2021
Dillenburg, Germany	Clad plate shooting site	11.4 acres	Owned	
		25,791 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
		Building: 34,251 sq. ft.	Owned	
Liebenscheid, Germany	Manufacturing	10.47 acres	Owned	



**DynaEnergetics**

Location	Facility Type	Facility 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, Sieglarer Strasse	9,203 sq. ft.	Leased	February 28, 2017 with yearly renewal options
Liebenscheid, Germany	Manufacturing and office	33,497 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	May 31, 2017. 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
Austin, Texas (d)	Office	2,400 sq. ft.	Leased	April 30, 2017
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	
Bridgeport, Texas	Office and warehouse	4,000 sq. ft.	Leased	Month to month agreement
Bridgeport, Texas	Land for magazines	100 acres	Leased	Month to month agreement
Corpus Christi, Texas (d)	Office and warehouse	6,000 sq. ft.	Leased	August 31, 2018

Location	Facility Type	Facility Size	Owned/Leased	Expiration Date of Lease (if applicable)
Victoria, Texas	Office and warehouse	4,000 sq. ft.	Leased	Month to month agreement
Victoria, Texas	Storage magazine	4,000 sq. ft.	Leased	Month to month agreement
Whitney, Texas	Office, warehouse, and manufacturing	36,000 sq. ft.	Owned	
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	Storage magazines	120 sq. ft.	Owned	
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	
Moscow, Russia	Sales office	270 sq. ft.	Leased	November 30, 2017
Chapaevsk, Russia	Warehouse	3,000 sq. ft.	Leased	December 31, 2017
Noyabrsk, Russia	Warehouse	3,229 sq. ft.	Leased	December 31, 2017
Urengoy, Russia	Warehouse	900 sq. ft.	Leased	December 31, 2017
Nizhnevartovsk, Russia	Warehouse	900 sq. ft.	Leased	December 31, 2017
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	
Aktobe, Kazakhstan	Storage	1,076 sq. ft.	Leased	Subject for prolongation every year
Aktobe, Kazakhstan	Bunker	2,273 sq. ft.	Owned	
Aktobe, Kazakhstan	Land	19.76 acres	Leased	2050
Aktobe, Kazakhstan	Land (power line)	0.5 acres	Leased	2050

(a) The Mt. Braddock, Pennsylvania location is also used as a 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 and sales and administration office in Würgendorf, Germany and the leased property in Tautevel, France in the first quarter of 2015.

(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, Austin, Texas, and Corpus Christi, Texas offices are vacant as of 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 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 \$1.1 million cash deposit or bond for AD/CVD duties.

In August 2015, we posted bonds of approximately \$1.1 million 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 \$6.4 million reserve for AD/CVD duties and interest (\$6.2 million of which was recorded as cost of products sold and \$169 thousand as interest expense in our statement 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, CIT ruled on the appeal, remanding the scope ruling and ordering the Commerce Department to reconsider its position (the "Remand Order"). Under the Remand Order, the Commerce Department must issue its final remand determination on or before June 7, 2017, and such remand determination would be subject to the ongoing appeal with CIT.

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 thousand, 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 Remand Order 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 \$14.8 million. U.S. Customs also reasserted its demand for tender of alleged loss of AD/CVD duties in the amount of \$3,049 thousand. We believe that this penalty assessment is premature and patently unreasonable in the face of the pending Remand Order and 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 will vigorously defend against any imposition of penalties and seek a stay of penalty proceedings pending resolution of the remand determination and the ultimate resolution of the CIT appeal and any further appeals. We expect to submit a petition for relief and mitigation of penalties on or before April 17, 2017.

We tendered \$3,049 thousand in AD amounts ("Tendered Amounts") on March 6, 2017 into a suspense account pending ultimate resolution of the AD/CVD case.

For the year ended December 31, 2016, the Company recorded \$176 thousand of interest on its reserve for AD/CVD duties, bringing the total reserved amount related to AD/CVD duties as of December 31, 2016 to \$6.6 million. 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, 2016 as we do not believe they are probable at this time.

#### Patent and Trademark Infringement

On September 22, 2015, GEODynamics, Inc., a U.S.-based oil and gas perforating equipment manufacturer based in Fort Worth, TX, filed a patent and trademark infringement action against DynaEnergetics in the United States District Court for the Eastern District of Texas ("District Court") regarding alleged infringement of U.S. Patent No. 9,080,431 granted on July 14, 2015 ("the '431 patent") and a related U.S. trademark for REACTIVE, alleging that DynaEnergetics' U.S. sales of DPEX® shaped charges infringe the '431 patent and the trademark. Summary judgment motions were filed by DynaEnergetics in December 2016, and no decisions have been issued on such motions. 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. On September 20, 2016, DynaEnergetics instituted an Inter Parties Review (IPR) against the '563 patent at the U.S. Patent and Trademark Office ("USPTO"), requesting that the '563 patent be declared invalid by the USPTO. Trial for the '431 case is scheduled to begin March 27, 2017. GEODynamics is seeking, among other things, compensatory damages and injunctive relief from further infringement in both actions. We believe that the claims are meritless and that we have substantial legal and factual defenses to the claims and allegations contained in the complaints. At this time, no assessment can be made as to the likely outcome of these actions or whether the outcome will be material to us.

#### **ITEM 4. Mine Safety Disclosures**

Not applicable.

**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.

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

<b><u>2015</u></b>	<b><u>High</u></b>		<b><u>Low</u></b>	
First Quarter	\$	16.57	\$	12.60
Second Quarter	\$	13.92	\$	10.28
Third Quarter	\$	12.67	\$	8.30
Fourth Quarter	\$	11.27	\$	5.73

As of March 8, 2017, there were 269 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 2016 and \$0.14 per share in 2015. 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.

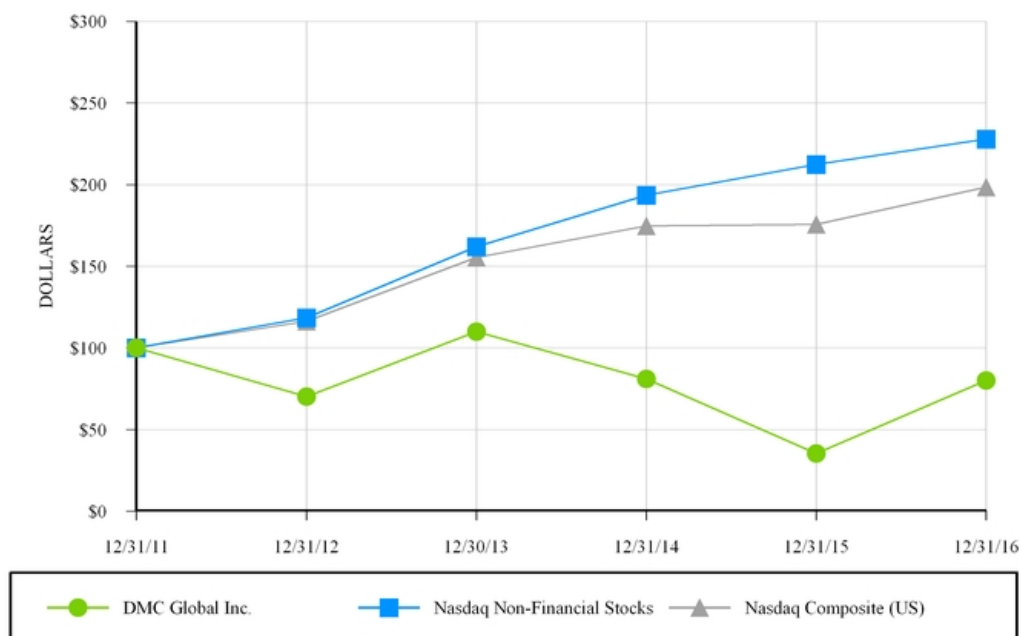
**Equity Compensation Plan**

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, 2011, in each of the Company, 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 Performance Using OMX Global Indexes**



### Total Return

Analysis	12/31/11	12/31/12	12/30/13	12/31/14	12/31/15	12/31/16
DMC Global Inc.	\$100	\$70.27	\$109.91	\$80.99	\$35.34	\$80.13
Nasdaq Non-Financial Stocks	\$100	\$118.35	\$162.04	\$193.48	\$212.35	\$227.8
Nasdaq Composite (U.S.)	\$100	\$116.43	\$155.41	\$174.78	\$175.62	\$198.47

**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.” The 2012 selected financial data includes the operating results of TRX from the January 3, 2012 acquisition date through December 31, 2012 and the balance sheet information as of December 31, 2012. Years 2014 and prior reflect the classification of AMK into discontinued operations.

(Dollars in Thousands, Except Per Share Data)

	Year Ended December 31,				
<b>Statement of Operations</b>	2016	2015	2014	2013	2012
Net sales	\$ 158,575	\$ 166,918	\$ 202,561	\$ 202,060	\$ 192,737
Gross profit	38,680	35,624	61,419	58,134	57,652
Cost and expenses	42,752	43,776	47,973	47,156	41,653
Restructuring expenses	1,202	4,063	6,781	—	—
Goodwill impairment	—	11,464	—	—	—
Income (loss) from operations	(5,274)	(23,679)	6,665	10,978	15,999
Other income (expense), net	(434)	(2,410)	(826)	(1,169)	(851)
Income (loss) before income taxes, discontinued operations and non-controlling interest	(5,708)	(26,089)	5,839	9,809	15,148
Income tax provision (benefit)	797	(2,118)	3,913	3,736	5,316
Income (loss) from continuing operations	(6,505)	(23,971)	1,926	6,073	9,832
Income from discontinued operations	—	—	641	478	943
Net income (loss) attributable to non-controlling interest	—	—	—	92	(2)
Net income (loss) attributable to DMC Global Inc.	\$ (6,505)	\$ (23,971)	\$ 2,567	\$ 6,459	\$ 10,779
Net income (loss) per share attributable to DMC Global Inc. - Basic:					
Continuing operations	\$ (0.46)	\$ (1.72)	\$ 0.13	\$ 0.44	\$ 0.73
Discontinued operations	\$ —	\$ —	\$ 0.05	\$ 0.03	\$ 0.07
Net income (loss)	\$ (0.46)	\$ (1.72)	\$ 0.18	\$ 0.47	\$ 0.80
Net income (loss) per share attributable to DMC Global Inc. - Diluted:					
Continuing operations	\$ (0.46)	\$ (1.72)	\$ 0.13	\$ 0.44	\$ 0.73
Discontinued operations	\$ —	\$ —	\$ 0.05	\$ 0.03	\$ 0.07
Net income (loss)	\$ (0.46)	\$ (1.72)	\$ 0.18	\$ 0.47	\$ 0.80
Dividends Declared per Common Share	\$ 0.08	\$ 0.14	\$ 0.16	\$ 0.16	\$ 0.16
<b>Financial Position</b>					
Total assets	\$ 162,555	\$ 182,192	\$ 219,329	\$ 240,545	\$ 235,206
Long-term debt	\$ 15,732	\$ 26,826	\$ 22,782	\$ 26,400	\$ 37,853

## 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.

### Overview

#### General

DMC Global Inc., formerly Dynamic Materials Corporation, ("DMC") operates a diversified family of technical product and process businesses serving the energy, industrial and infrastructure markets. Our businesses operate globally through an international network of manufacturing, distribution and sales facilities. Our business is organized into two segments: NobelClad and DynaEnergetics.

On October 1, 2014 we completed the sale of our AMK business. We have reflected the results of AMK as discontinued operations in the consolidated statements of operations for all periods presented. Accordingly, historical consolidated statements of operations included in the Management's Discussion and Analysis of Financial Condition and Results of Operations have been restated to reflect the discontinued operation.

Our diversified business segments each provide a suite of unique technical products to niche segments of the global energy, industrial and infrastructure markets; and each of our businesses has established a strong or leading position in the markets in which it participates. With an underlying focus on free-cash flow generation, 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 also intend to explore acquisitions of complementary businesses that could strengthen or add to our existing product portfolio, or expand our geographic footprint and market presence.

#### 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 large portion of the demand for our clad metal products is driven by new plant construction and large plant expansion projects, maintenance and retrofit projects at existing chemical processing, petrochemical processing, oil refining, and aluminum smelting facilities 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 decreased to \$31,634 at December 31, 2016 from \$41,832 at December 31, 2015.

#### 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 large, mid-sized, and small 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, 2016 and 2015:

- NobelClad's gross profit, operating income, and Adjusted EBITDA (see "Use of Non-GAAP Financial Measures" below) improved due to favorable customer and project mix, lower manufacturing overhead expenses from the consolidation of European manufacturing facilities, lower general and administrative expenses, and no restructuring charges in 2016.
- DynaEnergetics was impacted by continued pressure on selling prices from the prolonged downturn in the oil and gas well-completions sector, which is the segment's primary end market. However, we continued to increase DynaEnergetics' market share in the perforating market in 2016. Unit sales of our DynaSelect™ family of detonators continued to grow during 2016, as an increasing number of operators and service providers are leveraging the reliability, efficiency and safety of this product.
- The Company continued its investments in research and development, as well as technology, product and market development initiatives. DynaEnergetics' research and development spending in 2016 was \$3,990 compared with \$2,357 in 2015. Research and development expenses are included in the costs of product sold line item in the consolidated statements of operations.
- Restructuring expenses of \$1,202 were incurred in 2016, primarily related to severance for headcount reductions and lease termination costs in DynaEnergetics compared to \$4,063 in 2015, primarily related to closing distribution and production centers, consolidating manufacturing to more cost-effective locations, and reducing corporate headcount.
- A goodwill impairment charge of \$11,464 in 2015 related to the DynaEnergetics reporting unit.
- Selling, general, and administrative expenses of \$38,741 for 2016 compared favorably to \$39,743 for 2015. In 2016, general and administrative expenses included the impact of ongoing patent infringement and AD/CVD litigation.
- Net debt of \$9,313 decreased 55% from December 31, 2015. Net debt, a non-GAAP measure, is calculated as lines of credit less cash and cash equivalents.

## Business Outlook

- Demand from North America's onshore oil and gas industry showed additional signs of improvement during the fourth quarter and helped fuel a stronger-than-expected performance at DynaEnergetics. Year-over-year top-line growth in DynaEnergetics has continued early in the first quarter of 2017. There is also expanded customer interest in DynaEnergetics' factory-assembled DynaStage perforating system.
- DynaEnergetics announced a series of price increases during the first quarter of 2017. We believe the increase in demand in the industry, combined with our focus on selling high value products to tier-1 and tier-2 service companies, will help address our margin recovery initiatives as the year proceeds.
- NobelClad capitalized on the early arrival of materials to accelerate production and shipment of multiple orders in the fourth quarter of 2016 that were originally scheduled for delivery in early 2017. This, along with soft activity levels in our end markets for NobelClad, is contributing to lower expected sales in the first half of 2017. Our fabricator customers expect improved demand particularly 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 the second half of 2017.
- The Company tendered \$3,049 in anti-dumping and countervailing (AD/CVD) duties on March 6, 2017 into a suspense account with U.S. Customs pending ultimate resolution of the AD/CVD case. See Item 3 — Legal Proceedings for further discussion.
- The improved customer demand at DynaEnergetics is requiring increased investments in working capital. To fund our near-term working capital needs and the \$3,049 tender of AD/CVD duties to U.S. Customs, we recently entered an amended credit facility with our commercial banking syndicate to address potential near-term constraints on our covenants. The new facility steps up the maximum allowable leverage ratio and provides relief under our debt service coverage ratio through the third quarter of 2017. Our borrowings available under the credit facility were reduced to \$35 million from the prior \$75 million. The smaller credit facility provides us with adequate liquidity to fund our anticipated working capital needs. See — "Liquidity and Capital Resources" for further discussion.

## 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 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.

The presence of non-GAAP financial measures in this report is not intended to be considered in isolation or as a substitute for, or 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 and the impacts on DynaEnergetics' sales growth and margin recovery efforts, our expectations regarding NobelClad's sales and bookings in 2017, 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:

- 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;
- Fluctuations in customer demand;
- 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 statement speaks 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, 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 (benefit)	797	(2,118)	2,915	138 %
Net loss	(6,505)	(23,971)	17,466	73 %
Adjusted EBITDA	9,021	13,080	(4,059)	(31)%

**Net sales** The decrease compared with 2015 was due to a 13% decrease in DynaEnergetics partially offset by a 1% increase in NobelClad. The decline in DynaEnergetics was due to a decline in demand and average selling prices due to lower activity levels in the oil and gas well-completions sector. 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** The increase in gross profit and gross profit percentage compared with 2015 primarily was due to the impact in 2015 of a \$6,205 accrual 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 costs in DynaEnergetics.

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

**Selling and distribution expenses** The decrease compared with 2015 principally was 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** The components of 2016 restructuring expenses are detailed as follows:

	Severance and benefits	Asset impairments	Contract termination	Equipment moving and other exit costs	Total
DynaEnergetics	\$ 684	\$ —	\$ 386	\$ 58	\$ 1,128
Corporate	74	—	—	—	74
Total restructuring expenses	\$ 758	\$ —	\$ 386	\$ 58	\$ 1,202

DynaEnergetics restructuring expenses relate to severance for headcount reductions in Troisdorf, Germany and Austin, Texas, as well as lease termination costs in Austin. Corporate restructuring charges relate to the accelerated vesting of stock awards in connection with the elimination of certain positions in DynaEnergetics.

The components of 2015 restructuring expenses are detailed as follows:

	Severance and benefits	Asset impairments	Contract termination	Equipment moving and other exit costs	Total
NobelClad	\$ 238	\$ —	\$ 40	\$ 472	\$ 750
DynaEnergetics	735	205	498	222	1,660
Corporate	1,653	—	—	—	1,653
Total restructuring expenses	\$ 2,626	\$ 205	\$ 538	\$ 694	\$ 4,063

NobelClad restructuring expenses relate to the shifting of the majority of clad metal plate production from facilities in both Rivesaltes, France and Würgendorf, Germany to the new manufacturing facility in Liebenseid, Germany.

DynaEnergetics restructuring expenses relate 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.

**Operating loss** The decrease in operating loss compared with 2015 was due to a 72% increase in DynaEnergetics operating income, a 53% increase in NobelClad operating income, an 8% decrease in corporate unallocated costs and a 29% decrease in stock-based compensation. Corporate unallocated and stock-based compensation expenses are not allocated to our business segments.

**Other income (expense), net** The change from expense to income compared with 2015 primarily was due to a shift to unrealized foreign currency gains from 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 foreign currency transaction gains or losses at settlement of the transaction.

**Interest income (expense), net** The decrease in expense compared with last year primarily was 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.

**Goodwill impairment charge** The impairment charge in 2015 related to fully writing off DynaEnergetics' goodwill balance.

**Income tax provision (benefit)** We recorded an income tax expense of \$797 for 2016 compared with an income tax benefit of \$2,118 for 2015. 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** Primarily as a result of the reduction of restructuring charges as well as non-recurring goodwill impairment charges in 2015 along with the other factors discussed above, 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** The decrease compared with 2015 primarily was due to a decline in profitability from lower average selling prices and volume in DynaEnergetics. 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
<b>Net income</b>	\$ (6,505)	\$ (23,971)
Interest expense	1,070	1,745
Interest income	(3)	(4)
Provision for income taxes	797	(2,118)
Depreciation	6,756	6,244
Amortization of purchased intangible assets	4,011	4,033
<b>EBITDA</b>	6,126	(14,071)
Restructuring expenses	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
<b>Adjusted EBITDA</b>	\$ 9,021	\$ 13,080

Year ended December 31, 2015 compared to Year Ended December 31, 2014

	2015	2014	\$ change	% change
Net sales	\$ 166,918	\$ 202,561	\$ (35,643)	(18)%
Gross profit	35,624	61,419	(25,795)	(42)%
Gross profit percentage	21.3%	30.3%		
COSTS AND EXPENSES:				
General and administrative expenses	20,998	23,766	(2,768)	(12)%
% of net sales	12.6%	11.7%		
Selling and distribution expenses	18,745	18,104	641	4 %
% of net sales	11.2%	8.9%		
Amortization of purchased intangible assets	4,033	6,103	(2,070)	(34)%
% of net sales	2.4%	3.0%		
Restructuring expenses	4,063	6,781	(2,718)	(40)%
Goodwill impairment charge	11,464	—	11,464	NM
Operating income (loss)	(23,679)	6,665	(30,344)	(455)%
Other income (expense), net	(669)	(313)	(356)	(114)%
Interest income (expense), net	(1,741)	(513)	(1,228)	(239)%
Income tax provision	(2,118)	3,913	(6,031)	(154)%
Income from discontinued operations, net of tax	—	641	(641)	(100)%
Net income (loss)	(23,971)	2,567	(26,538)	(1,034)%
Adjusted EBITDA	\$ 13,080	\$ 31,475	\$ (18,395)	(58)%

**Net sales** The decrease compared with 2014 was due to a 27% decrease in DynaEnergetics and a 7% decrease in NobelClad. Excluding the impact of unfavorable foreign currency fluctuations, NobelClad's net sales increased 1% and DynaEnergetics' decreased 21%. The decline in DynaEnergetics resulted from the global downturn in the oil and gas market, which outweighed higher sales of new products and technologies.

**Gross profit** The decrease in gross profit percentage compared with 2014 was driven by the impact of a \$6,205 accrual 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. The decline also resulted from a lower proportion of sales in DynaEnergetics relative to NobelClad, an unfavorable product mix in NobelClad, lower average selling prices and increased inventory reserves in DynaEnergetics and the impact of lower sales volume on fixed manufacturing overhead expenses in both segments.

**General and administrative expenses** The decrease compared with 2014 was primarily due to a reduction in salaries of \$1,451, lower stock-based compensation of \$894, and a reduction in outside services expenses of \$667. In the first half of 2015 we recognized incremental audit and legal expenses of \$450 associated with the restatement of previously-issued financial statements included in our 2014 Form 10-K. These one-time expenses were offset by a reduction in fees related to fewer Board of Directors members and lower information technology spending from bringing selected services in-house and the completion of an Enterprise Resource Planning (ERP) project in NobelClad.

**Selling and distribution expenses** The increase compared with 2014 was principally due to an increase in bad debt expense.

**Amortization expense** The decrease compared with 2014 was due to fully amortizing NobelClad's customer relationships as of December 31, 2014 and the impact of foreign currency translation.

**Restructuring expenses** The components of 2015 restructuring expenses are detailed as follows:

	Severance and benefits	Asset impairments	Contract termination	Equipment moving ant other exit costs	Total
NobelClad	\$ 238	\$ —	\$ 40	\$ 472	\$ 750
DynaEnergetics	735	205	498	222	1,660
Corporate	1,653	—	—	—	1,653
Total restructuring expenses	\$ 2,626	\$ 205	\$ 538	\$ 694	\$ 4,063

NobelClad restructuring expenses relate to the shifting of the majority of clad metal plate production from facilities in both Rivesaltes, France and Würgendorf, Germany to the new manufacturing facility in Liebenscheld, Germany.

DynaEnergetics restructuring expenses relate to the consolidation of perforating gun manufacturing centers, the closure of distribution centers, and the reduction of 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.

The components of 2014 restructuring charges are detailed as follows:

	Severance and benefits	Asset impairments	Contract termination	Equipment moving ant other exit costs	Total
NobelClad	\$ 2,466	\$ 3,946	\$ —	\$ 369	\$ 6,781
Total restructuring expenses	\$ 2,466	\$ 3,946	\$ —	\$ 369	\$ 6,781

NobelClad restructuring expenses relate to the shifting of the majority of clad metal plate production from facilities in both Rivesaltes, France and Wurgendorf, Germany to the new manufacturing facility in Liebenscheld, Germany.

**Operating income (loss)** The operating loss in 2015 versus operating income in 2014 primarily was due to non-recurring charges related to goodwill impairment and accrual for anti-dumping and countervailing duties in DynaEnergetics and lower customer demand and average selling prices in DynaEnergetics resulting from a significant decline in completion activity in the oil and gas sector, partially offset by improved earnings in NobelClad. Corporate unallocated and stock-based compensation expenses are not allocated to our business segments.

**Other income (expense), net** The increase in expense compared with 2014 primarily was due to an increase in 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 end of the reporting period or realized foreign currency transaction gains or losses at settlement of the transaction.

**Interest income (expense), net** The increase in expense compared with 2014 was due to the amortization of loan fees associated with the credit agreement entered into on February 23, 2015, the write off of \$508 of loan fees previously deferred in conjunction with our December 2015 credit facility amendment, and higher interest expense on a larger average outstanding debt balance.

**Goodwill impairment charge** The impairment charge relates to fully writing off goodwill related to the DynaEnergetics segment.

**Income tax provision (benefit)** We recorded an income tax benefit of \$2,118 for 2015 compared to an income tax expense of \$3,913 for 2014. Our consolidated income tax benefit for 2015 and expense for 2014 included \$1,584 and \$76, respectively, related to U.S. taxes, with the remainder relating to a net foreign tax benefit of \$534 in 2015 and expense of \$3,837 in 2014, respectively, associated with our foreign operations and holding companies.

**Net income (loss)** Primarily as a result of restructuring expenses and the non-recurring goodwill impairment charge along with the other factors discussed above, net loss in 2015 was \$23,971, or \$1.72 per diluted share, compared with a net income of \$2,567, or \$0.18 per diluted share, in 2014.



**Adjusted EBITDA** The decrease compared with 2014 primarily was due to the significant net loss in 2015 compared to net income in 2014. 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.

	2015	2014
<b>Net income</b>	\$ (23,971)	\$ 2,567
Income from discontinued operations	—	(641)
Interest expense	1,745	551
Interest income	(4)	(38)
Provision for income taxes	(2,118)	3,913
Depreciation	6,244	7,051
Amortization of purchased intangible assets	4,033	6,103
<b>EBITDA</b>	(14,071)	19,506
Restructuring charges	4,063	6,781
Goodwill impairment charge	11,464	—
Accrued anti-dumping duties	6,205	—
DynaEnergetics inventory reserves	1,924	1,287
Stock-based compensation	2,826	3,588
Other (income) expense, net	669	313
<b>Adjusted EBITDA</b>	\$ 13,080	\$ 31,475

#### 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 before income taxes by deducting unallocated corporate expenses, including stock-based compensation, net other expense, net interest expense, income tax provision, and income from discontinued operations.

For the years ended December 31, 2016, 2015 and 2014, the net sales, segment operating income or loss, and Adjusted EBITDA for each segment was as follows:

	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
	December 31, 2014		
	NobelClad	DynaEnergetics	DMC Global Inc.
Net Sales	\$ 97,108	\$ 105,453	\$ 202,561
% of Consolidated	48%	52%	
Operating Income (Loss)	2,155	14,479	6,665
Adjusted EBITDA	15,418	22,438	31,475

#### NobelClad

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** The increase compared with 2015 reflects 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** The increase in gross profit and gross profit percentage compared with 2015 primarily was due to improved margins on its mix of projects during 2016 compared with the same period in 2015. Gross profit also benefited from lower manufacturing overhead expenses from the consolidation of European manufacturing facilities.

**General and administrative expenses** The decrease compared with 2015 primarily was attributable to lower salaries and wages and outside service costs.

**Selling and distribution expenses** The increase compared with 2015 primarily was attributable to higher salaries and wages partially offset by a reduction of bad debt expense.

**Restructuring expense** The expense in 2015 related to shifting the majority of clad metal plate production in Europe from facilities in Rivesaltes, France and Würgendorf, Germany to our manufacturing facility in Liebenscheid, Germany.

**Operating income** The increase compared with 2015 was driven by higher gross profit from favorable project mix, lower general and administrative expenses and no restructuring charges in 2016.

**Adjusted EBITDA** The increase compared with 2015 was primarily due to an increase in operating income and no restructuring expenses. 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

Year ended December 31, 2015 compared to Year Ended December 31, 2014

	2015	2014	\$ change	% change
Net sales	\$ 89,980	\$ 97,108	\$ (7,128)	(7)%
Gross profit	17,206	21,698	(4,492)	(21)%
Gross profit percentage	19.1%	22.3%		
COSTS AND EXPENSES:				
General and administrative expenses	4,539	4,907	(368)	(7)%
Selling and distribution expenses	5,719	5,928	(209)	(4)%
Amortization of purchased intangible assets	379	1,927	(1,548)	(80)%
Restructuring expenses	750	6,781	(6,031)	(89)%
Operating income	5,819	2,155	3,664	170 %
Adjusted EBITDA	\$ 10,727	\$ 15,418	\$ (4,691)	(30)%

**Net sales** The decrease compared to 2014 primarily was due to an unfavorable foreign currency exchange translation of \$7,710.

**Gross profit** The decrease compared to 2014 was due to unfavorable project mix.

**General and administrative expenses** The decrease compared to 2014 primarily was due to a reduction in salaries and wages of \$113 and a reduction in outside services expenses of \$97.

**Selling and distribution expenses** The decrease compared to 2014 was principally due to a \$452 decrease in outside sales agents commission expense due to lower sales into territories in which we don't have an internal sales force, partially offset by a \$187 increase in salaries and wages.

**Amortization expense** The decrease compared to 2014 was due to the complete amortization of NobelClad's customer relationships as of December 31, 2014.

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

**Operating income** The increase compared to 2014 was primarily due to lower restructuring expenses. Excluding the reduction of restructuring expenses, operating income decreased \$2,367 (26%) versus prior year primarily due to lower gross margins from unfavorable project mix.

**Adjusted EBITDA** The decrease compared to 2014 was primarily due to lower operating income caused by gross margin decline from unfavorable product mix. 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.

	2015	2014
Operating income	\$ 5,819	\$ 2,155
Adjustments:		
Restructuring expenses	750	6,781
Depreciation	3,779	4,555
Amortization of purchased intangibles	379	1,927
Adjusted EBITDA	\$ 10,727	\$ 15,418

**DynaEnergetics**

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	(5,380)	(19,245)	13,865	72 %
Adjusted EBITDA	\$ 2,516	\$ 8,127	\$ (5,611)	(69)%

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

**Gross profit** The increase in gross profit and gross profit percentage compared with 2015 primarily was due to the impact in 2015 of a \$6,205 accrual 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** The increase compared with 2015 primarily was due to ongoing patent infringement and anti-dumping litigation costs and higher incentive compensation costs.

**Selling and distribution expenses** The decrease compared with 2015 was 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** Restructuring costs in 2016 relates to severance for headcount reductions in Troisdorf, Germany and Austin, Texas and lease termination costs in Austin. Restructuring activity in 2015 relates 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** The impairment charge in 2015 relates to fully writing-off DynaEnergetics' goodwill balance.

**Operating loss** The smaller operating loss compared with 2015 primarily was due to no goodwill impairment and no accrued anti-dumping and countervailing duties.

**Adjusted EBITDA** The decrease compared with 2015 primarily was due to lower sales volume and average selling prices partially offset by lower general and administrative and selling and distribution expenses. 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	\$ (5,380)	\$ (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	\$ 2,516	\$ 8,127

**Year ended December 31, 2015 compared to Year Ended December 31, 2014**

	2015	2014	\$ change	% change
Net sales	\$ 76,938	\$ 105,453	\$ (28,515)	(27)%
Gross profit	18,662	40,030	(21,368)	(53)%
Gross profit percentage	24.3%	38.0%		
<b>COSTS AND EXPENSES:</b>				
General and administrative expenses	8,423	9,483	(1,060)	(11)%
Selling and distribution expenses	12,706	11,892	814	7 %
Amortization of purchased intangible assets	3,654	4,176	(522)	(13)%
Restructuring expenses	1,660	—	1,660	NM
Goodwill impairment charge	11,464	—	11,464	NM
Operating income (loss)	(19,245)	14,479	(33,724)	(233)%
Adjusted EBITDA	\$ 8,127	\$ 22,438	\$ (14,311)	(64)%

**Net sales** The decrease compared with 2014 was due to the steep decline in the North American rig count and capital spending cuts by exploration and production companies, significant pricing pressure in the second half of 2015 and unfavorable foreign currency exchange translation of \$5,766.

**Gross profit** The decrease in gross profit and gross profit margin compared with 2014 primarily was driven by the impact of a \$6,205 accrual for anti-dumping and countervailing duties resulting from an unfavorable scope ruling from the Department of Commerce on prior imports of metals primarily used for gun carrier tubing in DynaEnergetics. The decline also resulted from lower average selling prices, the impact of lower sales volume on fixed manufacturing overhead expenses, and \$1,924 of inventory reserve charges recorded during 2015 compared with \$1,287 recorded in 2014. The decline in gross profit margin partially was offset by increased sales of new higher-margin products.

**General and administrative expenses** The decrease compared with 2014 was primarily due to a \$1,245 reduction in salaries, benefits and payroll taxes and a \$115 decrease in travel expenses partially offset by a \$481 increase in outside services.

**Selling and distribution expenses** The increase compared with 2014 was principally due to a \$815 increase in outside sales agents commission expense due to regional product mix offset by a \$163 increase in salaries.

**Amortization expense** The decrease compared with 2014 was due to the impact of foreign currency translation.

**Restructuring expense** Restructuring in 2015 relates to the consolidation of perforating gun manufacturing centers, the closure of multiple distribution centers in North America, and the reduction of administrative workforce at the corporate offices in Troisdorf, Germany.

**Goodwill impairment charge** The impairment charge in 2015 relates to fully writing-off DynaEnergetics' goodwill balance.

**Operating income (loss)** Primarily as a result of lower revenue and gross profit as well as the goodwill impairment charge, DynaEnergetics had an operating loss compared with operating income in 2014.

**Adjusted EBITDA** The decrease was due to an operating loss compared to operating income in the prior year. 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.

	2015	2014
Operating income (loss)	\$ (19,245)	\$ 14,479
Adjustments:		
Restructuring expenses	1,660	—
Goodwill impairment charge	11,464	—
Accrued anti-dumping duties	6,205	—
DynaEnergetics inventory reserves	1,924	1,287
Depreciation	2,465	2,496
Amortization of purchased intangibles	3,654	4,176
Adjusted EBITDA	\$ 8,127	\$ 22,438

### 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 and 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. Furthermore, any restriction on the availability of borrowings under our credit facilities could negatively affect our ability to meet future cash requirements.

We declared and paid quarterly dividends aggregating \$0.08 per share in 2016 and \$0.14 per share in 2015. 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 February 23, 2015, we entered into a five year \$150,000 syndicated credit facility which amended and replaced our previous syndicated credit facility. On December 18, 2015, we amended the 2015 syndicated credit facility and reduced total borrowing capacity to \$75,000. 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. We also maintain a line of credit with a German bank for certain DynaEnergetics operations. This line of credit provides a borrowing capacity of 4,000 Euros.

On March 6, 2017, we entered into a third amendment to the 2015 syndicated credit facility which reduced the amount of borrowings available thereunder 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 returns to 3.00x for the December 31, 2017 reporting period and thereafter. The third amendment also waives 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 adds a minimum EBITDA covenant that requires 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 is inapplicable thereafter. The spread to 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.

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, 2016, calculated in accordance with the 2015 syndicated credit facility, as amended, was 1.79 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. Before giving effect to the waiver contained in the third amendment discussed above, the 2015 syndicated credit facility 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, 2016, calculated in accordance with the 2015 syndicated credit facility, as amended, was 6.71 to 1.0.

As of December 31, 2016, U.S. dollar revolving loans of \$16,250 were outstanding under our 2015 syndicated credit facility. While we had approximately \$58,750 of unutilized revolving credit loan capacity as of December 31, 2016 under the 2015 syndicated credit facility, the third amendment will significantly reduce such unutilized capacity, and future borrowings are subject to compliance with the financial covenants described above, which could further significantly limit availability. As of December 31, 2016, our available borrowing capacity under our 2015 syndicated credit facility was approximately \$27.5 million. As of the date of the third amendment, U.S. dollar revolving loans of \$19,450 were outstanding, and our available borrowing capacity under our 2015 syndicated credit facility was approximately \$15.6 million.

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, 2016, we were in compliance with all financial covenants and other provisions of our credit facilities.

#### 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, 2016:

	Payment Due by Period As of December 31, 2016				Total
	Less than 1 Year	1-3 Years	3-5 Years	More than 5 Years	
Other Contractual Obligations					
Multicurrency revolver (1)	\$ —	\$ 16,250	\$ —	\$ —	\$ 16,250
Operating lease obligations (2)	1,660	1,866	951	430	4,907
License agreements obligations (3)	398	398			796
Purchase obligations (4)	18,222	—	—	—	18,222
<b>Total</b>	<b>\$ 20,280</b>	<b>\$ 18,514</b>	<b>\$ 951</b>	<b>\$ 430</b>	<b>\$ 40,175</b>

(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, 2016. Our operating lease obligations are described in Note 7 "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, 2016. Our license agreements obligations are described in Note 7 "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 accompanying Consolidated Balance Sheets.

#### Cash flows from operating activities

Net cash provided by operating activities was \$18,198 in 2016 compared to net cash provided by operating activities of \$1,618 for 2015. The year-over-year increase of cash flow from continuing operations of \$16,580 was driven by a \$19,347 improvement in net working capital. We experienced favorable net working capital changes of \$9,905 in 2016 compared to unfavorable net working capital changes of \$9,442 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 customer advances. The favorable working capital changes were partially offset by a decrease in accounts payable of \$1,338.

Net cash provided by operating activities was \$1,618 in 2015. This compares to net cash provided by operating activities of \$23,313 for 2014 which consisted of net cash flows provided by continuing operations of \$23,074 and net cash flows provided by discontinued operations of \$239. The year-over-year decline of continuing operations operating cash flow of \$21,456 was driven by a \$7,364 decrease in net working capital and the net loss. We experienced unfavorable net working capital changes of \$9,442 in 2015 compared to favorable changes in net working capital of \$2,078 in 2014. Unfavorable changes in our 2015 net working capital included increases of \$2,394 and \$3,570 in accounts receivable and prepaid expenses, respectively, and decreases of \$4,765 and \$857 in accrued expenses and other liabilities, primarily driven by cash payments related to restructuring programs, and customer advances, respectively. The unfavorable working capital changes partially were offset by a decrease in inventory of \$1,386 and an increase in accounts payable of \$758. Favorable changes in our 2014 net working capital included increases in customer advances and accrued expenses and other liabilities of \$2,782 and \$2,962, respectively, which were outweighed by increases of \$3,459, \$3,004 and \$427 in inventory, prepaid expenses and accounts receivable, respectively, and a decrease in accounts payable of \$932.

#### Cash flows from investing activities

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

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

Net cash flows used in investing activities in 2014 totaled \$13,383 and consisted of net cash flows used in investing activities of continuing operations of \$13,263 and \$120 of net cash flows used in investing activities of discontinued operations. Net cash flows used in investing activities of continued operations consisted of capital expenditures of \$21,403, including \$13,140 for the purchase of the new German facility, \$4,782 for our greenfield investment in Russia to expand capacity in DynaEnergetics, net of proceeds of \$6,830 on the sale of AMK.

#### Cash flows from financing activities

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 and payment of quarterly dividends of \$2,260, and payment of deferred debt issuance costs of \$1,222.

Net cash flows used in financing activities for 2014 totaled \$7,854, which included net repayments on bank lines of credit of \$6,069 and payment of quarterly dividends of \$2,226.

#### **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. Revenue from sales of consigned inventory is recognized upon the use of the product by the consignee or according to the terms of the contract.

#### Inventories

Inventories are stated at the lower-of-cost (first-in, first-out) or market value. Cost elements included in inventory are material, labor, 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 goodwill impairment testing, 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 and Other Intangible Assets

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 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. The NobelClad reporting unit, which had approximately \$16,097 of goodwill as of December 31, 2016, had a fair value that exceeded carrying value by approximately 12%.

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 by approximately 16% 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 have 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, which had approximately \$17,190 of goodwill as of December 31, 2015, had a fair value that exceeded carrying value by approximately 19%. No impairment of goodwill was identified in connection with our 2014 or 2013 annual goodwill impairment tests.

A future impairment of goodwill is possible and could occur if (i) operating results underperform what we have estimated or (ii) additional volatility of the capital markets or other factors negatively impact our expectations of future results or cause us to raise the discount rate percentage utilized in our discounted cash flow analysis. While we believe our most recent estimates were appropriate based on our view of then current business trends, no assurance can be provided that impairment charges will not be required in the future.

#### 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 of being realized upon ultimate resolution. We recognize interest and penalties related to uncertain tax positions in operating expense.

#### **Off Balance Sheet Arrangements**

At December 31, 2016, 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

#### *Interest Rate Risk*

Our interest rate risk management policies are designed to reduce the potential earnings volatility that could arise from changes in interest rates. Periodically, we use interest rate swaps to stabilize funding costs by managing the exposure created by the differing maturities and interest rate structures of our assets and liabilities. See Note 2 "Significant Accounting Policies" to the Consolidated Financial Statements for further information on interest rate risk management.

#### *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 sheet, either positively or negatively. Sales made in currencies other than U.S. dollars accounted for 28%, 23%, and 32% of total sales for the years ended 2016, 2015, and 2014, 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.

**ITEM 8. Financial Statements and Supplementary Data**

**DYNAMIC MATERIALS CORPORATION  
INDEX TO CONSOLIDATED FINANCIAL STATEMENTS**

**As of December 31, 2016 and 2015 and for Each of the Three Years Ended  
December 31, 2016, 2015 and 2014**

	<u>Page</u>
<a href="#">Report of Independent Registered Public Accounting Firm</a>	<a href="#">53</a>
Financial Statements:	
<a href="#">Consolidated Balance Sheets</a>	<a href="#">54</a>
<a href="#">Consolidated Statements of Operations</a>	<a href="#">56</a>
<a href="#">Consolidated Statements of Comprehensive Income (Loss)</a>	<a href="#">57</a>
<a href="#">Consolidated Statements of Stockholders' Equity</a>	<a href="#">58</a>
<a href="#">Consolidated Statements of Cash Flows</a>	<a href="#">59</a>
<a href="#">Notes to Consolidated Financial Statements</a>	<a href="#">61</a>

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

The Stockholders and the  
Board of Directors of DMC Global Inc.

We have audited the accompanying consolidated balance sheets of DMC Global Inc. (formerly Dynamic Materials Corporation) (the "Company") as of December 31, 2016 and 2015, 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, 2016. Our audits also included the financial statement schedules listed in the Index at Item 15(a). These financial statements and schedules are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements and schedules based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of DMC Global Inc. at December 31, 2016 and 2015, and the consolidated results of its operations and its cash flows for each of the three years in the period ended December 31, 2016, in conformity with U.S. generally accepted accounting principles. Also, in our opinion, the related financial statement schedules, when considered in relation to the basic financial statements taken as a whole, present fairly in all material respects the information set forth therein.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), DMC Global Inc.'s internal control over financial reporting as of December 31, 2016, 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 9, 2017 expressed an unqualified opinion thereon.

/s/ Ernst & Young LLP

Denver, Colorado  
March 9, 2017

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

	As of December 31,	
	2016	2015
<u>ASSETS</u>		
CURRENT ASSETS:		
Cash and cash equivalents	\$ 6,419	\$ 6,291
Accounts receivable, net of allowance for doubtful accounts of \$1,146 and \$974, respectively	32,959	35,798
Inventory, net	28,833	35,449
Prepaid expenses and other	5,148	8,916
	<u>73,359</u>	<u>86,454</u>
Total current assets	73,359	86,454
PROPERTY, PLANT AND EQUIPMENT	109,427	106,523
Less - accumulated depreciation	<u>(52,294)</u>	<u>(48,524)</u>
Property, plant and equipment, net	57,133	57,999
GOODWILL, net	16,097	17,190
PURCHASED INTANGIBLE ASSETS, net	15,827	20,418
OTHER ASSETS, net	<u>139</u>	<u>131</u>
TOTAL ASSETS	<u>\$ 162,555</u>	<u>\$ 182,192</u>

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,	
	2016	2015
<u>LIABILITIES AND STOCKHOLDERS' EQUITY</u>		
CURRENT LIABILITIES:		
Accounts payable	\$ 13,260	\$ 14,624
Accrued expenses	4,173	3,972
Accrued anti-dumping duties	6,550	6,374
Dividend payable	290	284
Accrued income taxes	548	2,783
Accrued employee compensation and benefits	3,307	2,465
Customer advances	2,619	2,396
Total current liabilities	30,747	32,898
LINES OF CREDIT	15,732	26,826
DEFERRED TAX LIABILITIES	1,448	2,119
OTHER LONG-TERM LIABILITIES	2,219	1,928
Total liabilities	50,146	63,771
COMMITMENTS AND CONTINGENT LIABILITIES (See Note 7)	—	—
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; 14,496,359 and 14,212,115 shares outstanding, respectively	725	711
Additional paid-in capital	73,116	70,408
Retained earnings	80,107	87,767
Other cumulative comprehensive loss	(41,514)	(40,465)
Treasury stock, at cost; 2,378 and 0 shares, respectively	(25)	—
Total stockholders' equity	112,409	118,421
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	\$ 162,555	\$ 182,192

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,		
	2016	2015	2014
NET SALES	\$ 158,575	\$ 166,918	\$ 202,561
COST OF PRODUCTS SOLD	119,895	131,294	141,142
Gross profit	38,680	35,624	61,419
COSTS AND EXPENSES:			
General and administrative expenses	22,115	20,998	23,766
Selling and distribution expenses	16,626	18,745	18,104
Amortization of purchased intangible assets	4,011	4,033	6,103
Restructuring expenses	1,202	4,063	6,781
Goodwill impairment charge	—	11,464	—
Total costs and expenses	43,954	59,303	54,754
OPERATING INCOME (LOSS)	(5,274)	(23,679)	6,665
OTHER INCOME (EXPENSE):			
Other income (expense), net	633	(669)	(313)
Interest expense	(1,070)	(1,745)	(551)
Interest income	3	4	38
INCOME (LOSS) BEFORE INCOME TAXES AND DISCONTINUED OPERATIONS	(5,708)	(26,089)	5,839
INCOME TAX PROVISION (BENEFIT)	797	(2,118)	3,913
INCOME (LOSS) FROM CONTINUING OPERATIONS	(6,505)	(23,971)	1,926
DISCONTINUED OPERATIONS:			
Income (loss) from operations of discontinued operations, net of tax	—	—	(77)
Gain on sale of discontinued operations, net of tax	—	—	718
Income from discontinued operations	—	—	641
NET INCOME (LOSS)	(6,505)	(23,971)	2,567
INCOME (LOSS) PER SHARE - BASIC:			
Continuing operations	\$ (0.46)	\$ (1.72)	\$ 0.13
Discontinued operations	\$ —	\$ —	\$ 0.05
Net income	\$ (0.46)	\$ (1.72)	\$ 0.18
INCOME (LOSS) PER SHARE - DILUTED:			
Continuing operations	\$ (0.46)	\$ (1.72)	\$ 0.13
Discontinued operations	\$ —	\$ —	\$ 0.05
Net income	\$ (0.46)	\$ (1.72)	\$ 0.18
WEIGHTED AVERAGE NUMBER OF SHARES OUTSTANDING:			
Basic	14,126,108	13,935,097	13,687,485
Diluted	14,126,108	13,935,097	13,689,707
DIVIDENDS DECLARED PER COMMON SHARE	\$ 0.08	\$ 0.14	\$ 0.16

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,		
	2016	2015	2014
Net income (loss)	\$ (6,505)	\$ (23,971)	\$ 2,567
Change in cumulative foreign currency translation adjustment	(1,049)	(13,869)	(22,612)
Total comprehensive loss	\$ (7,554)	\$ (37,840)	\$ (20,045)

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, 2013	13,772,324	\$ 689	\$ 62,934	\$113,390	\$ (3,984)	—	\$ —	\$173,029
Net income	—	—	—	2,567	—	—	—	2,567
Change in cumulative foreign currency translation adjustment	—	—	—	—	(22,612)	—	—	(22,612)
Shares issued in connection with stock compensation plans	224,752	11	348	—	—	—	—	359
Tax impact of stock-based compensation	—	—	106	—	—	—	—	106
Stock-based compensation	—	—	3,700	—	—	—	—	3,700
Dividends declared	—	—	—	(2,234)	—	—	—	(2,234)
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

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,		
	2016	2015	2014
<b>CASH FLOWS FROM OPERATING ACTIVITIES:</b>			
Net income (loss)	\$ (6,505)	\$ (23,971)	\$ 2,567
Adjustments to reconcile net income to net cash provided by operating activities:			
Loss (income) from discontinued operations, net of tax	—	—	77
Gain on sale of discontinued operations, net of tax	—	—	(718)
Depreciation (including capital lease amortization)	6,756	6,244	7,051
Amortization of purchased intangible assets	4,011	4,033	6,103
Amortization and write-off of deferred debt issuance costs	156	752	102
Stock-based compensation	2,326	2,826	3,588
Excess tax benefit from stock-based compensation	—	—	(156)
Deferred income tax benefit	(284)	(725)	(255)
(Gain) loss on disposal of property, plant and equipment	455	(23)	12
Restructuring and asset impairment expenses	1,202	4,063	6,781
Goodwill impairment charge	—	11,464	—
Accrued anti-dumping duties	176	6,374	—
Other	—	23	—
Change in:			
Accounts receivable, net	2,679	(2,394)	(427)
Inventory, net	6,829	1,386	(3,459)
Prepaid expenses and other	1,002	(3,570)	(3,004)
Accounts payable	(1,338)	758	(932)
Customer advances	223	(857)	2,782
Accrued expenses and other liabilities	510	(4,765)	2,962
Net cash flows provided by continuing operations	18,198	1,618	23,074
Net cash flows provided by discontinued operations	—	—	239
Net cash provided by operating activities	18,198	1,618	23,313
<b>CASH FLOWS FROM INVESTING ACTIVITIES:</b>			
Acquisition of property, plant and equipment	(5,719)	(5,433)	(21,403)
Net proceeds on sale of AMK	—	—	6,830
Proceeds on sale of property, plant and equipment	26	—	—
Change in other non-current assets	(9)	107	1,310
Net cash flows used in continuing operations	(5,702)	(5,326)	(13,263)
Net cash flows used in discontinued operations	—	—	(120)
Net cash used in investing activities	(5,702)	(5,326)	(13,383)

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,		
<b>CASH FLOWS FROM FINANCING ACTIVITIES:</b>			
Borrowings (repayments) on bank lines of credit, net	(11,250)	5,003	(6,069)
Payment on loans with former owners of LRI	—	—	(50)
Payment on capital lease obligations	(3)	(5)	(24)
Payment of dividends	(1,150)	(2,260)	(2,226)
Payment of deferred debt issuance costs	—	(1,222)	—
Net proceeds from issuance of common stock to employees and directors	322	272	359
Treasury stock purchases	(26)	—	—
Excess tax benefit from stock-based compensation	—	—	156
Net cash provided by (used in) financing activities	(12,107)	1,788	(7,854)
<b>EFFECTS OF EXCHANGE RATES ON CASH</b>	(261)	(1,189)	(3,274)
<b>NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS</b>	128	(3,109)	(1,198)
CASH AND CASH EQUIVALENTS, beginning of the period	6,291	9,400	10,598
CASH AND CASH EQUIVALENTS, end of the period	<u>\$ 6,419</u>	<u>\$ 6,291</u>	<u>\$ 9,400</u>
<b>SUPPLEMENTAL DISCLOSURE OF CASH FLOW INFORMATION:</b>			
Cash paid during the period for -			
Interest	<u>\$ 575</u>	<u>\$ 624</u>	<u>\$ 514</u>
Income taxes, net	<u>\$ 354</u>	<u>\$ 2,491</u>	<u>\$ 3,586</u>

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

**DMC GLOBAL INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**  
**DECEMBER 31, 2016**  
**(Amounts in Thousands, Except Share and Per Share Data)**

## **1. ORGANIZATION AND BUSINESS**

DMC Global Inc., formerly Dynamic Materials Corporation, ("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, which previously was included in the Oilfield Products segment with AMK Technical Services ("AMK"), manufactures, markets, and sells oilfield perforating equipment and explosives.

### 2014 sale of AMK Technical Services

On October 1, 2014, DMC completed the sale of its AMK business. The operating results of AMK have been classified as discontinued operations in all periods presented. See Note 8 "Discontinued Operations" for additional disclosures regarding this sale.

### Restructuring

In the fourth quarter of 2014 as well as throughout 2015 and 2016, 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 local 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 statement 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 market value. Cost elements included in inventory are material, labor, 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, 2016, 2015, and 2014, we increased our inventory reserves and recognized expenses in cost of products sold in our consolidated statement of operations as follows:

	2016	2015	2014
Increase in inventory reserve	\$ 544	\$ 565	\$ 1,146
Expense recorded	1,738	1,952	1,287

Inventories, net of reserves of \$4,226 and \$3,682 most of which related to finished goods, consist of the following at December 31, 2016 and 2015 respectively:

	2016	2015
Raw materials	\$ 10,926	\$ 14,513
Work-in-process	5,417	8,112
Finished goods	12,146	12,320
Supplies	344	504
	<u>\$ 28,833</u>	<u>\$ 35,449</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 the 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, 2016 and 2015:

	2016	2015
Land	\$ 3,654	\$ 3,380
Buildings and improvements	41,952	41,429
Manufacturing equipment and tooling	42,851	38,599
Furniture, fixtures and computer equipment	15,997	16,777
Other	4,152	2,937
Construction in process	821	3,401
	<u>\$ 109,427</u>	<u>\$ 106,523</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, 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").

For the year ended December 31, 2014, we recognized an impairment charge of approximately \$3,946 (recorded in restructuring expenses) associated with the restructuring of our NobelClad Europe operations. The impairment charges were primarily associated with the Würgendorf, Germany facility and leasehold improvements at a leased facility in France, both of which have been closed under the restructuring program (See Note 9 "Restructuring"). The impairment of the facility in Germany was determined by a third-party appraiser using a combination of the cost and sales comparison approach, which are fair value techniques in accordance with Financial Accounting Standards Board ("FASB") ASC Section 820 *Fair Value Measurements and Disclosures*.

#### 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 reviews financial results and evaluates operating performance at this level. Goodwill impairment testing is performed annually as of December 31. 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 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 included, 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 included 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.

In connection with our 2015 annual goodwill 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 with the assistance of a third-party valuation specialist using a combination of the market and cost approaches for tangible assets as well as the relief from royalty and multi-period excess earnings methods for intangible assets, which are fair value techniques in accordance with FASB ASC Section 820 *Fair Value Measurements and Disclosures*. 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, with \$17,190 of goodwill, exceeded the carrying value of its net assets.

No impairment of goodwill was identified in connection with our 2014 annual goodwill impairment test as our estimated fair values substantially exceeded the carrying values for both reporting units.

The changes to the carrying amount of goodwill during the period are summarized below:

	NobelClad	DynaEnergetics	Total
Goodwill balance at December 31, 2014	\$ 19,418	\$ 13,344	\$ 32,762
Adjustment due to recognition of tax benefit of tax amortization of certain goodwill	(326)	(563)	(889)
Adjustment due to exchange rate differences	(1,902)	(1,317)	(3,219)
Goodwill impairment	—	(11,464)	(11,464)
Goodwill balance at December 31, 2015	17,190	—	17,190
Adjustment due to recognition of tax benefit of tax amortization of certain goodwill	(507)	—	(507)
Adjustment due to exchange rate differences	(586)	—	(586)
Goodwill balance at December 31, 2016	\$ 16,097	\$ —	\$ 16,097

#### Purchased Intangible Assets

Our purchased intangible assets include core technology, customer relationships and trademarks/trade names. Impairment, if any, is calculated based upon our evaluation whereby, estimated undiscounted future cash flows associated with these assets or operations are compared with their carrying value to determine if a write-down to fair value is required if impairment indicators are present. In association with the annual goodwill impairment testing for 2016, 2015, and 2014, we tested finite-lived intangibles 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.

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, 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
<b>Total intangible assets</b>	<b>\$ 55,742</b>	<b>\$ (39,915)</b>	<b>\$ 15,827</b>

The following table presents details of our purchased intangible assets, other than goodwill, as of December 31, 2015:

	Gross	Accumulated Amortization	Net
Core technology	\$ 18,524	\$ (7,528)	\$ 10,996
Customer relationships	36,830	(27,701)	9,129
Trademarks / Trade names	1,988	(1,695)	293
<b>Total intangible assets</b>	<b>\$ 57,342</b>	<b>\$ (36,924)</b>	<b>\$ 20,418</b>

The change in the gross value of our purchased intangible assets from December 31, 2015 to December 31, 2016 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 DynaEnergetics reporting unit. After the goodwill was written off at December 31, 2015, 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 -		
2017	\$	3,878
2018		2,687
2019		1,533
2020		1,533
2021		1,174
Thereafter		5,022
	<b>\$</b>	<b>15,827</b>

#### 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, 2016 and 2015 customer advances totaled \$2,619 and \$2,396, 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.

### 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, 2016, 2015 and 2014:

	2016	2015	2014
DynaEnergetics research and development costs	\$ 3,990	\$ 2,357	\$ 2,541
NobelClad research and development costs	609	685	558
Total research and development costs	\$ 4,599	\$ 3,042	\$ 3,099

### Earnings Per Share

Unvested awards of share-based payments with rights to receive dividends or dividend equivalents, such as our restricted stock awards ("RSAs"), 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, as shown in the table below. Because we are in a net loss position for the year ended December 31, 2016 and 2015, all potentially dilutive shares 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, 2016, 2015 and 2014 are as follows:

	2016	2015	2014
<b>Numerator:</b>			
Income (loss) from continuing operations, net of non-controlling interest	\$ (6,505)	\$ (23,971)	\$ 1,926
Less income allocated to RSAs	—	—	(52)
Income (loss) from continuing operations allocated to common stock for EPS calculation	(6,505)	(23,971)	1,874
Income from discontinued operations	—	—	641
Net income (loss) allocated to common stock for EPS calculation	<u>\$ (6,505)</u>	<u>\$ (23,971)</u>	<u>\$ 2,515</u>
<b>Denominator:</b>			
Weighted average common shares outstanding - basic	14,126,108	13,935,097	13,687,485
Dilutive stock-based compensation plans	—	—	2,222
Weighted average common shares outstanding - diluted	<u>14,126,108</u>	<u>13,935,097</u>	<u>13,689,707</u>
<b>Income (loss) per share - Basic:</b>			
Continuing operations	\$ (0.46)	\$ (1.72)	\$ 0.13
Discontinued operations	—	—	0.05
Net income (loss) allocated to common stock for EPS calculation	<u>\$ (0.46)</u>	<u>\$ (1.72)</u>	<u>\$ 0.18</u>
<b>Income (loss) per share - Diluted:</b>			
Continuing operations	\$ (0.46)	\$ (1.72)	\$ 0.13
Discontinued operations	—	—	0.05
Net income (loss) allocated to common stock for EPS calculation	<u>\$ (0.46)</u>	<u>\$ (1.72)</u>	<u>\$ 0.18</u>

#### Fair Value of Financial Instruments

The carrying values of cash and cash equivalents, trade accounts receivable and payable, accrued expenses and lines of credit approximate their fair value and are included in Level 1.

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.

### 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, 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.

### 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, 2016, 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, 2016, 2015, and 2014 consisted entirely of currency translation adjustments including those in intra-entity foreign currency transactions that are long-term investments.

### Recently Adopted Accounting Standards

In April 2015, the Financial Accounting Standards Board ("FASB") issued an accounting standards update (ASU) to revise the presentation of debt issuance costs. Under this pronouncement, entities will present debt issuance costs in their balance sheet as a direct deduction from the related debt liability rather than as an asset. Amortization of the deferred debt issuance costs will continue to be included in interest expense. The new accounting guidance represents a change in accounting principle and was required to be adopted retrospectively in fiscal years, and interim periods within those fiscal years, beginning after December 15, 2015. Accordingly, the Company applied the guidance and reclassified the prior period amount of \$674 of debt issuance costs from other assets, net to lines of credit in the balance sheet as of December 31, 2015. Because the application of this guidance affects classification only, such reclassifications did not have a material effect on the Company's consolidated financial position or results of operations.

In March 2016, the FASB issued an ASU related to accounting for share-based payments. The pronouncement intends to simplify the accounting for share-based payment transactions, including income tax consequences, the classification of awards as either equity or liabilities, and the classification on the statement of cash flows. This pronouncement is effective for reporting periods beginning after December 15, 2016; however the Company has elected to early adopt beginning with the year ended December 31, 2016, as is permitted under the standard. The aspects of the ASU that require retrospective or modified retrospective adjustment did not have a material impact on the Company's consolidated financial statements, and the aspects with prospective treatment are not expected to 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 as of its issuance 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. We are currently evaluating the impact of adopting the new leases standard on our consolidated financial statements.

In July 2015, the FASB issued an ASU to simplify the measurement of inventory and changes the measurement from lower of cost or market to lower of cost and net realizable value. This pronouncement is effective for reporting periods beginning after December 15, 2016, and the Company will adopt it beginning in the first quarter of 2017. The adoption of this standard will not have a material impact on the Company's consolidated financial statements.

In May 2014, the FASB issued an ASU to clarify the principles of recognizing revenue and to develop a common revenue standard and disclosure requirements for U.S. GAAP and IFRS. The pronouncement is effective for reporting periods beginning after December 15, 2017, including interim reporting periods within that reporting period. Earlier application is permitted only for annual reporting periods beginning after December 15, 2016, including interim reporting periods within that reporting period. 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").

Management currently plans to adopt the ASU for the quarter ended March 31, 2018, as required by the standard, and preliminarily plans to use the modified retrospective approach.

Currently, using internal resources, management is analyzing contracts from the NobelClad and DynaEnergetics segments to determine the technical accounting conclusions and the impact on business processes and systems. In our NobelClad business, contracts are often for unique projects, but the vast majority of contracts contain standard terms. We have reviewed contracts representing a majority of NobelClad's revenue for the year ended December 31, 2016 and have preliminarily concluded that applying the new standard to those contracts would not have any impact on our financial statements. We have not analyzed atypical contracts, as due to the nature of NobelClad's projects and the unique terms in the contract, we would not likely enter into the same contract in the future. In our DynaEnergetics business, we sell different products to a wide variety of customers, but the contracts also often contain similar terms and conditions. To date, we have not evaluated contracts from the DynaEnergetics segment but will be doing so during the first two quarters of 2017.

The Company is continuing to evaluate the impacts of our pending adoption, and our preliminary assessments are subject to change.

### 3. DEBT

Lines of credit consisted of the following at December 31, 2016 and 2015:

	2016	2015
Syndicated credit agreement:		
U.S. Dollar revolving loan	\$ 16,250	\$ 27,500
Euro revolving loan	—	—
Commerzbank line of credit	—	—
	16,250	27,500
Less current portion	—	—
Long-term lines of credit	16,250	27,500
Less: debt issuance costs	518	674
Lines of credit	\$ 15,732	\$ 26,826

#### Syndicated Credit Agreement

As of December 31, 2016, we had a \$75,000 syndicated credit agreement ("credit facility") that allowed for revolving loans of \$65,000 in U.S. dollars and \$10,000 in alternative currencies as well as a \$100,000 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 new 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. We entered into the credit facility with a syndicate of four banks, with JP Morgan Chase Bank, N.A. acting as administrative agent for the U.S. and Canadian dollar loans and JP Morgan Europe Ltd. acting as administrative agent for the Euro and other alternative currency loans. 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.

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. The amendment increased the maximum debt-to-EBITDA leverage ratio from 3.00x to 3.75x, which remained in effect through the June 30, 2016 reporting period. The maximum leverage ratio then adjusted to 3.25x through the September 30, 2016 reporting period, and returned to 3.00x as of December 31, 2016 and thereafter.

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 returns to 3.00x for the December 31, 2017 reporting period and thereafter. The third amendment also waives 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 adds a minimum EBITDA covenant that requires 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 is inapplicable thereafter. The spread to 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 London Interbank Offered Rate ("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 (varying from 1.75% to 3.25%). 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.

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, 2016, we were in compliance with all financial covenants and other provisions of our debt agreements.

#### 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, 2016, we had no outstanding borrowings under this line of credit. As of December 31, 2016, we had bank guarantees secured by the line of credit of \$1,502. The line of credit bears interest at a EURIBOR-based variable rate which at December 31, 2016 was 3.87%. 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 \$518 and \$674 as of December 31, 2016 and 2015, respectively. In conjunction with entering into the credit facility in February 2015, we wrote off \$32 of previously deferred debt issuance costs, carried over \$162 of costs related to the prior credit agreement, and incurred \$1,042 of additional costs. On December 18, 2015, we amended the credit facility, and we wrote off \$508 of previously deferred debt issuance costs, carried over \$508 of costs related to the prior credit agreement, and incurred \$180 of additional costs. Remaining deferred debt issuance costs are being amortized over the five-year term of the amended and restated credit agreement which expires on February 23, 2020.

Scheduled Debt Maturity

We do not have any debt as of December 31, 2016 with scheduled maturity.



#### 4. STOCK OWNERSHIP AND BENEFIT PLANS

Our stock-based compensation expense results from restricted stock awards, restricted stock units 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:

	2016	2015	2014
Cost of products sold	\$ 235	\$ 243	\$ 309
General and administrative expenses	1,755	2,240	2,995
Selling and distribution expenses	336	343	284
Restructuring expense	74	—	—
Stock-based compensation expense before income taxes and discontinued operations	2,400	3,362	3,588
Income tax benefit	—	(915)	(990)
Stock-based compensation expense before discontinued operations, net of income taxes	2,400	2,447	2,598
Discontinued operations	—	—	112
Income tax benefit	—	—	(38)
Stock-based compensation expense in discontinued operations, net of income taxes	—	—	74
Stock-based compensation expense, net of income taxes	2,400	2,447	2,672
Earnings per share impact - Basic:			
Continuing operations	\$ 0.17	\$ 0.18	\$ 0.19
Discontinued operations	\$ —	\$ —	\$ 0.10
Net income	\$ 0.17	\$ 0.18	\$ 0.29
Earnings per share impact - Diluted:			
Continuing operations	\$ 0.17	\$ 0.18	\$ 0.19
Discontinued operations	\$ —	\$ —	\$ 0.01
Net income	\$ 0.17	\$ 0.18	\$ 0.20

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, 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 and restricted stock units under the 2006 Plan, leaving 3,360,119 shares available for grant under the 2016 Plan.

Historically, restricted stock awards and restricted stock units are granted to employees and non-employee directors based on time-vesting and/or performance conditions. Stock awards or restricted stock units with time-vesting generally vest in one-third increments on the first, second, and third anniversary of the grant date. For currently outstanding stock awards or restricted stock units 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. The fair value of restricted stock and restricted stock unit awards granted to employees and non-employee directors is based on the fair value of DMC's stock on the grant date. Stock awards granted to employees are amortized to compensation expense over the vesting period on a straight-line basis. Stock awards granted to non-employee directors are amortized to compensation expense over one year, which represents the term of their appointment.

A summary of the activity of our nonvested shares of restricted stock awards issued under the 2006 Plan for the years ended December 31, 2016, 2015, and 2014 is as follows:

	Shares	Weighted Average Grant Date Fair Value
Balance at December 31, 2013	187,113	\$ 17.63
Granted	157,680	21.31
Vested	(81,823)	18.55
Forfeited	(250)	22.05
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	\$ 17.04
Granted	228,532	8.07
Vested	(144,008)	15.08
Forfeited	(42,634)	10.82
Balance at December 31, 2016	283,577	\$ 11.74

A summary of the activity of our nonvested restricted stock units issued under the 2006 Plan for the years ended December 31, 2016, 2015, and 2014 is as follows:

	Share Units	Weighted Average Grant Date Fair Value
Balance at December 31, 2013	99,345	\$ 17.59
Granted	33,895	21.25
Vested	(48,674)	18.87
Forfeited	—	—
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	\$ 16.54
Granted	48,855	6.88
Vested	(40,836)	16.24
Forfeited	—	—
Balance at December 31, 2016	95,181	\$ 11.71

As of December 31, 2016, there was \$1,307 and \$489 of total unrecognized stock-based compensation related to unvested restricted stock awards and restricted stock units, respectively. The cost is expected to be recognized over a weighted average period of 1.27 and 1.5 years for the restricted stock awards and restricted stock units, respectively.

### Employee Stock Purchase Plan

We have an Employee Stock Purchase Plan ("ESPP") which is authorized to issue up to 600,000 shares of which 35,984 shares remain available for future purchases. 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, 45,888, 33,346, and 20,148 shares of our stock were purchased during the years ended December 31, 2016, 2015, and 2014, respectively. Our total stock-based compensation expense for 2016, 2015, and 2014 includes \$54, \$86, and \$92 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 \$455, \$526, and \$523 for the years ended December 31, 2016, 2015 and 2014, respectively.

### Defined Benefit Plans

We have defined benefit pension plans at certain foreign subsidiaries for which we have recorded an unfunded pension obligation of \$1,197 and \$1,009 as of December 31, 2016 and 2015, 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 statement of operations. We recognized net adjustments of \$235, \$(16) and \$349 for the years ended December 31, 2016, 2015 and 2014, respectively.

## 5. INCOME TAXES

The domestic and foreign components of income before tax for our operations for the years ended December 31, 2016, 2015 and 2014 are summarized below:

	2016	2015	2014
Domestic	\$ (4,346)	\$ (16,167)	\$ (706)
Foreign	(1,362)	(9,922)	6,545
Total income (loss) before income taxes and discontinued operations	\$ (5,708)	\$ (26,089)	\$ 5,839

The components of the provision (benefit) for income taxes for the years ended December 31, 2016, 2015 and 2014 are as follows:

	2016	2015	2014
Current - Federal	\$ (888)	\$ (3,005)	\$ 378
Current - State	55	55	16
Current - Foreign	1,914	1,557	3,774
Current income tax expense (benefit)	1,081	(1,393)	4,168
Deferred - Federal	—	1,149	(236)
Deferred - State	—	217	(82)
Deferred - Foreign	(284)	(2,091)	63
Deferred income tax benefit	(284)	(725)	(255)
Income tax provision (benefit)	\$ 797	\$ (2,118)	\$ 3,913

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:

	2016	2015	2014
Statutory U.S. federal income tax	\$ (1,998)	\$ (9,131)	\$ 2,042
U.S. state income tax, net of federal benefit	(158)	(340)	(15)
Foreign rate differential	164	692	(1,558)
Domestic production activities deduction	—	—	(21)
Tax audit adjustments	—	—	(338)
Intercompany distributions	—	—	16
Equity compensation	339	224	338
Deemed repatriation of foreign earnings	—	810	—
Current year tax credits	—	—	(156)
Impairment of goodwill	—	498	—
Other	97	(1,513)	(132)
Change in valuation allowances	2,353	6,642	3,737
Provision for income taxes	\$ 797	\$ (2,118)	\$ 3,913

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, 2016 and 2015, 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, 2016 and 2015. 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.

Our deferred tax assets and liabilities at December 31, 2016 and 2015 consist of the following:

	2016	2015
Deferred tax assets:		
Net operating loss carryforward	\$ 9,764	\$ 8,162
Inventory differences	1,222	1,044
Equity compensation	688	704
Investment in subsidiaries	581	903
Restructuring	2,328	2,166
Other, net	791	499
Gross deferred tax assets	15,374	13,478
Less valuation allowances	(11,679)	(9,357)
Total deferred tax assets	3,695	4,121
Deferred tax liabilities:		
Purchased intangible assets and goodwill	(4,013)	(4,821)
Depreciation and amortization	(1,130)	(1,322)
Other, net	—	(97)
Total deferred tax liabilities	(5,143)	(6,240)
Net deferred tax liabilities	\$ (1,448)	\$ (2,119)

As of December 31, 2016, we had loss carryforwards for tax purposes totaling approximately \$66,118, comprised of \$53,702 foreign and \$12,416 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 allowance on those where we have determined the realization is not more likely than not to occur.

As a result of stock-based compensation in December 31, 2015 and 2014, we decreased additional paid-in-capital by \$303, and increased additional paid-in-capital by \$106, respectively, for the tax impact. To the extent these adjustments reduced taxes currently payable, they are not reflected in the current income tax provision for those years. After the adoption of ASU 2016-09 for the year ended December 31, 2016, all excess tax benefits and tax deficiencies, including tax benefits of dividends on share-based payment awards, were recognized as income tax expense or benefit in our statement of operations.

As of December 31, 2016, 2015 and 2014, income considered to be permanently reinvested in non-U.S. subsidiaries totaled approximately \$35,239, \$30,726 and \$37,772, respectively. Deferred income taxes have not been provided on this undistributed income, as we do not plan to initiate any action that would require the payment of U.S. income taxes on these earnings. It is not practical to estimate the amount of additional taxes that might be payable on these amounts of undistributed foreign income.

At December 31, 2016 and 2015, the balance of unrecognized tax benefits was \$0. We recognize interest and penalties related to uncertain tax positions in operating expense. As of December 31, 2016 and 2015, our accrual for interest and penalties related to uncertain tax positions was \$0.

DMC files income tax returns in the U.S. federal jurisdiction, as well as various U.S. state and foreign jurisdictions. In August, 2016 the Internal Revenue Service initiated an examination of our 2012 through 2015 tax years. In the fourth quarter of 2015, German tax authorities announced an examination of the tax returns of our German tax authorities for the 2011 through 2014 tax years that commenced in the spring of 2016. These examinations are still in progress, and our tax provisions reflect our best estimate of state, local, federal, and foreign taxes. However, the outcome of tax audits cannot be predicted with certainty. If any issues addressed in the Company's tax audits are resolved in a manner not consistent with our expectations, the Company could be required to adjust its provision for income taxes in the period such resolution occurs.

Most of DMC's state tax returns remain open to examination for the tax years 2012-2016. DMC's foreign tax returns generally remain open to examination for the tax years 2012-2016, depending on jurisdiction.

## **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.

Prior to 2014, we were organized into three segments. At the beginning of 2014 management approved a change in operating structure whereby AMK operated within and was managed as part of the Oilfield Products business segment. Consequently, we combined AMK and DynaEnergetics into one reportable business segment, Oilfield Products.

Due to the completed sale of AMK, as of December 31, 2014 the operating results of AMK have been classified as discontinued operations. The Oilfield Products business segment is comprised of DynaEnergetics only and was renamed to reflect that fact. Refer to Note 8 "Discontinued Operations" for further details.

The accounting policies of all the 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, 2016, 2015, and 2014 as follows:

	Year Ended December 31,		
	2016	2015	2014
Net sales:			
NobelClad	\$ 91,285	\$ 89,980	\$ 97,108
DynaEnergetics	67,290	76,938	105,453
Consolidated net sales	\$ 158,575	\$ 166,918	\$ 202,561

	Year Ended December 31,		
	2016	2015	2014
Operating income (loss):			
NobelClad	\$ 8,878	\$ 5,819	\$ 2,155
DynaEnergetics	(5,380)	(19,245)	14,479
Segment operating income (loss)	3,498	(13,426)	16,634
Unallocated corporate expenses	(6,372)	(6,891)	(6,381)
Stock-based compensation	(2,400)	(3,362)	(3,588)
Other income (expense), net	633	(669)	(313)
Interest expense	(1,070)	(1,745)	(551)
Interest income	3	4	38
Consolidated income (loss) before income taxes and discontinued operations	\$ (5,708)	\$ (26,089)	\$ 5,839

	Year Ended December 31,		
	2016	2015	2014
Depreciation and Amortization:			
NobelClad	\$ 3,999	\$ 4,158	\$ 6,482
DynaEnergetics	6,768	6,119	6,672
Segment depreciation and amortization	\$ 10,767	\$ 10,277	\$ 13,154

	Year Ended December 31,		
	2016	2015	2014
Capital Expenditures:			
NobelClad	\$ 1,217	\$ 1,376	\$ 13,696
DynaEnergetics	4,448	3,668	7,366
Segment capital expenditures	5,665	5,044	21,062
Corporate and other	54	389	341
Consolidated capital expenditures	\$ 5,719	\$ 5,433	\$ 21,403

	As of December 31,	
	2016	2015
Assets:		
NobelClad	\$ 74,038	\$ 85,649
DynaEnergetics	75,728	79,884
Segment assets	149,766	165,533
Cash and cash equivalents	6,419	6,291
Prepaid expenses and other assets	5,287	9,048
Corporate property, plant and equipment	1,083	1,320
Consolidated assets	\$ 162,555	\$ 182,192

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

	As of December 31,	
	2016	2015
United States	\$ 23,286	\$ 26,410
Germany	21,956	20,631
Russia	9,338	8,030
France	2,168	2,490
Kazakhstan	179	216
Canada	191	185
Rest of the world	15	37
Total	\$ 57,133	\$ 57,999

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

	Year Ended December 31,		
	2016	2015	2014
United States	\$ 78,999	\$ 81,634	\$ 91,009
Canada	16,021	13,000	23,532
United Arab Emirates	7,449	7,891	3,694
France	3,744	6,624	5,478
South Korea	1,690	5,709	7,362
Germany	5,979	5,182	7,721
Russia	3,731	4,937	7,992
India	5,066	4,566	7,617
Egypt	1,942	4,080	2,227
Spain	1,500	3,858	892
Iraq	13	3,758	11,348
China	7,012	2,426	1,800
Italy	2,577	2,327	2,350
Hong Kong	699	2,207	1,967
Sweden	2,124	1,699	1,227
Rest of the world	20,029	17,020	26,345
Total	\$ 158,575	\$ 166,918	\$ 202,561

During the years ended December 31, 2016, 2015 and 2014, no one customer accounted for more than 10% of total net sales.

## 7. 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 statement 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, CIT ruled on the appeal, remanding the scope ruling and ordering the Commerce Department to reconsider its position (the "Remand Order"). Under the Remand Order, the Commerce Department must issue its final remand determination on or before June 7, 2017, and such remand determination would be subject to the ongoing appeal with CIT.

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 Remand Order 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 believe that this penalty assessment is premature and patently unreasonable in the face of the pending Remand Order and 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 will vigorously defend against any imposition of penalties and seek a stay of penalty proceedings pending resolution of the remand determination and the ultimate resolution of the CIT appeal and any further appeals. We expect to submit a petition for relief and mitigation of penalties on or before April 17, 2017. 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.

For the year ended December 31, 2016, the Company recorded \$176 of interest on its reserve for AD/CVD duties, bringing the total reserved amount related to AD/CVD duties as of December 31, 2016 to \$6,550. 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, 2016 as we do not believe they are probable at this time.

#### *Patent and Trademark Infringement*

On September 22, 2015, GeoDynamics, Inc., a U.S.-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 U.S. Patent No. 9,080,431 granted on July 14, 2015 ("the '431 patent") and a related U.S. trademark for REACTIVE, alleging that DynaEnergetics' US sales of DPEX® shaped charges infringe the '431 patent and the trademark. DynaEnergetics denies validity and infringement of the '431 patent and trademark and has vigorously defended against this lawsuit. Summary judgment motions were filed by DynaEnergetics in December 2016, and no decisions have been issued on such motions. On July 1, 2016, GeoDynamics filed a second patent infringement action against DynaEnergetics in District Court alleging infringement of U.S. 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 plans to vigorously defend against this lawsuit. On September 20, 2016, DynaEnergetics instituted an Inter Parties Review (IPR) against the '563 patent at the U.S. Patent and Trademark Office ("USPTO"), requesting that the '563 patent be declared invalid by the USPTO. Trial for the '431 case is scheduled to begin March 27, 2017.

We do not believe that the '431 or '563 patents or infringement claims based on the patents are valid, and we do not believe it is probable that we will incur a material loss in this matter. However, if the District Court or a jury determines that the patents are valid and that DynaEnergetics 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 of the implicated systems; 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 -	
2017	\$ 1,660
2018	1,164
2019	702
2020	550
2021	401
Thereafter	430
Total minimum payments	<u>\$ 4,907</u>

Total rental expense included in continuing operations was \$2,510, \$3,403, and \$4,103 for the years ended December 31, 2016, 2015, and 2014, 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 -	
2017	\$ 398
2018	398
2019	398
2020	—
2021	—
Thereafter	—
Total minimum payments	<u>\$ 1,194</u>

**8. DISCONTINUED OPERATIONS**

On October 1, 2014 DMC completed the sale of its AMK business. The net proceeds were \$6,830, after final purchase price adjustments, and the purchase was financed through \$4,330 in cash consideration and the issuance of a \$ 2,500 90-day secured promissory note to the Company which was paid in full by December 31, 2014. The excess of the selling price over the carrying value of \$1,476 was recorded in our Statement of Operations in the fourth quarter of 2014. The operating results of AMK have been classified as discontinued operations in all periods presented.

Operating results of the discontinued operations (formerly included in the DynaEnergetics segment) for the years ended December 31, 2016, 2015 and 2014 are summarized as follows:

	2016	2015	2014
Net sales	\$ —	\$ —	\$ 4,540
Income (loss) from operations	\$ —	\$ —	\$ (76)
Tax provision	—	—	1
Income (loss) from operations, net of tax	\$ —	\$ —	\$ (77)
Gain on sale of discontinued operations	\$ —	\$ —	\$ 1,476
Tax provision	—	—	758
Gain on sale of discontinued operations, net of tax	\$ —	\$ —	\$ 718

## 9. RESTRUCTURING

### NobelClad Restructuring

Beginning in 2014 and continuing into 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 Liebenscheid, Germany. The facility has significantly enhanced NobelClad's manufacturing capabilities and its ability to serve customers throughout Europe, the Middle East and Africa.

### DynaEnergetics Restructuring

In the first quarter of 2015, we launched several initiatives to enhance DynaEnergetics' operational efficiencies and align its production and distribution resources with the anticipated demands of the market. In January 2015, we closed two North American distribution centers. In February 2015, we announced the closure of a perforating gun manufacturing facility and distribution center in Edmonton, Alberta. North America perforating gun manufacturing was consolidated into DynaEnergetics' existing facility in Whitney, Texas. We also exited multiple other distribution centers in Texas and Colombia. Two centralized distribution centers replaced the distribution centers that were closed. In the fourth quarter of 2015, we closed another U.S. distribution center and undertook additional measures to reduce administrative costs including a reduction in force affecting 12 employees at DynaEnergetics' corporate offices in Troisdorf, Germany and the termination of certain consulting contracts. Additionally, during the fourth quarter of 2015 we recorded to the statement of operations foreign exchange gains that had previously been recorded to the balance sheet due to the substantial liquidation of our Colombian entity after closing the distribution centers.

In the second quarter of 2016, DynaEnergetics reduced headcount in Troisdorf, Germany and Austin, Texas. During the third quarter of 2016, we incurred additional expenses to consolidate 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 Liebenscheid, Germany.

### Corporate Restructuring

In the first quarter of 2015, we eliminated certain positions in our corporate office. We incurred restructuring charges in the first quarter of 2015 associated with severance and expense related to the accelerated vesting of stock awards. In the fourth quarter of 2015, we eliminated an additional position in our corporate office and incurred restructuring charges associated with severance and expense related to the accelerated vesting of stock awards.

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

Restructuring charges associated with these programs are substantially complete. Total restructuring charges incurred to date for these programs are as follows and are reported in the Restructuring charges line item in our consolidated statement of operations for the years ended December 31, 2016 and 2015:

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, 2015	Expense	Payments	Currency Adjustments	December 31, 2016
Severance	\$ 452	\$ 684	\$ (1,046)	\$ (28)	\$ 62
Contract termination costs	282	399	(575)	6	112
Equipment moving costs	—	15	(15)	—	—
Other exit costs	—	44	(42)	(2)	—
Total	\$ 734	\$ 1,142	\$ (1,678)	\$ (24)	\$ 174

#### 10. SELECTED QUARTERLY FINANCIAL DATA (UNAUDITED)

Selected unaudited quarterly financial data for the years ended December 31, 2016 and 2015 are presented below:

	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)
Loss per share				
Basic	\$ (0.03)	\$ (0.05)	\$ (0.22)	\$ (0.16)
Diluted	\$ (0.03)	\$ (0.05)	\$ (0.22)	\$ (0.16)

	2015			
	Quarter ended March 31,	Quarter ended June 30,	Quarter ended September 30,	Quarter ended December 31,
Net sales	\$ 40,819	\$ 44,741	\$ 39,508	\$ 41,850
Gross profit	\$ 10,703	\$ 12,585	\$ 10,289	\$ 2,047
Net loss	\$ (2,377)	\$ (1,319)	\$ (4,233)	\$ (16,042)
Net loss per share				
Basic	\$ (0.17)	\$ (0.10)	\$ (0.30)	\$ (1.15)
Diluted	\$ (0.17)	\$ (0.10)	\$ (0.30)	\$ (1.15)

## 11. SUBSEQUENT EVENTS

### Anti-dumping and Countervailing Duties

On February 6, 2017, the Company responded to a notice from U.S. Customs related to contemplated penalties on the AD/CVD matter, and, on February 16, 2017, we received notice that U.S. Customs was assessing formal penalties and reasserting its demand for tender of alleged loss of AD/CVD duties. 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. Additionally, on February 7, 2017, the Company received a ruling from the U.S. CIT related to the Commerce Department scope ruling on AD/CVD duties. Please refer to Note 7 "Commitments and Contingencies" for a discussion of the matter with U.S. Customs and the Commerce Department.

### Amended Credit Facility

On March 6, 2017, we entered into a third amendment of our credit facility which, among other changes, reduced the amount of borrowings available under the credit facility, increased the maximum debt-to-EBITDA leverage ratio for the first, second, and third quarters of 2017, and also waived the applicability of the minimum debt service coverage ratio for the first, second, and third quarters of 2017, and adds a minimum EBITDA covenant for those same periods and is inapplicable thereafter. Please refer to Note 3 "Debt" for a discussion of the credit facility amendment.

**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, 2016.

**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, 2016. 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, 2016 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.

### Remediation of the Material Weakness in Internal Control over Financial Reporting

As disclosed in our Annual Report on Form 10-K for the years ended December 31, 2015 and 2014, a material weakness in our controls over deferred income tax accounting was identified during the course of the 2014 external audit of the accounts and related controls. As a result of the significance of the accounting errors resulting from the deficient controls, we restated 2012 and 2013 financial statements included in our Form 10-K for the year ended December 31, 2014. In 2015, we took steps to remediate the material weakness, including hiring a new Global Tax Director, engaging third-party tax advisors to assist with designing and implementing processes and procedures to compile, reconcile and review income tax accounts and providing income tax training and development to tax personnel. Although we implemented new processes and procedures in 2015, we concluded that the material weakness was not remediated as of December 31, 2015 as the existing controls were not in place for an adequate period of time to ensure proper operation and additional controls related to deferred income taxes and related income tax expense accounts were required to be implemented. In 2016, we designed, implemented and tested the additional internal controls required to remediate the material weakness.

We determined that the remediation actions described above were effectively designed and demonstrated effective operation for a sufficient period of time to enable us to conclude that the material weakness has been remediated as of December 31, 2016.

Based upon this evaluation, our Chief Executive Officer and Chief Financial Officer concluded that, as of December 31, 2016, our internal controls over financial reporting were effective.

DMC's internal control over financial reporting as of December 31, 2016, 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

Except for the remediation of the material weakness described above, 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 2016, 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 9, 2017

/s/ Michael Kuta

Michael Kuta

Chief Financial Officer

March 9, 2017

**The Stockholders and the  
Board of Directors of DMC Global Inc.**

We have audited DMC Global Inc.'s (formerly Dynamic Materials Corporation) internal control over financial reporting as of December 31, 2016, 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). DMC Global Inc.'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 conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). 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.

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.

In our opinion, DMC Global Inc. maintained, in all material respects, effective internal control over financial reporting as of December 31, 2016, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated balance sheets of DMC Global Inc. as of December 31, 2016 and 2015, 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, 2016 of DMC Global Inc. and our report dated March 9, 2017 expressed an unqualified opinion thereon.

/s/ Ernst & Young LLP

Denver, Colorado  
March 9, 2017



**ITEM 9B. Other Information**

On March 6, 2017, we entered into a third amendment of our syndicated credit agreement which, among other changes, reduced the amount of borrowings available under the credit facility, increased the maximum debt-to-EBITDA leverage ratio for the first, second, and third quarters of 2017, and also waived the applicability of the minimum debt service coverage ratio for the first, second, and third quarters of 2017, and adds a minimum EBITDA covenant for those same periods and is inapplicable thereafter. Please refer to Note 3 "Debt" to our Consolidated Financial Statements within Item 8 — Financial Statements and Supplementary Data for further discussion.

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

Item 10 incorporates information by reference to our Proxy Statement for the 2017 Annual Meeting of Shareholders, which is expected to be filed with the SEC within 120 days of the close of fiscal year 2016.

**ITEM 11. Executive Compensation**

Item 11 incorporates information by reference to our Proxy Statement for the 2017 Annual Meeting of Shareholders, which is expected to be filed with the SEC within 120 days of the close of fiscal year 2016.

**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 2017 Annual Meeting of Shareholders, which is expected to be filed with the SEC within 120 days of the close of fiscal year 2016.

For information regarding securities authorized for issuance under our equity compensation plans see the Proxy Statement for our 2017 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 2017 Annual Meeting of Shareholders, which is expected to be filed with the SEC within 120 days of the close of fiscal year 2016.

**ITEM 14. Principal Accounting Fees and Services**

Item 14 incorporates information by reference to our Proxy Statement for the 2017 Annual Meeting of Shareholders, which is expected to be filed with the SEC within 120 days of the close of fiscal year 2016.

**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	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)

10.2	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).
10.3	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.
10.4	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.
10.5	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). *
10.6	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). *
10.7	Employment Agreement dated July 26, 2013, from the Company to Ian Grieves. *
10.8	Employment Offer Letter dated July 17, 2016, from the Company to Michelle H. Shepston. *
10.9	Employment Offer Letter dated October 7, 2016, from the Company to John E. Scheatzle Jr. *
10.10	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).*
10.11	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). *
10.12	Nonqualified Deferred Compensation Plan (incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed with the Commission on November 24, 2014).*
10.13	Form of Executive Officer Restricted Stock Award Agreement (incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed with the Commission on June 12, 2007). *
10.14	Form of Non-Executive Director Restricted Stock Award Agreement (incorporated by reference to Exhibit 10.2 to the Company's Form 8-K filed with the Commission on June 12, 2007). *
10.15	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).
10.16	Form of Executive Officer Restricted Stock Award Agreement. *
10.17	Form of Executive Officer Restricted Stock Unit Agreement. *
10.18	Form of Executive Officer Performance Based Unit Agreement. *
10.19	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). *
10.20	Lease of Dunbar, Pennsylvania clad metal shooting site (incorporated by reference to Exhibit 10.11 to the Company's Form 10-K filed with the Commission on March 11, 2016).
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 9, 2017

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.

<u>SIGNATURE</u>	<u>TITLE</u>	<u>DATE</u>
<u>/s/ Kevin Longe</u> Kevin Longe	President and Chief Executive Officer (Principal Executive Officer)	March 9, 2017
<u>/s/ Michael Kuta</u> Michael Kuta	Chief Financial Officer (Principal Financial and Accounting Officer)	March 9, 2017
<u>/s/ Gerard Munera</u> Gerard Munera	Chairman and Director	March 9, 2017
<u>/s/ David Aldous</u> David Aldous	Director	March 9, 2017
<u>/s/ Yvon Pierre Cariou</u> Yvon Pierre Cariou	Director	March 9, 2017
<u>/s/ Robert A. Cohen</u> Robert A. Cohen	Director	March 9, 2017
<u>/s/ James J. Ferris</u> James J. Ferris	Director	March 9, 2017
<u>/s/ Richard P. Graff</u> Richard P. Graff	Director	March 9, 2017
<u>/s/ Peter Rose</u> Peter Rose	Director	March 9, 2017

**DYNAMIC MATERIALS CORPORATION AND SUBSIDIARIES**  
**INDEX TO SCHEDULE II**

**AS OF DECEMBER 31, 2016**

	<b>PAGE</b>
<a href="#">Schedule II (a)</a>	<a href="#">94</a>
<a href="#">Schedule II (b)</a>	<a href="#">94</a>
<a href="#">Schedule II (c)</a>	<a href="#">94</a>

DYNAMIC MATERIALS CORPORATION 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	Other Adjustments	Balance at end of period
Year ended -					
December 31, 2014	\$ 419	\$ 140	\$ —	\$ (17)	\$ 542
December 31, 2015	\$ 542	\$ 1,072	\$ (191)	\$ (449)	\$ 974
December 31, 2016	\$ 974	\$ 873	\$ (351)	\$ (350)	\$ 1,146

DYNAMIC MATERIALS CORPORATION AND SUBSIDIARIES  
SCHEDULE II(b) - VALUATION AND QUALIFYING ACCOUNTS AND RESERVES  
WARRANTY RESERVE

	Balance at beginning of period	Additions charged to income	Repairs allowed	Other Adjustments	Balance at end of period
Year ended -					
December 31, 2014	\$ 188	\$ 162	\$ (216)	\$ (4)	\$ 130
December 31, 2015	\$ 130	\$ 339	\$ (308)	\$ (31)	\$ 130
December 31, 2016	\$ 130	\$ 535	\$ (140)	\$ —	\$ 525

DYNAMIC MATERIALS CORPORATION 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	Other Adjustments	Balance at end of period
Year ended -					
December 31, 2014	\$ 1,729	\$ 1,287	\$ (77)	178	\$ 3,117
December 31, 2015	\$ 3,117	\$ 1,952	\$ (1,160)	(227)	\$ 3,682
December 31, 2016	\$ 3,682	\$ 1,738	\$ (1,198)	4	\$ 4,226

**SECOND AMENDMENT TO THE  
SECOND AMENDED AND RESTATED CREDIT AGREEMENT**

THIS SECOND AMENDMENT TO THE SECOND AMENDED AND RESTATED CREDIT AGREEMENT (this "Amendment"), effective as of the 30th day of December, 2016 (the "Amendment Effective Date"), is entered into by and among DMC GLOBAL INC. (formerly known as Dynamic Materials Corporation), a Delaware corporation (the "Parent"), the US Borrowers party hereto, the Alternative Currency Borrowers party hereto (the Parent, the US Borrowers and Alternative Currency Borrowers are, collectively, the "Borrowers"), the Guarantors party hereto (the "Guarantors"), the Lenders party hereto (the "Lenders"), and JPMORGAN CHASE BANK, N.A., as Administrative Agent.

**RECITALS**

WHEREAS, the Borrowers, the Guarantors, the Lenders, the Administrative Agent, the London Agent and the Canadian Agent entered into that certain Second Amended and Restated Credit Agreement dated as of February 23, 2015 (as amended by that certain First Amendment to the Second Amended and Restated Credit Agreement dated as of December 18, 2015 and as may be further amended from time to time, the "Credit Agreement");

WHEREAS, the Parent has requested that the Administrative Agent and the Lenders amend certain provisions of the Credit Agreement;

WHEREAS, the Administrative Agent and the Lenders are willing to so amend the Credit Agreement subject to the terms and conditions set forth herein, provided that the Borrowers and the Guarantors ratify and confirm all of their respective obligations under the Credit Agreement and the Loan Documents.

NOW, THEREFORE, in consideration of the foregoing and the mutual covenants set forth in this Amendment, the Borrowers, the Guarantors, the Lenders and the Administrative Agent agree as follows:

1. Defined Terms. Unless otherwise defined herein, capitalized terms used herein have the meanings assigned to them in the Credit Agreement.

2. Amendment to Section 1.01. The following definition in Section 1.01 of the Credit Agreement is hereby amended and restated in its entirety to read as follows:

"Debt Service Coverage Ratio" means, for any trailing four quarter period, the ratio of (a) Consolidated Pro Forma EBITDA of the Parent for such period, minus the sum of (i) Cash Dividends, (ii) the capital expenditures for such period for the Parent and its Subsidiaries determined on a consolidated basis in accordance with GAAP and (iii) cash income Taxes paid, net of cash income Taxes refunded, for such period by the Parent and its Subsidiaries (excluding \$2,000,000.00 of German income taxes paid in cash in the first fiscal quarter of 2016) to (b) the sum of (i) cash Interest Expense of the Parent for such period and (ii) scheduled principal payments of Consolidated Funded Indebtedness actually made during such period.

3. Amendment to Section 5.05. Section 5.05 of the Credit Agreement is hereby amended to add the following sentence at the end thereof:

"In addition to the foregoing, with respect to any Mortgaged Property on which a "building" or "mobile home" (in each case, as such terms are defined for purposes of the National Flood Insurance Program) is located, (i) to the extent any portion of such Mortgaged Property is designated to be in a "flood hazard area", the applicable Obligor shall maintain flood insurance for such portion of such Mortgaged Property in such total amount as required by Regulation H of the Board, and all official rulings and interpretations thereunder or thereof, and otherwise in compliance with the National Flood Insurance Program as set forth in the Flood Disaster Protection Act of 1973, or as otherwise satisfactory to the Administrative Agent and the Lenders, (ii) furnish to the Administrative Agent prompt written notice of any redesignation of such Mortgaged Property into or out of a "flood hazard area", and (iii) to the extent any portion of such Mortgaged Property is



designated to be in a "flood hazard area", the applicable Obligor shall furnish to the Administrative Agent evidence of renewal (and payment of renewal premiums therefor) of all such flood insurance policies prior to the expiration or lapse thereof."

4. Amendment to Section 5.13. Section 5.13 of the Credit Agreement is hereby amended to restate the heading to read

"Further Assurances; New Real Property; New Intellectual Property" and add the following new sentence after the first sentence thereof: "Without limitation of the foregoing, in the event the Parent, any other US Borrower or any US Guarantor acquires any new real property that is to be pledged as security for the Obligations, the Parent will give written notice thereof to the Administrative Agent and the Lenders at least 45 days in advance of the effective date of such pledge and, upon receipt of confirmation from the Lenders that flood insurance due diligence and flood insurance compliance has been completed, the Parent or applicable US Borrower or US Guarantor, as the case may be, may pledge such new real property as security for the Obligations pursuant to a mortgage substantially in the form of the Mortgages and otherwise reasonably satisfactory to the Administrative Agent."

5. Addition of Section 5.15. Article V of the Credit Agreement is hereby amended to add the following new Section 5.15 to the end of said Article:

"Section 5.15. Acknowledgment of Obligors. The Parent and each of the other Obligors acknowledge and agree that any increase, extension or renewal of any of the Commitments or Loans (including the provision of any Incremental Commitment Increase or Incremental Term Loan, in each case, pursuant to Section 2.19 of the Credit Agreement), or any extension or renewal of the Termination Date shall be subject in each case to flood insurance due diligence and flood insurance compliance satisfactory to the Administrative Agent and the Lenders."

6. Ratification. Each of the Borrowers and Guarantors hereby ratifies all of its Obligations under the Credit Agreement and each of the Loan Documents to which it is a party, and agrees and acknowledges that the Credit Agreement and each of the Loan Documents to which it is a party are and shall continue to be in full force and effect as amended and modified by this Amendment. Nothing in this Amendment extinguishes, novates or releases any right, claim, lien, security interest or entitlement of any of the Lenders, the Administrative Agent, the London Agent or the Canadian Agent created by or contained in any of such documents nor are the Borrowers nor Guarantors released from any covenant, warranty or obligation created by or contained herein or therein.

7. Representations and Warranties. Each of the Borrowers and Guarantors hereby represents and warrants to the Administrative Agent, the London Agent, the Canadian Agent and the Lenders that (a) this Amendment has been duly executed and delivered on behalf of each of the Borrowers and Guarantors, (b) this Amendment constitutes a valid and legally binding agreement enforceable against each of the Borrowers and Guarantors in accordance with its terms, subject to applicable bankruptcy, insolvency, fraudulent transfer, reorganization, moratorium or other laws affecting creditors' rights generally and subject to general principles of equity, regardless of whether considered in a proceeding in equity or at law, (c) the representations and warranties contained in the Credit Agreement and the Loan Documents are true and correct on and as of the date hereof in all material respects as though made as of the date hereof (provided, that to the extent any such representation and warranty was made as of a specific date, such representation and warranty shall be true and correct in all material respects as of such specific date), (d) after giving effect to this Amendment, no Default or Event of Default exists and (e) the execution, delivery and performance of this Amendment has been duly authorized by each of the Borrowers and Guarantors.

8. Conditions to Effectiveness. This Amendment shall be effective on the Amendment Effective Date upon the execution and delivery hereof by the Borrowers, the Guarantors and the Required Lenders to the Administrative Agent and receipt by the Administrative Agent of this Amendment.

9. Release and Indemnity. Each of the Borrowers and Guarantors does hereby release and forever discharge the Administrative Agent, London Agent, the Canadian Agent, each of the Lenders, each of the Issuing Lenders and each Related Party of any of the foregoing from any and all claims, demands, damages, actions, cross-actions, causes of action, costs and expenses (including legal expenses), of any kind or nature whatsoever, whether based on law or equity, which any of said parties has held or may now or in the future own or hold, whether known or unknown, for or because of any matter or thing done, omitted or suffered to be done on or before the actual date upon which this Amendment is signed by any of such parties arising directly or indirectly out of the Loan Documents, any other documents, instruments or transactions relating thereto or

---

the performance by any party thereto of their respective obligations thereunder. Such release, waiver, acquittal and discharge shall and does include, without limitation, any claims of usury, fraud, duress, misrepresentation, lender liability, control, exercise of remedies and all similar items and claims, which may, or could be, asserted by any Borrower or Guarantor, but such release, waiver, acquittal and discharge shall not and does not include any claims, demands, damages, actions, cross-actions, causes of action, costs and expenses arising out of or relating to (a) the gross negligence or willful misconduct of any Indemnitee, (b) in the case of Section 2.14 of the Credit Agreement, the matters set forth in Section 2.14(e) of the Credit Agreement, (c) the obligations of each Lender under Section 2.16(e) of the Credit Agreement, or (d) any assignment or transfer by any Lender of its rights or obligations under the Credit Agreement and the other Loan Documents, except for any such assignment or transfer made in accordance with Section 10.04 of the Credit Agreement and the applicable provisions of the other Loan Documents, respectively. Each of the Borrowers and Guarantors hereby ratifies its obligations under the indemnification provisions contained in the Loan Documents to which it is a party, including, without limitation, Section 10.03 of the Credit Agreement, and agrees that this Amendment and losses, claims, damages and expenses related thereto shall be covered by such indemnification obligations to the same extent as the Loan Documents.

10. Counterparts. This Amendment may be signed in any number of counterparts, which may be delivered in original, facsimile or other electronic form (i.e., "PDF") each of which shall be construed as an original, but all of which together shall constitute one and the same instrument.

11. Governing Law. This Amendment, all Notes, the other Loan Documents and all other documents executed in connection herewith shall be deemed to be contracts and agreements under the laws of the State of New York and of the United States of America and for all purposes shall be construed in accordance with, and governed by, the laws of New York and of the United States.

12. Final Agreement of the Parties. Any previous agreement among the parties with respect to the subject matter hereof is superseded by the Credit Agreement, as amended by this Amendment. Nothing in this Amendment, express or implied is intended to confer upon any party other than the parties hereto any rights, remedies, obligations or liabilities under or by reason of this Amendment.

*[Signature Pages Follow]*

---

PARTY	SIGNATURE	ENTITY AND TITLE	DATE
Parent, US Borrower, Alternative Currency Borrower and US Guarantor	/s/ Michael Kuta	DMC Global Inc.	Chief Financial Officer
	Michael Kuta		
Administrative Agent, US Issuing Lender, US Swingline Lender and US Lender	/s/ Keith Budoff	J.P. Morgan Chase Bank, N.A.	Underwriting Sr. Associate
	Keith Budoff		
London Agent; London Issuing Lender, Euro Swingline Lender and Alternative Currency Lender to Dynamic Materials Luxembourg 2 S.A R.L.	/s/ Belinda Lucas	J.P. Morgan Europe Limited	Associate
	Belinda Lucas		
Canadian Agent, Canadian Issuing Lender and Alternative Currency Lender	/s/ Jeffery Coleman	JPMorgan Chase Bank, N.A., Toronto Branch	Executive Director
	Jeffery Coleman		
Syndication Agent, US Lender and Alternative Currency Lender	/s/ Michael Fesi	KeyBank National Association	Assistant Vice President
	Michael Fesi		
Documentation Agent, US Lender and Alternative Currency Lender	/s/ Thomas J. Zak	Wells Fargo Bank, National Association	Senior Vice President
	Thomas J. Zak.		
US Lender and Alternative Currency Lender	/s/ illegible	Bank of America, N.A.	Senior Vice President
	illegible		
Alternative Currency Lender	/s/ Medina Sales de Andrade	Bank of America, National Association (Canada Branch)	Vice President
	Medina Sales de Andrade		

**THIRD AMENDMENT TO THE  
SECOND AMENDED AND RESTATED CREDIT AGREEMENT**

THIS THIRD AMENDMENT TO THE SECOND AMENDED AND RESTATED CREDIT AGREEMENT (this "Amendment"), effective as of the 6th day of March, 2017 (the "Amendment Effective Date"), is entered into by and among DMC GLOBAL INC. (formerly known as Dynamic Materials Corporation), a Delaware corporation (the "Parent"), the US Borrowers party hereto, the Alternative Currency Borrowers party hereto (the Parent, the US Borrowers and Alternative Currency Borrowers are, collectively, the "Borrowers"), the Guarantors party hereto (the "Guarantors"), the Lenders party hereto (the "Lenders"), and JPMORGAN CHASE BANK, N.A., as Administrative Agent.

**RECITALS**

WHEREAS, the Borrowers, the Guarantors, the Lenders, the Administrative Agent, the London Agent and the Canadian Agent entered into that certain Second Amended and Restated Credit Agreement dated as of February 23, 2015 (as amended by that certain First Amendment to the Second Amended and Restated Credit Agreement dated as of December 18, 2015 and by that certain Second Amendment to the Second Amended and Restated Credit Agreement dated as of December 30, 2016, and as may be further amended from time to time, the "Credit Agreement");

WHEREAS, the Parent has requested that the Administrative Agent and the Lenders amend certain provisions of the Credit Agreement;

WHEREAS, the Administrative Agent and the Lenders are willing to so amend the Credit Agreement subject to the terms and conditions set forth herein, provided that the Borrowers and the Guarantors ratify and confirm all of their respective obligations under the Credit Agreement and the Loan Documents.

NOW, THEREFORE, in consideration of the foregoing and the mutual covenants set forth in this Amendment, the Borrowers, the Guarantors, the Lenders and the Administrative Agent agree as follows:

1. Defined Terms. Unless otherwise defined herein, capitalized terms used herein have the meanings assigned to them in the Credit Agreement.

2. Amendments to Section 1.01 of the Credit Agreement.

(a) Section 1.01 of the Credit Agreement is hereby amended to restate the last sentence of the definition of "Alternative Currency Commitment" in its entirety as follows:

"The aggregate amount of the Alternative Currency Commitments as of the Third Amendment Effective Date is \$5,000,000."

---

- (b) Section 1.01 of the Credit Agreement is hereby amended to restate the table set forth in the definition of “Applicable Margin” in its entirety as follows:

<u>Level</u>	<u>Leverage Ratio</u>	<u>Applicable Margin for Eurocurrency, EURIBOR and CDOR Loans</u>	<u>Applicable Margin for ABR and Canadian Prime Loans</u>
I	$1.00 > X$	1.75%	0.75%
II	$1.50 > X \geq 1.00$	2.00%	1.00%
III	$2.00 > X \geq 1.50$	2.25%	1.25%
IV	$2.50 > X \geq 2.00$	2.50%	1.50%
V	$3.00 > X \geq 2.50$	2.75%	1.75%
VI	$X \geq 3.00$	3.25%	2.25%

- (c) Section 1.01 of the Credit Agreement is hereby amended to restate the last sentence of the definition of “Applicable Margin” in its entirety as follows:

“If the Parent fails to deliver the financial statements and corresponding Compliance Certificate to the Administrative Agent at the time required pursuant to Section 5.01, then effective as of the date such financial statements and corresponding Compliance Certificate were required to be delivered pursuant to Section 5.01, the Applicable Margin shall be determined at Level VI and shall remain at such level until the date such financial statements and corresponding Compliance Certificate are so delivered by the Parent.”

- (d) Section 1.01 of the Credit Agreement is hereby amended to add the following new definitions of “Bail-In Action” and “Bail-In Legislation” in proper alphabetical order:

“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 which is described in the EU Bail-In Legislation Schedule.

- (e) Section 1.01 of the Credit Agreement is hereby amended to restate the table set forth in the definition of “Commitment Fee Rate” in its entirety as follows:

<u>Level</u>	<u>Leverage Ratio</u>	<u>Commitment Fee Rate</u>
I	$1.00 > X$	0.25%
II	$1.50 > X \geq 1.00$	0.30%
III	$2.00 > X \geq 1.50$	0.35%
IV	$2.50 > X \geq 2.00$	0.40%
V	$3.00 > X \geq 2.50$	0.45%
VI	$X \geq 3.00$	0.50%

- (f) Section 1.01 of the Credit Agreement is hereby amended to restate the last sentence of the definition of “Commitment Fee Rate” in its entirety as follows:

“If the Parent fails to deliver the financial statements and corresponding Compliance Certificate to the Administrative Agent at the time required pursuant to Section 5.01, then effective as of the date such financial statements and corresponding Compliance Certificate were required to be delivered pursuant to Section 5.01, the Commitment Fee Rate shall be determined at Level VI and shall remain at such level until the date such financial statements and corresponding Compliance Certificate are so delivered by the Parent.”

- (g) Section 1.01 of the Credit Agreement is hereby amended to restate clause (d) of the definition of “Defaulting Lender” in its entirety as follows:

“(d) has become the subject of (i) a Bankruptcy Event or (ii) a Bail-In Action.”

- (h) Section 1.01 of the Credit Agreement is hereby amended to add the following new definitions of “EEA Financial Institution,” “EEA Member Country,” “EEA Resolution Authority” and “EU Bail-In Legislation Schedule” in proper alphabetical order:

“EEA Financial Institution” means (a) any institution 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 clause (a) of this definition, or (c) any institution established in an EEA Member Country which is a subsidiary of an institution described in clauses (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 delegee) having responsibility for the resolution of any EEA Financial Institution.

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

- (i) Section 1.01 of the Credit Agreement is hereby amended to restate the definition of "Federal Funds Effective Rate" in its entirety as follows:

"Federal Funds Effective Rate" means, for any day, the rate calculated by the Federal Reserve Bank of New York (the "FRBNY") based on such day's federal funds transactions by depository institutions, as determined in such manner as the FRBNY shall set forth on its public website from time to time, and published on the next succeeding Business Day by the FRBNY as the federal funds effective rate; provided, that, if the Federal Funds Effective Rate shall be less than zero, such rate shall be deemed to be zero for purposes of this Agreement.

- (j) Section 1.01 of the Credit Agreement is hereby amended to add the following new definition of "Third Amendment Effective Date" in proper alphabetical order:

"Third Amendment Effective Date" means March 6, 2017.

- (k) Section 1.01 of the Credit Agreement is hereby amended to restate the last sentence of the definition of "US Commitment" in its entirety as follows:

"The aggregate amount of the US Commitments as of the Third Amendment Effective Date is \$30,000,000."

- (l) Section 1.01 of the Credit Agreement is hereby amended to add the following new definition of "Write-Down and Conversion Powers" in proper alphabetical order:

"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.

3. Amendment to Section 2.04. Section 2.04 of the Credit Agreement is hereby amended to restate subsection (a) thereof in its entirety as follows:

"(a) Subject to the terms and conditions set forth herein, (i) the US Swingline Lender agrees to make US Swingline Loans to the US Borrowers from time to time during the US Availability Period in an aggregate principal amount at any time outstanding that will not result in (A) the US Swingline Exposure exceeding \$3,500,000 or (B) the total US Credit Exposures exceeding the total US Commitments and (ii) the Euro Swingline Lender agrees to make Euro Swingline Loans to the Alternative Currency Borrowers from time to time during the Alternative Currency Availability Period in an aggregate principal amount that will not result in (A) the Euro Swingline Exposure exceeding \$1,250,000 or (B) the total Alternative Currency Credit Exposures exceeding the total Alternative Currency Commitments; provided that (x) no Swingline Lender shall be required to make a Swingline Loan to refinance an outstanding Swingline Loan and (y) for purposes

of this Section 2.04 only, the terms "Alternative Currency Borrower" and "Alternative Currency Borrowers" shall not include the Parent. Within the foregoing limits and subject to the terms and conditions set forth herein, the US Borrowers and Alternative Currency Borrowers, as applicable, may borrow, prepay and reborrow Swingline Loans. Each US Swingline Loan shall be in an amount that is an integral multiple of \$1 and not less than \$25,000 and each Euro Swingline Loan shall be in an amount that is not less than €250,000."

4. Amendment to Section 2.05. Section 2.05 of the Credit Agreement is hereby amended to restate the last sentence of subsection (b) thereof in its entirety as follows:

"A Letter of Credit shall be issued, amended, renewed or extended only if (and upon issuance, amendment, renewal or extension of each Letter of Credit the Borrower to which such Letter of Credit shall be issued shall be deemed to represent and warrant that), after giving effect to such issuance, amendment, renewal or extension (i) in the case of a US Letter of Credit, the US LC Exposure shall not exceed \$10,000,000 and the total US Credit Exposures shall not exceed the total US Commitments and (ii) in the case of an Alternative Currency Letter of Credit, the Alternative Currency LC Exposure shall not exceed \$2,500,000 and the total Alternative Currency Credit Exposures shall not exceed the total Alternative Currency Commitments."

5. Amendment to Section 2.19. Section 2.19 of the Credit Agreement is hereby amended to restate the first sentence of subsection (a) thereof in its entirety as follows:

"The Parent may from time to time elect to increase the Commitments of any one or more Classes (each, an "Incremental Commitment Increase"), in each case with a minimum aggregate principal amount of (i) \$10,000,000 (and increments of \$5,000,000 in excess thereof) with respect to an increase in the US Commitments, (ii) \$5,000,000 (and increments of \$1,000,000 in excess thereof) with respect to an increase in the Alternative Currency Commitments and (iii) \$10,000,000 (and increments of \$5,000,000 in excess thereof) with respect to an increase in the Term Commitments, so long as, after giving effect thereto, (x) the minimum aggregate principal amount of any one Incremental Commitment Increase across all increased Classes is \$10,000,000 (and increments of \$5,000,000 in excess thereof) and (y) the aggregate amount of all Incremental Commitment Increases during the term hereof does not exceed \$25,000,000."

6. Amendments to Section 2.20.

(a) Section 2.20 of the Credit Agreement is hereby amended to add the following new proviso at the end of clause (i) of subsection (c) thereof:

"provided, further that, subject to Section 10.17, 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;"



- (b) Section 2.20 of the Credit Agreement is hereby amended to restate the penultimate paragraph thereof in its entirety as follows:

"If (i) a Bankruptcy Event or a Bail-In Action with respect to a Lender Parent shall occur following the Effective Date and for so long as such event shall continue or (ii) any Swingline Lender or Issuing Lender has a good faith belief that any Lender has defaulted in fulfilling its obligations under one or more other agreements in which such Lender commits to extend credit, such Swingline Lender shall not be required to fund any Swingline Loan and such Issuing Lender shall not be required to issue, amend or increase any Letter of Credit, unless such Swingline Lender or such Issuing Lender, as the case may be, shall have entered into arrangements with the Parent or such Lender, satisfactory to such Swingline Lender or Issuing Lender, as the case may be, to defease any risk to it in respect of such Lender hereunder."

7. Amendment to Article III. Article III of the Credit Agreement is hereby amended to add the following new Section 3.21 at the end of said Article III:

"Section 3.21 EEA Financial Institution. No Obligor is an EEA Financial Institution."

- 8 . Amendments to Article VI. Article VI of the Credit Agreement is hereby amended to restate Sections 6.14 and 6.15 thereof in their entirety as follows and add the following new Section 6.17 at the end of said Article VI:

"Section 6.14 Debt Service Coverage Ratio. The Parent shall not permit the Debt Service Coverage Ratio for any trailing four quarter period measured as of the last day of any fiscal quarter (other than the fiscal quarters ending March 31, 2017, June 30, 2017 and September 30, 2017) to be less than 1.35 to 1.0.

Section 6.15 Leverage Ratio. The Parent shall not permit the Leverage Ratio for any trailing four quarter period measured as of the last day of any fiscal quarter to exceed (a) 4.00 to 1.0 for the fiscal quarter ending March 31, 2017, (b) 5.00 to 1.0 for the fiscal quarter ending June 30, 2017, (c) 3.50 to 1.0 for the fiscal quarter ending September 30, 2017 and (d) 3.00 to 1.0 for each fiscal quarter ending thereafter.

Section 6.17 Minimum Consolidated Pro Forma EBITDA. The Parent shall not permit Consolidated Pro Forma EBITDA to be less than (a) \$4,500,000 for the trailing four quarter period ending on March 31, 2017, (b) \$4,000,000 for the trailing four quarter period ending on June 30, 2017 and (c) \$6,500,000 for the trailing four quarter period ending on September 30, 2017."

9. Amendment to Article X. Article X of the Credit Agreement is hereby amended to add the following new Section 10.17 at the end of said Article X:

"Section 10.17 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 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 which 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 entity, 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."

10. Amendment to Schedule 2.01. Schedule 2.01 attached to the Credit Agreement is hereby deleted in its entirety and replaced with Schedule 2.01 attached hereto.

11. Amendment to Exhibit 5.01(c). Exhibit 5.01(c) attached to the Credit Agreement is hereby amended to restate Exhibit B thereto in its entirety as set forth on Exhibit B attached hereto.

12. Ratification. Each of the Borrowers and Guarantors hereby ratifies all of its Obligations under the Credit Agreement and each of the Loan Documents to which it is a party, and agrees and acknowledges that the Credit Agreement and each of the Loan Documents to which it is a party are and shall continue to be in full force and effect as amended and modified by this Amendment. Nothing in this Amendment extinguishes, novates or releases any right, claim, lien, security interest or entitlement of any of the Lenders, the Administrative Agent, the London Agent or the Canadian Agent created by or contained in any of such documents nor are the Borrowers nor Guarantors released from any covenant, warranty or obligation created by or contained herein or therein.

13. Representations and Warranties. Each of the Borrowers and Guarantors hereby represents and warrants to the Administrative Agent, the London Agent, the Canadian Agent and the Lenders that (a) this Amendment has been duly executed and delivered on behalf of each of the Borrowers and Guarantors, (b) this Amendment constitutes a valid and legally binding agreement enforceable against each of the Borrowers and Guarantors in accordance with its terms, subject to applicable bankruptcy, insolvency, fraudulent transfer, reorganization, moratorium or other laws affecting creditors' rights generally and subject to general principles of equity, regardless of whether considered in a proceeding in equity or at law, (c) the representations and warranties contained in the Credit Agreement and the Loan Documents are true and correct on and as of the date hereof in all material respects as though made as of the date hereof (provided, that to the extent any such representation and warranty was made as of a specific date, such representation and warranty shall be true and correct in all material respects as of such specific date), (d) after giving effect to this Amendment, no Default or Event of Default exists and (e) the execution, delivery and performance of this Amendment has been duly authorized by each of the Borrowers and Guarantors.

14. Conditions to Effectiveness. This Amendment shall be effective on the Amendment Effective Date upon (a) the execution and delivery hereof by the Borrowers, the Guarantors and the Required Lenders to the Administrative Agent and receipt by the Administrative Agent of this Amendment and (b) the receipt by the Administrative Agent of all fees and other amounts due and payable on or prior to the date hereof, including the fees set forth in that certain Engagement Letter dated as of February 17, 2017, between the Administrative Agent and the Parent, and the reasonable fees and expenses of legal counsel to the Administrative Agent.

15. Release and Indemnity. Each of the Borrowers and Guarantors does hereby release and forever discharge the Administrative Agent, London Agent, the Canadian Agent, each of the Lenders, each of the Issuing Lenders and each Related Party of any of the foregoing from any and all claims, demands, damages, actions, cross-actions, causes of action, costs and expenses (including legal expenses), of any kind or nature whatsoever, whether based on law or equity, which any of said parties has held or may now or in the future own or hold, whether known or unknown, for or because of any matter or thing done, omitted or suffered to be done on or before the actual date upon which this Amendment is signed by any of such parties arising directly or indirectly out of the Loan Documents, any other documents, instruments or transactions relating thereto or the performance by any party thereto of their respective obligations thereunder. Such release, waiver, acquittal and discharge shall and does include, without limitation, any claims of usury, fraud, duress, misrepresentation, lender liability, control, exercise of remedies and all similar items and claims, which may, or could be, asserted by any Borrower or Guarantor, but such release, waiver, acquittal and discharge shall not and does not include any claims, demands, damages, actions, cross-actions, causes of action, costs and expenses arising out of or relating to (a) the gross negligence or willful misconduct of any Indemnitee, (b) in the case of Section 2.14 of the Credit Agreement, the matters set forth in Section 2.14(e) of the Credit Agreement, (c) the obligations of each Lender under Section 2.16(e) of the Credit Agreement, or (d) any assignment or transfer by any Lender of its rights or obligations under the Credit Agreement and the other Loan Documents, except for any such assignment or transfer made in accordance with Section 10.04 of the Credit Agreement and the applicable provisions of the other Loan Documents, respectively. Each of the Borrowers and Guarantors hereby ratifies its obligations under the indemnification provisions contained in the Loan Documents to which it is a party, including, without limitation, Section 10.03 of the Credit Agreement, and agrees that this Amendment and losses, claims, damages and expenses related thereto shall be covered by such indemnification obligations to the same extent as the Loan Documents.

16. Counterparts. This Amendment may be signed in any number of counterparts, which may be delivered in original, facsimile or other electronic form (i.e., "PDF") each of which shall be construed as an original, but all of which together shall constitute one and the same instrument.

17. Governing Law. This Amendment, all Notes, the other Loan Documents and all other documents executed in connection herewith shall be deemed to be contracts and agreements under the laws of the State of New York and of the United States of America and for all purposes shall be construed in accordance with, and governed by, the laws of New York and of the United States.

18. Final Agreement of the Parties. Any previous agreement among the parties with respect to the subject matter hereof is superseded by the Credit Agreement, as amended by this Amendment. Nothing in this Amendment, express or implied is intended to confer upon any party other than the parties hereto any rights, remedies, obligations or liabilities under or by reason of this Amendment.

19. Amendment is a Loan Document. This Amendment is a Loan Document.

*[Signature Pages Follow]*



**IN WITNESS WHEREOF**, the parties hereto have caused this Amendment to be executed by their respective officers thereunto duly authorized as of the Amendment Effective Date.

**PARENT, US BORROWER,  
ALTERNATIVE CURRENCY BORROWER AND  
US GUARANTOR:**

**DMC GLOBAL INC.**

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

*Signature Page to Third Amendment  
to the Second Amended and Restated Credit Agreement*

---

**US BORROWER AND US GUARANTOR:**

**DMC KOREA, INC.**

By: /s/ Michael Kuta

Name: Michael Kuta

Title: Vice President

*Signature Page to Third Amendment  
to the Second Amended and Restated Credit Agreement*

---

**US BORROWER AND US GUARANTOR:**

**DynaEnergetics US, INC.**

By: /s/ Michael Kuta

Name: Michael Kuta

Title: Vice President

*Signature Page to Third Amendment  
to the Second Amended and Restated Credit Agreement*

---

**FOREIGN GUARANTOR:**

**DYNAENERGETICS CANADA INC.**

By: /s/ Ian Grieves

Name: Ian Grieves

Title: President

*Signature Page to Third Amendment  
to the Second Amended and Restated Credit Agreement*

---



**FOREIGN GUARANTOR:**

**DYNAMIC MATERIALS LUXEMBOURG 1 S.Á R.L.**

By: /s/ Ian Grieves  
Name: Ian Grieves  
Title: Class B Director

*Signature Page to Third Amendment  
to the Second Amended and Restated Credit Agreement*

---

**ALTERNATIVE CURRENCY BORROWER AND FOREIGN  
GUARANTOR:**

**DYNAMIC MATERIALS LUXEMBOURG 2 S.Á R.L.**

By: /s/ Ian Grieves  
Name: Ian Grieves  
Title: Class B Director

*Signature Page to Third Amendment  
to the Second Amended and Restated Credit Agreement*

---

**FOREIGN GUARANTOR:**

**NOBELCLAD EUROPE SA**

By: /s/ Antoine Nobili

Name: Antoine Nobili

Title: Administrator et Directeur Général

*Signature Page to Third Amendment  
to the Second Amended and Restated Credit Agreement*

---

**FOREIGN GUARANTOR:**

**NITRO METALL AB**

By: /s/ Antoine Nobili

Name: Antoine Nobili

Title: Director

*Signature Page to Third Amendment  
to the Second Amended and Restated Credit Agreement*

---

**ALTERNATIVE CURRENCY BORROWER AND FOREIGN  
GUARANTOR:**

**DYNAENERGETICS HOLDING GMBH**

By: /s/ Ian Grieves

Name: Ian Grieves

Title: Managing Director

*Signature Page to Third Amendment  
to the Second Amended and Restated Credit Agreement*

---

**ALTERNATIVE CURRENCY BORROWER AND FOREIGN  
GUARANTOR:**

**DYNAENERGETICS BETEILIGUNGS GMBH**

By: /s/ Achim Pabst

Name: Achim Pabst

Title: Managing Director

*Signature Page to Third Amendment  
to the Second Amended and Restated Credit Agreement*

---

**ALTERNATIVE CURRENCY BORROWER AND FOREIGN  
GUARANTOR:**

**DYNAENERGETICS GMBH & CO., KG**

By: DYNAENERGETICS BETEILIGUNGS GMBH, as general partner

By: /s/ Achim Pabst

Name: Achim Pabst

Title: Managing Director

*Signature Page to Third Amendment  
to the Second Amended and Restated Credit Agreement*

---

**FOREIGN GUARANTOR:**

**NOBELCLAD EUROPE HOLDING GmbH**

By: /s/ Antoine Nobili

Name: Antoine Nobili

Title: Managing Director

*Signature Page to Third Amendment  
to the Second Amended and Restated Credit Agreement*

---



**ALTERNATIVE CURRENCY BORROWER AND FOREIGN  
GUARANTOR:**

**NOBELCLAD EUROPE GmbH AND CO., KG**

By: NOBELCLAD EUROPE HOLDING GMBH, as general partner

By: /s/ Antoine Nobili

Name: Antoine Nobili

Title: Managing Director

*Signature Page to Third Amendment  
to the Second Amended and Restated Credit Agreement*

---

**FOREIGN GUARANTOR:**

**DYNAENERGETICS SIBERIA LIMITED**

By: /s/ Wilhelm Sonnenberg

Name: Wilhelm Sonnenberg

Title: General Director

*Signature Page to Third Amendment  
to the Second Amended and Restated Credit Agreement*

---

**FOREIGN GUARANTOR:**

**TOO KAZ DynaEnergetics**

By: /s/ Assel Tazhenova

Name: Assel Tazhenova

Title: Managing Director

*Signature Page to Third Amendment  
to the Second Amended and Restated Credit Agreement*

---

**FOREIGN GUARANTOR:**

**DYNAMIC MATERIALS CORPORATION (HK) LIMITED**

By: /s/ Michael Kuta

Name: Michael Kuta

Title: Director

*Signature Page to Third Amendment  
to the Second Amended and Restated Credit Agreement*

---

FOREIGN GUARANTOR:

DYNAMIC MATERIALS CORPORATION (SHANGHAI) TRADING CO.  
LTD.

By: /s/ Bin Zhang  
Name: Bin Zhang  
Title: Director/Legal Representative

*Signature Page to Third Amendment  
to the Second Amended and Restated Credit Agreement*

---

**FOREIGN GUARANTOR:**

**DYNAENERGETICS COLOMBIA S A S EN LIQUIDACTION**

By: /s/ Michael Kuta

Name: Michael Kuta

Title: Director

*Signature Page to Third Amendment  
to the Second Amended and Restated Credit Agreement*

---

**ADMINISTRATIVE AGENT,  
US ISSUING LENDER,  
US SWINGLINE LENDER AND  
US LENDER:**

**JPMORGAN CHASE BANK, N.A.**

By: /s/ Karl Thmasma

Name: Karl Thmasma

Title: Senior Underwriter

*Signature Page to Third Amendment  
to the Second Amended and Restated Credit Agreement*

---

**LONDON AGENT:**

**J.P. MORGAN EUROPE LIMITED**

By: /s/ Belinda Lucas

Name: Belinda Lucas

Title: Associate

*Signature Page to Third Amendment  
to the Second Amended and Restated Credit Agreement*

---



**LONDON ISSUING LENDER,  
EURO SWINGLINE LENDER AND  
ALTERNATIVE CURRENCY LENDER TO DYNAMIC MATERIALS  
LUXEMBOURG 2 S.À R.L.:**

**J.P. MORGAN EUROPE LIMITED**

By: /s/ Belinda Lucas

Name: Belinda Lucas

Title: Associate

*Signature Page to Third Amendment  
to the Second Amended and Restated Credit Agreement*

---

**CANADIAN AGENT,  
CANADIAN ISSUING LENDER AND ALTERNATIVE CURRENCY  
LENDER:**

**JPMORGAN CHASE BANK, N.A., TORONTO BRANCH**

By: /s/ M.N. Tam

Name: M.N. Tam

Title: Senior Vice President

*Signature Page to Third Amendment  
to the Second Amended and Restated Credit Agreement*

---

**SYNDICATION AGENT,  
US LENDER AND  
ALTERNATIVE CURRENCY LENDER:**

**KEYBANK NATIONAL ASSOCIATION**

By: /s/ Michael Fesi

Name: Michael Fesi

Title: Assistant Vice President

*Signature Page to Third Amendment  
to the Second Amended and Restated Credit Agreement*

---

**DOCUMENTATION AGENT,  
US LENDER AND  
ALTERNATIVE CURRENCY LENDER:**

**WELLS FARGO BANK, NATIONAL ASSOCIATION**

By: /s/ Thomas J. Zak

Name: Thomas J. Zak

Title: Senior Vice President

*Signature Page to Third Amendment  
to the Second Amended and Restated Credit Agreement*

---

**US LENDER AND  
ALTERNATIVE CURRENCY LENDER:**

**BANK OF AMERICA, N.A.**

By: /s/ Satish Chander

Name: Satish Chander

Title: Senior Vice President

*Signature Page to Third Amendment  
to the Second Amended and Restated Credit Agreement*

---

**ALTERNATIVE CURRENCY LENDER:****BANK OF AMERICA, NATIONAL ASSOCIATION (CANADA  
BRANCH)**By: /s/ Medina Sales de Andrade

Name: Medina Sales de Andrade

Title: Vice President

**Schedule 2.01****Commitments**

<b>LENDER</b>	<b>US COMMITMENT</b>	<b>ALTERNATIVE CURRENCY COMMITMENT</b>
JPMorgan Chase Bank, N.A.	\$9,500,000.00	
J.P. Morgan Europe Limited / JPMorgan Chase Bank, N.A., London Branch / JPMorgan Chase Bank, N.A., Toronto Branch		\$1,583,333.33
KeyBank National Association	\$7,250,000.00	\$1,208,333.34
Wells Fargo Bank, National Association	\$7,250,000.00	\$1,208,333.34
Bank of America, N.A.	\$6,000,000.00	
Bank of America, N.A. / Bank of America, National Association (Canada Branch)		\$1,000,000.00
<b>TOTAL</b>	<b>\$30,000,000.00</b>	<b>\$5,000,000.00</b>

*Signature Page to Third Amendment  
to the Second Amended and Restated Credit Agreement*

---

## EXHIBIT B

## FINANCIAL COVENANT CALCULATION WORKSHEET

(\$ in 000's)

	Calculation	Covenant Requirement
Debt Service Coverage Ratio	<input checked="" type="checkbox"/>	1.35 to 1.0
Leverage Ratio	<input checked="" type="checkbox"/>	[ ] to 1.0
Minimum Consolidated Pro Forma EBITDA	<input checked="" type="checkbox"/>	\$[ ]
Debt Service Coverage Ratio: for the trailing four quarter period measured as of the last day of the fiscal quarter ended _____, 20____		
(i) Consolidated Pro Forma EBITDA for such period		
<i>minus the sum of</i>		
(A) Cash Dividends,		
(B) capital expenditures for such period for the Parent and its Subsidiaries determined on a consolidated basis in accordance with GAAP and		
(C) cash income Taxes paid, net of cash income Taxes refunded, for such period by the Parent and its Subsidiaries (excluding \$2,000,000 of German income taxes paid in cash in the first fiscal quarter of 2016)		
<i>to</i>		
(ii) (A) cash Interest Expense of the Parent for such period		
<i>plus</i>		
(B) scheduled principal payments of Consolidated Funded Indebtedness actually made during such period		

<u>Leverage Ratio</u> : for the trailing four quarter period measured as of the last day of the fiscal quarter ended _____, 20____		
(i) Consolidated Funded Indebtedness of the Parent on the last day of such period		
<i>to</i>		
(ii) Consolidated Pro Forma EBITDA of the Parent for such trailing four quarter period		
<u>Minimum Consolidated Pro Forma EBITDA</u> : for the trailing four quarter period measured as of the last day of the fiscal quarter ending _____, 2017		



[Company Letterhead]

July 17, 2016

Michelle Shepston

Dear Michelle:

It is my pleasure to offer you a position of employment with Dynamic Materials Corporation (DMC) upon the terms and conditions contained in this letter and contingent upon successful fulfillment of all pre-employment requirements.

**Position and Base Salary:** You will serve as the Chief Legal Officer, reporting directly to me. The position will be based in Boulder, Colorado. As an exempt employee, you will earn a base salary of \$10,000 per pay period (the equivalent of \$260,000 per year). You will be eligible for yearly performance and salary reviews per DMC compensation policy.

**Discretionary Performance Bonus:** Based on performance and achievement of mutually agreed upon goals, including revenues and EBITDA of consolidated DMC, you will be eligible to participate in the company bonus program at a target design point of 40% of actual paid salary in accordance with the program (range based on business and personal performance is 0-72%). For your first twelve consecutive months, you are guaranteed a bonus of actual performance or 100%, whichever is higher. As your first twelve months will span two calendar years, these months will be pro-rated into the yearly payouts that will happen in 2017 and 2018.

**Restricted Stock Award:** DMC will guarantee a grant of 10,000 shares of Restricted Stock Awards upon hire, as a sign on bonus. The shares will vest and become free of forfeiture in three equal installments on each of the first three anniversaries of the date of grant. Thereafter, you will be eligible to participate in the annual Stock Incentive Plan. One-quarter of restricted stock will vest and become free of forfeiture on the first and second anniversaries of the grant date. The remaining 50% of shares vest on the third anniversary date of the grant date based on the Company's achievement of pre-determined performance objectives.

**Change in Control:** If your employment is terminated as a result of a change in control (see attachment 1 for definition of a "Change in Control Event") of DMC, you will receive a one-time severance payment equal to 12 months of your then-current base salary. If your employment is terminated without cause for other than a change in control event you will receive a one-time severance payment equal to 6 months of your then-current base salary.

**Anticipated Start Date:** TBD

**Personal Time Benefit:** You will be eligible for four weeks (20 days) Paid Time-off (PTO) per annum. PTO may be used in accordance with the company PTO Policy outlined in the Employee Benefits Summary.

**Employee Benefits:** You are entitled to the full range of the company's standard employee benefits which will include medical and dental insurance, term life, accidental death, life insurance, short and long-term disability, paid public holidays, and other benefits, subject to any waiting periods or vesting schedules, as described in the Employee Benefits Summary.

You will be eligible to participate in the 401(k) retirement plan the first day of hire. DMC matches 100% of your first 3% and 50% of your next 2%, for a total match of 4%. This is a fully-vested plan at commencement of participation. You will also be eligible to participate in the Deferred Compensation Plan.

**Proprietary Information and Inventions Agreement/Non-Competition Agreement:** As an employee of DMC you may create or have access to information, trade secrets, and inventions relating to the business or interest of the Company, or other parties with whom the Company has had relationships which is valuable to the Company or such other parties and which may lose value if disclosed to their parties. In order to protect such information, the Company will require that you execute the Company's standard proprietary information and inventions and non-compete agreement, a copy of which is attached hereto, as a condition of your employment.

---

**Pre-employment Conditions:** Employment is contingent upon (i) completion of the attached Employment Application, (ii) a pre-employment criminal background investigation, and (iii) establishment of eligibility to work in the United States. Forms to be completed will be forwarded upon receipt of this signed offer.

Michelle, we are excited about having you join our team and look forward to your contributions to the organization. Please sign this letter and return it to me via email scan as acceptance of our offer of employment.

Sincerely,

Kevin Longe  
President and CEO

**Employment-at-will. This is an offer of employment and should in no way be considered an employment contract. If I accept this offer of employment, I understand that I have been hired at the will of the employer and my employment may be terminated, by me or my employer, at any time.**

Acknowledgement of Receipt:

_____	_____
Michelle Shepston	Date

\_\_\_\_\_

## Attachment 1

"Change in Control Event" 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 Securities Exchange Act of 1934, as amended (the "Exchange Act")) (a "Person") of beneficial ownership (within the meaning of Rule 13d-3 promulgated under the Exchange Act) of 25% of either (1) the then outstanding shares of common stock of the Company (the "Outstanding Company Common Stock") or (2) 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: (1) any acquisition directly from the Company, (2) 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, or (3) any acquisition by any employee benefit plan (or related trust) sponsored or maintained by the Company or any corporation controlled by the Company.
- B. Individuals who, as of the date hereof, constitute the board of directors of the Company (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 of directors of the Company.
- 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, (1) 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, (2) 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 (3) 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.

[Company Letterhead]

October 7, 2016

John Scheatzle  
Hudson, Ohio

Dear John:

It is my pleasure to offer you a position of employment with Dynamic Materials Corporation (DMC), upon the terms and conditions contained in this letter and contingent upon successful fulfillment of all pre-employment requirements.

**Position and Base Salary:** You will serve as the President, NobelClad, reporting directly to me. The position will be based in Boulder, Colorado. As an exempt employee, you will earn a base salary of \$10,195 per pay period (the equivalent of \$265,000 per year). You will be eligible for yearly performance and salary reviews per DMC compensation policy.

**Auto Allowance:** You will receive an auto allowance of \$950 per month, which will be paid as an earning of \$438.47 on each regular pay check. (\$11,400 yearly benefit paid over 26 pay periods per year).

**Discretionary Performance Bonus:** Based on performance and achievement of mutually agreed upon goals, including revenues and EBITDA of consolidated DMC, you will be eligible to participate in the company bonus program at a target design point of 40% of actual paid salary in accordance with the program (range based on business and personal performance is 0-72%).

**Sign-on Bonus:** NobelClad is pleased to award you a sign-on bonus of \$75,000 which will be included in your first paycheck.

**Restricted Stock Award:** You will be eligible to participate in the next round of long-term incentive restricted stock award grants, which is expected to occur in the first quarter of 2017. These will be pro-rated based on date of hire.

**Relocation Benefits:** Relocation Expenses: You will be reimbursed for all normal and reasonable expenses incurred in connection with the movement of household goods and relocation of your family from your current home in Hudson, Ohio to your new home in Colorado. Specifically, DMC will reimburse: (1) selling costs related to the sale of your current home in Hudson, (2) moving expenses related to transporting your family and household goods to the Boulder area, (3) reasonable expenses for temporary housing in the Boulder area and/or travel expenses between the Boulder area and Hudson for three months after start date. With prior discussion and approval, this may be extended. Please be aware that with the exception of "(2) Moving expenses related to transporting your household goods", all relocation expense reimbursements will be added to your gross income, which will be grossed up for neutral Federal tax effects before the applicable federal taxes are withheld.

**Change in Control:** If your employment is terminated as a result of a change in control (see attachment 1 for definition of a "Change in Control Event") of DMC, you will receive a one-time severance payment equal to 12 months of your then-current base salary. If your employment is terminated without cause for other than a change in control event you will receive a one-time severance payment equal to 6 months of your then-current base salary.

**Anticipated Start Date:** TBD

**Personal Time Benefit:** You will be eligible for four weeks (20 days) Paid Time-off (PTO) per annum. PTO may be used in accordance with the company PTO Policy outlined in the Employee Benefits Summary.

**Employee Benefits:** You are entitled to the full range of the company's standard employee benefits which will include medical and dental insurance, term life, accidental death, life insurance, short and long-term disability, paid public holidays, and other benefits, subject to any waiting periods or vesting schedules, as described in the Employee Benefits Summary.

You will be eligible to participate in the 401(k) retirement plan the first day of hire. DMC matches 100% of your first 3% and 50% of your next 2%, for a total match of 4%. This is a fully-vested plan at commencement of participation.

---

**Proprietary Information and Inventions Agreement/Non-Competition Agreement:** As an employee of Dynamic Materials Corporation, you may create or have access to information, trade secrets, and inventions relating to the business or interest of the Company, or other parties with whom the Company has had relationships which is valuable to the Company or such other parties and which may lose value if disclosed to their parties. In order to protect such information, the Company will require that you execute the Company's standard proprietary information and inventions and non-compete agreement, a copy of which is attached hereto, as a condition of your employment.

**Pre-employment Conditions:** Employment is contingent upon (i) completion of the attached Employment Application, (ii) a pre-employment criminal background investigation, and establishment of eligibility to work in the United States. Forms to be completed will be forwarded upon receipt of this signed offer.

John, we are excited about having you join our team and look forward to your contributions to the organization. Please sign this letter and return it to me via email scan as acceptance of our offer of employment.

Sincerely,

Kevin Longe, Chief Executive Officer

**Employment-at-will. This is an offer of employment and should in no way be considered an employment contract. If I accept this offer of employment, I understand that I have been hired at the will of the employer and my employment may be terminated, by me or my employer, at any time.**

Acknowledgment of Receipt:

_____	_____
John Scheatzle	Date

\_\_\_\_\_

"Change in Control Event" 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 Securities Exchange Act of 1934, as amended (the "Exchange Act")) (a "Person") of beneficial ownership (within the meaning of Rule 13d-3 promulgated under the Exchange Act) of 25% of either (1) the then outstanding shares of common stock of the Company (the "Outstanding Company Common Stock") or (2) 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: (1) any acquisition directly from the Company, (2) 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, or (3) any acquisition by any employee benefit plan (or related trust) sponsored or maintained by the Company or any corporation controlled by the Company.

B. Individuals who, as of the date hereof, constitute the board of directors of the Company (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 of directors of the Company.

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, (1) 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, (2) 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 (3) 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.

**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: \_\_\_\_\_, 2017

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 based on the following: one-third of the Shares of Restricted Stock shall vest on each of the first, second and third anniversaries 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: \_\_\_\_\_  
Name: \_\_\_\_\_  
Date: \_\_\_\_\_

By: \_\_\_\_\_  
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.

**DMC GLOBAL INC.  
2016 OMNIBUS INCENTIVE PLAN  
RESTRICTED STOCK UNIT AWARD AGREEMENT**

**Notice of Restricted Stock Unit Award**

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 Unit Award Agreement attached hereto (the "Agreement"), the following number of Restricted Stock Units ("RSUs") 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: [ ]

DATE OF GRANT: March 1, 2017

NUMBER OF RSUs

GRANTED: [ ]

VESTING

PERIOD: One-third of the RSUs vest on each of the first, second and third anniversaries of the Date of Grant.

PAYMENT: The Company shall issue to Grantee one share of common stock of the Company (each, a "Share") for each vested RSU, with the delivery of such Shares to occur as soon as reasonably practicable following vesting, but in all events payment shall be made no more than seventy-four (74) days following the vesting date.

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 Unit Award, and the Agreement in their entirety, has had an opportunity to obtain the advice of counsel prior to executing this Notice of Restricted Stock Unit Award 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 Unit Award, 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: \_\_\_\_\_  
Name: \_\_\_\_\_  
Date: \_\_\_\_\_

By: \_\_\_\_\_  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_

## Restricted Stock Unit Award Agreement

**Section 1. Grant of Restricted Stock Units.** The Company hereby grants to the Grantee the number of Restricted Stock Units as set forth in the Notice of Restricted Stock Unit Award, subject to the terms, definitions and provisions of the Plan and this Agreement. All terms, provisions, and conditions applicable to Restricted Stock Units 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 Grantee's Continuous Service with the Company 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), all unvested Restricted Stock Units outstanding as of such date shall immediately be forfeited. Upon forfeiture, Grantee shall have no further rights with respect to such Restricted Stock Units. If the Grantee's Continuous Service with the Company is terminated due to the Grantee's death or Disability, or is terminated by the Company and its Subsidiaries without Cause, all unvested Restricted Stock Units outstanding as of such termination date shall vest on the date of 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 Units.** Restricted Stock Units may not be sold, assigned, transferred by gift or otherwise, pledged, hypothecated, or otherwise disposed of, by operation of law or otherwise.

**Section 4. Payment.** Payment in respect of vested Restricted Stock Units shall be made at the time(s) and in the form(s) set forth in the Notice of Restricted Stock Unit Award.

**Section 5. 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 Restricted Stock Units 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 6. No Stockholder Rights.** Grantee shall have no rights as a stockholder with respect to the Restricted Stock Units.

**Section 7. 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 Restricted Stock Units. The Committee may condition the payment for vested Restricted Stock Units upon the Grantee's satisfaction of such withholding obligations. The Committee may, at its option, allow the Grantee 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 8. Company Policies to Apply.** The sale of any Shares received as payment for vested Restricted Stock Units 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 the Restricted Stock Units is subject in all respects to any Company compensation clawback policies that may be in effect from time to time.

**Section 9. 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 payment in respect of vesting of Restricted Stock Units, 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.

(j) Section 409A Compliance. The intent of the parties is that payments in respect of vested Restricted Stock Units be exempt from Section 409A of the Code as "short-term deferrals," and this Agreement and the Notice of Restricted Stock Unit Award shall be interpreted and administered accordingly.

**DMC GLOBAL INC.  
2016 OMNIBUS INCENTIVE PLAN  
PERFORMANCE UNIT AWARD AGREEMENT**

**Notice of Performance Unit Award**

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 Performance Unit Award Agreement attached hereto (the "Agreement"), the right to earn Performance Units (the "Performance Units") 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: [ ]

DATE OF GRANT: February 22, 2017

TARGET NUMBER  
OF PERFORMANCE  
UNITS  
GRANTED

("TARGET UNITS"): [ ]

OVERVIEW: Grantee shall be eligible to earn a number of Performance Units between 0% - 200% of the Target Units based on the attainment of the Performance Measures described below over the Performance Period set forth below. Except as set forth below under "Special Vesting Events," the Grantee must remain in the Continuous Service of the Company from the Date of Grant through the last day of the Performance Period in order to earn any Performance Units hereunder.

PERFORMANCE

PERIOD: January 1, 2017 – December 31, 2019

PERFORMANCE

MEASURES:

The actual number of Performance Units earned and payable hereunder (the "Earned Performance Units") shall be equal to (x) the number of Target Units awarded, *multiplied by* (y) the Attainment Percentage.

The "Attainment Percentage" shall be based on (i) the Company's average Adjusted EBITDA over the Performance Period as compared to Target Adjusted EBITDA (defined below) and (ii) the Total Stockholder Return (defined below) on the Company's common stock over the Performance Period as compared to the average Total Stockholder Return of the common stock of the Company's Peer Group over the Performance Period. Adjusted EBITDA and Total Stockholder Return are weighted equally (50%/50%) for purposes of calculating the Attainment Percentage.

"Target Adjusted EBITDA" is equal to Adjusted EBITDA for the year ended December 31, 2016 plus 10%.

The Performance Measures shall be adjusted as set forth in Section 15(b) of the Plan.

ADJUSTED EBITDA: "Adjusted EBITDA" shall be defined as follows: EBITDA is defined as net income plus or minus net interest plus taxes, depreciation and amortization. Adjusted EBITDA excludes from EBITDA stock-based compensation, restructuring and impairment charges and, when appropriate, other extraordinary items that management does not utilize in assessing DMC's operating performance. For purposes of this Agreement, Adjusted EBITDA for a relevant fiscal year shall be the same as reported in the Company's Form 10-K.

TOTAL  
STOCKHOLDER  
RETURN:

"Total Stockholder Return" or "TSR" for the Company and each of the members of its Peer Group for the Performance Period is calculated pursuant to the formula  $(x+y)/z$ , where (x) is the difference between (i) the average closing stock prices for the month of January 2020 *minus* (ii) the average closing stock prices for the month of January 2017, (y) represents all dividends paid in respect of the stock during the Performance Period, and (z) is the average closing stock prices for the month of January 2017.

PEER GROUP:

The Peer Group used for purposes of calculating TSR shall be the following companies:

- Ampco-Pittsburgh Corp.
- Aspen Aerogels, Inc.
- Broadwind Energy, Inc.
- CECO Environmental Corp.
- Dawson Geophysical Company
- Electro Scientific Industries Inc.
- Graham Corporation
- Hardinge Inc.
- Hurco Companies Inc.
- ION Geophysical Corporation
- Kadant Inc.
- Key Technology, Inc.
- MFRI, Inc.
- SAEExploration Holdings, Inc.
- The L.S. Starrett Company
- Natural Gas Services Group Inc.
- Rudolph Technologies Inc.
- SIFCO Industries Inc.
- Tesco Corporation
- Twin Disc, Incorporated
- USA Compression Partners, LP

In the event that any of the above-referenced companies ceases to be publicly traded during the Performance Period, it shall be dropped from the Peer Group and shall be excluded completely when determining the level of achievement of the Performance Measures.

SPECIAL VESTING  
EVENTS:

Death or Disability

In the event of the termination of Grantee's Continuous Service by the Company as a result of Grantee's death or Disability (as defined in section 2(b) of the Agreement), upon such termination of Continuous Service the Grantee shall receive a number of Earned Performance Units equal to the Target Units.

Termination of Continuous Service without Cause

In the event of the termination of Grantee's Continuous Service by the Company without "Cause" (as defined in Section 2(c) of the Agreement), the Grantee shall receive a number of Earned Performance Units at the end of the Performance Period determined as if Grantee had not terminated Continuous Service.

Notwithstanding the foregoing, in the event of a Change in Control prior to the end of the regularly scheduled Performance Period and following Grantee's termination of Continuous Service without "Cause," the Grantee shall be entitled to a number of Earned Performance Units determined as if the date of the Change in Control were the last day of the Performance Period and the Adjusted EBITDA Performance Measure was adjusted downward to reflect the shortened Performance Period. .

Change in Control

In the event of a Change in Control while Grantee is in the Continuous Service of the Company, upon the occurrence of the Change in Control the Grantee shall immediately be entitled to a number of Earned Performance Units equal to the greater of (i) the number of Earned Performance Units determined as if the date of the Change in Control were the last day of the Performance Period and the Adjusted EBITDA Performance Measure was adjusted downward to reflect the shortened Performance Period , or (ii) a number of Earned Performance Units equal to the Target Units.

**Payment:** The Company shall issue to Grantee one Share for each Earned Performance Unit, with the delivery of such Shares to occur as soon as reasonably practicable following the certification of results for the Performance Period (or if sooner, a termination of Grantee's Continuous Service as a result of death or Disability or the occurrence of a Change in Control), but in all events payment shall be made no more than seventy-four (74) days following the last day of the Performance Period (or the date of a termination upon death or Disability or a Change in Control, if sooner).

**Dividend Equivalents:** The Grantee shall be entitled in respect of Earned Performance Units to receive an additional amount in cash equal to the value of all dividends and distributions made between the Date of Grant and the date of payment with respect to a number of Shares equal to the greater of the Earned Performance Units or the Target Units (the "Dividend Equivalent"). The Dividend Equivalent shall be accumulated and paid on the date on which the Earned Performance Units are paid.

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 Performance Unit Award, and the Agreement in their entirety, has had an opportunity to obtain the advice of counsel prior to executing this Notice of Performance Unit Award 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 Performance Unit Award, 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: \_\_\_\_\_  
Name: \_\_\_\_\_  
Date: \_\_\_\_\_

By: \_\_\_\_\_  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_

## Performance Unit Award Agreement

**Section 1. Grant of Performance Units.** The Company hereby grants to the Grantee the right to earn Performance Units as set forth in the Notice of Performance Unit Award, subject to the terms, definitions and provisions of the Plan and this Agreement. All terms, provisions, and conditions applicable to Performance Units 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) Upon the termination of Participant's Continuous Service with the Company or its Subsidiaries for any reason, any Performance Units that have not been earned or that are not entitled to be earned following termination of employment in accordance with the Notice of Performance Unit Award shall immediately be forfeited. Upon forfeiture, Participant shall have no further rights with respect to such Performance Units and related Dividend Equivalents.

(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 Performance Units.** Performance Units may not be sold, assigned, transferred by gift or otherwise, pledged, hypothecated, or otherwise disposed of, by operation of law or otherwise.

**Section 4. Performance Measures.** Except as otherwise set forth in this Agreement or in the Notice of Performance Unit Award, Performance Units shall become Earned Performance Units based on the degree to which the Performance Measures set forth in the Notice of Performance Unit Award are satisfied.

**Section 5. Payment.** Payment in respect of Earned Performance Units shall be made at the time(s) and in the form(s) set forth in the Notice of Performance Unit Award.

**Section 6. 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 Performance Units 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 7. No Stockholder Rights.** Grantee shall have no rights as a stockholder with respect to the Performance Units.

**Section 7. 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 Performance Units. The Committee may condition the payment for Earned Performance Units 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 8. Company Policies to Apply.** The sale of any Shares received as payment for Earned Performance Units 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 the Performance Units is subject in all respects to any Company compensation clawback policies that may be in effect from time to time.

**Section 9. 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 payment in respect of Earned Performance Units, 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.

(j) Section 409A Compliance. The intent of the parties is that payments in respect of Performance Units be exempt from Section 409A of the Code as "short-term deferrals," and this Agreement and the Notice of Performance Unit Award shall be interpreted and administered accordingly.

## 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 Colombia SAS En	Colombia
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
TOO KAZ DYNAEnergetics	Kazakhstan
ooo DYNAenergetics Siberia	Russia
Nitro Metall Aktiebolag	Sweden
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. (formerly Dynamic Materials Corporation) (the "Company"):

- (1) Registration Statement (Form S-8 No. 333-188796) pertaining to the Company's 2006 Stock Incentive Plan,
- (2) Registration Statement (Form S-8 No. 333-182979) 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 9, 2017, 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, 2016.

/s/ Ernst & Young LLP

Denver, Colorado

March 9, 2017

## CERTIFICATIONS

I, Kevin T. Longe, certify that:

1. I have reviewed this annual report on Form 10-K of Dynamic Materials Corporation;
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 9, 2017

/s/ Kevin T. Longe

---

Kevin T. Longe  
President and Chief Executive Officer  
of Dynamic Materials Corporation

## CERTIFICATIONS

I, Michael Kuta, certify that:

1. I have reviewed this annual report on Form 10-K of Dynamic Materials Corporation;
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 9, 2017

/s/ Michael Kuta

Michael Kuta

Chief Financial Officer of Dynamic Materials Corporation

**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 Dynamic Materials Corporation (the "Company") on Form 10-K for the period ended December 31, 2016 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 9, 2017

/s/ Kevin T. Longe

---

Kevin T. Longe  
President and Chief Executive Officer  
of Dynamic Materials Corporation

A signed original of this written statement required by Section 906 has been provided to Dynamic Materials Corporation and will be retained by Dynamic Materials Corporation 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 Dynamic Materials Corporation (the "Company") on Form 10-K for the period ended December 31, 2016 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 9, 2017

/s/ Michael Kuta

\_\_\_\_\_  
Michael Kuta

Chief Financial Officer of Dynamic Materials Corporation

A signed original of this written statement required by Section 906 has been provided to Dynamic Materials Corporation and will be retained by Dynamic Materials Corporation and furnished to the Securities and Exchange Commission or its staff upon request.