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 EXCHANGE ACT OF 1934**

For the fiscal year ended September 30, 2018

or

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

For the transition period from to

Commission file number 001-33288

HAYNES INTERNATIONAL, INC.
(Exact name of registrant as specified in its charter)

Delaware (State or other jurisdiction of incorporation or organization)	**06-1185400** (I.R.S. Employer Identification No.)
1020 West Park Avenue, Kokomo, Indiana (Address of principal executive offices)	**46904-9013** (Zip Code)

Registrant's telephone number, including area code **(765) 456-6000**

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

Title of each class	Name of each exchange on which registered
Common Stock, par value $.001 per share	**NASDAQ Global Market**

Securities registered pursuant to section 12(g) of the Act: **None**.

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 Section 15(d) of the Act. ☐ 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 every Interactive Data File required to be submitted 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 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 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, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☐ Accelerated filer ☒ Non-accelerated filer ☐ Smaller reporting Company ☐
Emerging growth company ☐

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

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

As of March 31, 2018, the aggregate market value of the registrant's common stock held by non-affiliates of the registrant was $296,922,788 based on the closing sale price as reported on the NASDAQ Global Market. Shares of common stock held by each executive officer and director and by each person who owns 10% or more of the outstanding common stock have been excluded in that such persons may be deemed to be affiliates. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

12,504,478 shares of Haynes International, Inc. common stock were outstanding as of November 15, 2018.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's Proxy Statement to be delivered to stockholders in connection with the Annual Meeting of Stockholders to be held February 27, 2019 have been incorporated by reference into Part III of this report.

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This Annual Report on Form 10-K contains statements that constitute "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995, Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934, each as amended. All statements other than statements of historical fact, including statements regarding market and industry prospects and future results of operations or financial position, made in this Annual Report on Form 10-K are forward-looking. In many cases, you can identify forward-looking statements by terminology, such as "may", "should", "expects", "intends", "plans", "anticipates", "believes", "estimates", "predicts", "potential" or "continue" or the negative of such terms and other comparable terminology. The forward-looking information may include, among other information, statements concerning the Company's outlook for fiscal year 2019 and beyond, overall volume and pricing trends, cost reduction strategies and their anticipated results, market and industry trends, capital expenditures and dividends. There may also be other statements of expectations, beliefs, future plans and strategies, anticipated events or trends and similar expressions concerning matters that are not historical facts. Readers are cautioned that any such forward-looking statements are not guarantees of future performance and involve risks and uncertainties, including, without limitation, those risk factors set forth in Item 1A of this Annual Report on Form 10-K. Actual results may differ materially from those in the forward-looking statements as a result of various factors, many of which are beyond the Company's control.

The Company has based these forward-looking statements on its current expectations and projections about future events. Although the Company believes that the assumptions on which the forward-looking statements contained herein are based are reasonable, any of those assumptions could prove to be inaccurate. As a result, the forward-looking statements based upon those assumptions also could be incorrect. Risks and uncertainties may affect the accuracy of forward-looking statements.

The Company undertakes no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

Part I

Item 1. Business

Overview

Haynes International, Inc. (“Haynes”, “the Company”, “we”, “our” or “us”) is one of the world’s largest producers of high-performance nickel- and cobalt-based alloys in flat product form such as sheet, coil and plate forms. The Company is focused on developing, manufacturing, marketing and distributing technologically advanced, high-performance alloys, which are sold primarily in the aerospace, chemical processing and industrial gas turbine industries. The Company’s products consist of high-temperature resistant alloys, or HTA products, and corrosion-resistant alloys, or CRA products. HTA products are used by manufacturers of equipment that is subjected to extremely high temperatures, such as jet engines for the aerospace market, gas turbine engines used for power generation and waste incineration, and industrial heating equipment. CRA products are used in applications that require resistance to very corrosive media found in chemical processing, power plant emissions control and hazardous waste treatment. Management believes Haynes is one of the principal producers of high-performance alloy flat products in sheet, coil and plate forms, and sales of these forms, in the aggregate, represented approximately 60% of net product revenues in fiscal 2018. The Company also produces its products as seamless and welded tubulars, and in slab, bar, billet and wire forms.

The Company has manufacturing facilities in Kokomo, Indiana; Arcadia, Louisiana; and Mountain Home, North Carolina. The Kokomo facility specializes in flat products, the Arcadia facility specializes in tubular products, and the Mountain Home facility specializes in wire products. The Company’s products are sold primarily through its direct sales organization, which includes 12 service and/or sales centers in the United States, Europe and Asia. All of these centers are Company-operated. In fiscal 2018, approximately 75% of the Company’s net revenue was generated by its direct sales organization, and the remaining 25% was generated by a network of independent distributors and sales agents that supplement its direct sales efforts primarily in the United States, Europe and Asia, some of whom have been associated with the Company for over 30 years.

Available Information

The address of the Company’s website is *www.haynesintl.com*. The Company provides a link to its reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 on its website as soon as reasonably practicable after filing with the U.S. Securities and Exchange Commission. The filings available on the Company’s website date back to February 3, 2011. For all filings made prior to that date, the Company’s website includes a link to the website of the U.S. Securities and Exchange Commission, where such filings are available. Information contained or referenced on the Company’s website is not incorporated by reference into, and does not form a part of this Annual Report on Form 10-K. For a statement of the Company’s profits and losses and total assets, please see the financial statements of the Company included in Item 8 of this Annual Report on Form 10-K.

Business Strategy

The Company’s goal is to grow its business by increasing revenues, profitability and cash flow while continuing to be its customers’ provider of choice for high-performance alloys and value-added processes. The Company has launched a series of focus initiatives designed to unlock the potential of the Company by increasing volumes, improving targeted pricing, strengthening mix management and reducing costs. This includes effectively utilizing open capacity on major assets and managing mix at constrained assets in order to, among other things, derive a meaningful return on investment from the $120 million in growth capital the Company has invested since 2012. In addition, these initiatives include programs designed to take advantage of the Company’s expert technical abilities in delivering innovative products and applications combined with its niche manufacturing and value-added service capabilities to penetrate end markets.

The following are some examples of the focus initiatives that are currently being undertaken.

- *Increase revenues by inventing new alloys, developing new applications for existing alloys and expanding into new markets.* The Company believes that it is the industry leader in developing new alloys designed to meet its customers’ specialized and demanding requirements. The Company continues to work closely with customers and end users of its products to identify, develop, manufacture and test new high-performance alloys. Since fiscal 2003, the Company’s technical programs have yielded nine new proprietary alloys, an

accomplishment that the Company believes distinguishes it from its competitors. The Company expects continued emphasis on product innovation to yield similar future results.

Developing new applications for existing alloys is also a key strength and strategy of the Company. The Company leverages its technical expertise to find unique applications for its products, especially proprietary and specialty alloys that can yield higher margins.

Through development of new alloys and new applications for existing alloys, the Company is seeking to develop additional markets in order to generate new revenue streams beyond the core markets of aerospace, chemical processing and industrial gas turbine industries. The Company believes that the synthetic natural gas, renewable energy (such as solar), fuel cells, clean-coal, waste-to-energy, oil and gas, flue-gas desulfurization in China, automotive, consumer electronics, heat treatment, medical and nuclear industries all present opportunities for its products.

- *Increase revenues by providing value-added processing services and leveraging the Company's global distribution network.* The Company believes that its network of service and sales centers throughout North America, Europe and Asia distinguishes it from its competitors, many of whom operate only mills. The Company's service and sales centers enable it to develop close customer relationships through direct interaction with customers and to respond to customer orders quickly, while providing value-added cutting services such as laser, plasma and water-jet cutting. These services allow the Company's customers to minimize their processing costs and outsource non-core activities. In addition, the Company's rapid response time and enhanced processing services for products shipped from its service and sales centers offers the opportunity for the Company to provide more timely service to its customers.
- *Capitalize on strategic equipment investment and optimize processes with lean manufacturing improvements.* The Company expects to continue to improve operations through prior and ongoing capital investment in manufacturing facilities and equipment, including information technology, and focus on operational excellence. Ongoing investment in equipment is expected to improve the Company's operations by increasing capacity, reducing unplanned downtime and manufacturing costs and improving product quality and working capital management. Management believes that the Company's capital investments will enable it to continue to satisfy long-term customer demand for value-added products that meet increasingly precise specifications. For additional discussion of capital spending, see "Summary of Capital Spending" in Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations, contained elsewhere in this Annual Report on Form 10-K.
- *Continue to expand the maintenance, repair and overhaul business.* The Company believes that its maintenance, repair and overhaul, or MRO, business serves a growing market and represents both an expanding and recurring revenue stream. Products used in the Company's end markets require periodic replacement due to the extreme environments in which they are used, which drives demand for recurring MRO work. The Company intends to continue to leverage the capabilities of its service and sales centers to respond quickly to its customers' time-sensitive MRO needs to develop new and retain existing business opportunities.
- *Expand product capability through strategic acquisitions and alliances.* The Company will continue to examine opportunities that enable it to offer customers an enhanced and more competitive product line to complement its core flat products. These opportunities may include product line enhancement and market expansion opportunities. The Company will also continue to evaluate strategic relationships with third parties in the industry in order to enhance its competitive position and relationships with customers.

Company History

The Company was founded in 1912 as Haynes Stellite Works by American inventor and entrepreneur Elwood Haynes in Kokomo, Indiana. Since its founding, the Company has continuously conducted its main operations in Kokomo, Indiana. The Company was owned for much of its history by corporate parents, including Union Carbide and Cabot

Corporation, until purchased in 1989 and then again in 1997 by private equity firms. The debt incurred in the last leveraged buy-out ultimately forced the Company into bankruptcy in March 2004, from which it emerged five months later in August 2004.

The Company began operations in its tubular facility in Arcadia, Louisiana over 30 years ago. This facility and the Company's tubular product business have grown with additional investment over time. The Company operates service centers in the U.S. that include value-added operations with laser, water-jet and plasma cutting. The Company also acquired a stainless steel and high-temperature alloy wire company located in Mountain Home, North Carolina in 2005. The Company primarily produces high-performance alloy wire at that facility. Most recently, in January 2015, the Company acquired assets in LaPorte, Indiana enabling coil stretching, leveling, slitting and cut-to-length operations. The Laporte operation also includes a toll processing business. The Company expanded the Laporte facility and moved operations from Lebanon, Indiana to that facility. In addition, the Company has expanded globally with service center locations in the United Kingdom, Switzerland and China and other sales offices in France, Japan, Singapore and Italy.

In March 2007, the Company completed a public equity offering, and simultaneously the Company listed its common stock on the NASDAQ Global Market. The Company began paying a dividend in fiscal 2010 and raised the dividend at the beginning of fiscal 2012.

Products

The global specialty alloy market consists of three primary sectors: stainless steel, general-purpose nickel alloys and high-performance nickel- and cobalt-based alloys. The Company believes that the high-performance alloy sector represents less than 10% of the total alloy market. The Company competes primarily in the high-performance nickel- and cobalt-based alloy sectors, which includes HTA products and CRA products. In each year of fiscal 2016, 2017 and 2018, HTA products accounted for approximately 81% of the Company's net revenues, and sales of the Company's CRA products accounted for approximately 19% of the Company's net revenues. These percentages are based on data which include revenue associated with sales by the Company to its foreign subsidiaries, but exclude revenue associated with sales by foreign subsidiaries to their customers. Management believes, however, that the effect of including revenue data associated with sales by its foreign subsidiaries would not materially change the percentages presented in this section.

High-temperature Resistant Alloys. HTA products are used primarily in manufacturing components for the hot sections of gas turbine engines. Stringent safety and performance standards in the aerospace industry result in development lead times typically as long as eight to ten years in the introduction of new aerospace-related market applications for HTA products. However, once a particular new alloy is shown to possess the properties required for a specific application in the aerospace market, it tends to remain in use for extended periods. HTA products are also used in gas turbine engines produced for use in applications such as naval and commercial vessels, electric power generation, power sources for offshore drilling platforms, gas pipeline booster stations and emergency standby power generators. The following table

sets forth information with respect to the Company's significant high-temperature resistant alloys, applications and features (new HTA development is discussed below under "Patents and Trademarks"):

Alloy and Year Introduced	End Markets and Applications[1]	Features
HAYNES® HR-160® alloy (1990)[2]	Waste incineration/CPI-boiler tube shields	Good resistance to sulfidation at high temperatures
HAYNES 242® alloy (1990)	Aero-seal rings	High strength, low expansion and good fabricability
HAYNES HR-120® alloy (1990)	IGT-cooling shrouds	Good strength-to-cost ratio as compared to competing alloys
HAYNES 230® alloy (1984)[2]	Aero/IGT-ducting, combustors	Excellent combination of strength, stability, oxidation-resistance and fabricability
HAYNES 214® alloy (1981)[2]	Aero-honeycomb seals	Excellent combination of oxidation resistance and fabricability among nickel-based alloys
HAYNES 188 alloy (1968)	Aero-burner cans, after-burner components	High strength, oxidation resistant cobalt-based alloy
HAYNES 625 alloy (1964)	Aero/CPI-ducting, tanks, vessels, weld overlays	Good fabricability and general corrosion resistance
HAYNES 617 alloy (1999)	Aero/IGT—ducting, combustors	Good combination of strength, stability, oxidation resistance and fabricability
HAYNES 263 alloy (1960)	Aero/IGT-components for gas turbine hot gas exhaust pan	Good ductility and high strength at temperatures up to 1600°F
HAYNES 718 alloy (1955)	Aero-ducting, vanes, nozzles	Weldable, high-strength alloy with good fabricability
HASTELLOY® X alloy (1954)	Aero/IGT-burner cans, transition ducts	Good high-temperature strength at relatively low cost
HAYNES 25 alloy (1950)[2]	Aero-gas turbine parts, bearings, and various industrial applications	Excellent strength, good oxidation resistance to 1800°F
HAYNES 282® alloy (2005)[2]	Aero/IGT components	Excellent high temperature strength, weldability and fabricability
HAYNES 244® alloy (2013)[2]	Aero/IGT components	High strength to 1400°F and low thermal expansion

(1) "Aero" refers to the aerospace industry; "IGT" refers to the industrial gas turbine industry; "CPI" refers to the chemical processing industry.

(2) Represents a patented product or a product which the Company believes has limited or no competition.

Corrosion-resistant Alloys. CRA products are used in a variety of applications, such as chemical processing, power plant emissions control, hazardous waste treatment, sour gas production and pharmaceutical vessels. Historically, the chemical processing market has represented the largest end-user sector for CRA products. Due to maintenance, safety and environmental considerations, the Company believes this market continues to represent an area of potential long-term growth. In addition to the use of CRA products in the chemical and petrochemical processing industry, the Company has seen an increased demand for some of these alloys in applications such as gas-to-liquid and synthetic gas. For improved efficiency within relevant applications, higher operating temperatures and harsher environmental conditions are required and, as a consequence, high-temperature, corrosion-resistant alloys are used. Some of our HTA products offer excellent resistance to oxidation, sulfidation, metal dusting and other high-temperature degradation modes. The Company expects this area of the chemical and petrochemical industry to represent potential long-term growth opportunities for the HTA products. Unlike aerospace applications within the HTA product market, the development of new market applications for CRA products generally does not require long lead times. The following table sets forth information with respect to certain

of the Company's significant corrosion-resistant alloys, applications and features (new CRA development is discussed below under "Patents and Trademarks"):

Alloy and Year Introduced	End Markets and Applications[1]	Features
HASTELLOY C-2000® alloy (1995)[2]	CPI-tanks, mixers, piping	Versatile alloy with good resistance to uniform corrosion
HASTELLOY B-3® alloy (1994)[2]	CPI-acetic acid plants	Better fabrication characteristics compared to other nickel-molybdenum alloys
HASTELLOY D-205® alloy (1993)[2]	CPI-plate heat exchangers	Corrosion resistance to hot concentrated sulfuric acid
ULTIMET® alloy (1990)[2]	CPI-pumps, valves	Wear and corrosion resistant nickel-based alloy
HASTELLOY C-22® alloy (1985)	CPI/FGD-tanks, mixers, piping	Resistance to localized corrosion and pitting
HASTELLOY G-30® alloy (1985)[2]	CPI-tanks, mixers, piping	Alloy with good corrosion resistance in phosphoric acid
HASTELLOY G-35® alloy (2004)[2]	CPI-tanks, heat exchangers, piping	Improved corrosion resistance to phosphoric acid with excellent resistance to corrosion in highly oxidizing media
HASTELLOY C-276 alloy (1968)	CPI/FGD/oil and gas tanks, mixers, piping	Broad resistance to many environments
HASTELLOY C-22HS® alloy (2003)[2]	Oil & Gas/Marine tubular, shafts, fasteners	Combines very high strength with excellent corrosion resistance and toughness

(1) "CPI" refers to the chemical processing industry; "FGD" refers to the flue gas desulfurization industry.

(2) Represents a patented product or a product which the Company believes has limited or no significant competition.

Patents and Trademarks

The Company currently maintains a total of approximately 25 published U.S. patents and applications and approximately 267 foreign counterpart patents and applications targeted at countries with significant or potential markets for the patented products. Since fiscal 2003, the Company's technical programs have yielded nine new proprietary alloys. The alloys being commercialized saw significant further advancement in the process during fiscal 2016, 2017 and 2018. HAYNES 282 alloy, which management believes will have significant commercial potential for the Company in the long term, is the subject of a U.S. patent issued in 2011. HAYNES 282 alloy has excellent formability, fabricability and forgeability. The commercial launch of HAYNES 282 alloy occurred in October 2005 and, since that time, there have been a significant number of customer tests and evaluations of this product for the hot sections of gas turbines in the aerospace and industrial gas turbine markets, as well as for automotive and other high-temperature applications. The alloy has been specified into major aerospace and industrial gas turbine components. The Company will continue to actively promote HAYNES 282 alloy through customer engineering visits and technical presentations and papers. Another new alloy for use in the aerospace and industrial gas turbine markets is HAYNES 244 alloy (U.S. patent filed in 2012 and granted in 2013). It combines high strength to 1400 degrees Fahrenheit with a low coefficient of thermal expansion. Commercialization is ongoing for this alloy, and it has recently been specified into a major aerospace component.

In the chemical processing industry, customers have found extensive applications for HASTELLOY G-35 alloy, particularly in wet phosphoric acid production. Management expects demand for this alloy will continue to grow. Commercialization of HASTELLOY C-22HS alloy has also continued, and the alloy has already found applications in the oil and gas industry. Testing, evaluation and promotion of this alloy are ongoing with special emphasis on applications for this industry. The Company believes that its alloys (particularly HAYNES 282 alloy) are being commercialized rapidly when compared to historical trends for other proprietary alloys introduced by the Company. Commercialization is also ongoing for HASTELLOY HYBRID-BC1® alloy and HAYNES HR-224® alloy. HYBRID-BC1 alloy is a CRA product with potential applications in the chemical processing industry that has demonstrated resistance to hydrochloric and

sulfuric acid. HAYNES HR-224 alloy is an HTA product with superior resistance to oxidation and excellent fabricability.

In addition to the commercialization of the above alloys, the Company continues to develop applications for new alloys not yet ready to begin the commercialization process. HAYNES HR-235® was introduced in fiscal 2013. This alloy has excellent resistance to metal dusting in carbonaceous high temperature environments. Potential uses include applications in petrochemical production and syngas plants. Scale-up of this alloy is well underway and material is currently being evaluated by certain key customers. Most recently, HAYNES 233™ alloy was introduced. This alloy offers excellent oxidation resistance at temperatures to 2100°F or higher coupled with superior clasp strength, a combination of properties believed not to have been achieved previously in a readily fabricated alloy. The alloy is currently being scaled-up and introduced to key customers.

Patents or other proprietary rights are an important element of the Company's business. The Company's strategy is to file patent applications in the U.S. and any other country that represents an important potential commercial market to the Company. In addition, the Company seeks to protect technology that is important to the development of the Company's business. The Company also relies upon trade secret rights to protect its technologies and its development of new applications and alloys. The Company protects its trade secrets in part through confidentiality and proprietary information agreements with its customers. Trademarks on the names of many of the Company's alloys have also been applied for or granted in the U.S. and certain foreign countries.

While the Company believes its patents are important to its competitive position, significant barriers to entry continue to exist beyond the expiration of any patent period. These barriers to entry include the unique equipment required to produce these materials and the exacting processes required to achieve the desired metallurgical properties. These processing requirements include such items as specific annealing temperature, processing speeds and reduction per rolling pass. Management believes that the current alloy development program and these barriers to entry reduce the impact of patent expirations on the Company.

End Markets

The global specialty alloy market consists of stainless steels, general purpose nickel alloys and high-performance nickel- and cobalt-based alloys. Of this total market, the Company primarily competes in the high-performance nickel- and cobalt-based alloy sector, which demands diverse specialty alloys suitable for use in precision manufacturing. Given the technologically advanced nature of the products, strict requirements of the end users and higher-growth end markets, the Company believes the high-performance alloy sector provides greater growth potential, higher profit margins and greater opportunities for service, product and price differentiation as compared to the stainless steels and general-purpose nickel alloys markets. While stainless steel and general-purpose nickel alloys are generally sold in bulk through third-party distributors, the Company's products are sold in smaller-sized orders which are customized and typically handled on a direct-to-customer basis.

Aerospace. The Company has manufactured HTA products for the aerospace market since the late 1930s and has developed numerous proprietary alloys for this market. Customers in the aerospace market tend to be the most demanding with respect to meeting specifications within very precise tolerances and achieving new product performance standards. Stringent safety standards and continuous efforts to reduce equipment weight and develop more fuel-efficient designs require close coordination between the Company and its customers in the selection and development of HTA products. As a result, sales to aerospace customers tend to be made through the Company's direct sales force. Demand for the Company's products in the aerospace market is based on the new and replacement market for jet engines and the maintenance needs of operators of commercial and military aircraft. The Company specializes in the static parts included in the hot sections of the jet engine. The hot sections are subjected to substantial wear and tear and accordingly require periodic maintenance, repair and overhaul. The Company views the maintenance, repair and overhaul (MRO) business as an area of continuing long-term growth.

Chemical Processing. The chemical processing market represents a large base of customers with diverse CRA applications driven by demand for key end-use markets such as automobiles, housing, health care, agriculture and metals production. CRA products supplied by the Company have been used in the chemical processing market since the early 1930s. Demand for the Company's products in this market is driven by the level of MRO and expansion requirements of

existing chemical processing facilities, as well as the construction of new facilities. The expansion of manufacturing of natural gas liquids in North America is expected to be a driver of demand in this market. In addition, the Company believes the extensive worldwide network of Company-owned service and sales centers, as well as its network of independent distributors and sales agents who supplement the Company's direct sales efforts outside of the U.S., provide a competitive advantage in marketing its CRA products in the chemical processing market.

Industrial gas turbine. Demand for the Company's products in the industrial gas turbine market is driven by the construction of cogeneration facilities such as base load for electric utilities or as backup sources to fossil fuel-fired utilities during times of peak demand. Demand for the Company's alloys in the industrial gas turbine markets has also been driven by concerns regarding lowering emissions from generating facilities powered by fossil fuels. Industrial gas turbine generating facilities have gained acceptance as clean, low-cost alternatives to fossil fuel-fired electric generating facilities. Industrial gas turbines are also used in power barges with mobility and as temporary base-load-generating units for countries that have numerous islands and a large coastline. Demand is also generated by mechanical drive units used for oil and gas production and pipeline transportation, as well as microturbines that are used as back-up sources of power generation for hospitals and shopping malls.

Other Markets. Other markets in which the Company sells its HTA products and CRA products include flue-gas desulfurization (FGD), oil and gas, waste incineration, industrial heat treating, automotive, instrumentation, biopharmaceuticals, solar and nuclear fuel. The FGD market has been driven by both legislated and self-imposed standards for lowering emissions from fossil fuel-fired electric generating facilities. This market is expected to soften in the U.S. if the trend to switch from coal to natural gas for power plants continues. The Company also sells its products for use in the oil and gas market, primarily in connection with sour gas production. In addition, incineration of municipal, biological, industrial and hazardous waste products typically produces very corrosive conditions that demand high-performance alloys. The Company continues to look for opportunities to introduce and expand the use of its alloys in emerging technologies such as solar and nuclear fuel applications. Markets capable of providing growth are being driven by increasing performance, reliability and service life requirements for products used in these markets, which could provide further applications for the Company's products.

Sales and Marketing and Distribution

The Company sells its products primarily through its direct sales organization, which operates from 15 total locations in the U.S., Europe and Asia, 12 of which are service and/or sales centers. All of the Company's service and/or sales centers are operated either directly by the Company or through its directly or indirectly wholly-owned subsidiaries. Approximately 75% of the Company's net revenue in fiscal 2018 was generated by the Company's direct sales organization. The remaining 25% of the Company's fiscal 2018 net revenues was generated by a network of independent distributors and sales agents who supplement the Company's direct sales in the U.S., Europe and Asia. Going forward, the Company expects its direct sales force to generate approximately 75% of its total net revenues.

Providing technical assistance to customers is an important part of the Company's marketing strategy. The Company provides performance analyses of its products and those of its competitors for its customers. These analyses enable the Company to evaluate the performance of its products enabling the products to be included as part of the technical specifications used in the production of customers' products. The Company's market development professionals are assisted by its engineering and technology staff in directing the sales force to new opportunities. Management believes the Company's combination of direct sales, technical marketing, engineering and customer support provides an advantage over other manufacturers in the high-performance alloy industry. This framework allows the Company to obtain direct insight into customers' alloy needs and to develop proprietary alloys that provide solutions to customers' problems.

The Company continues to focus on growing its business in foreign markets, operating from service and sales centers in Asia and Europe.

While the Company is making concentrated efforts to expand foreign sales, the majority of its revenue continues to be provided by sales to U.S. customers. The Company's domestic expansion effort includes, but is not limited to, capital investment in increased capacity, the continued expansion of ancillary product forms, the continued development of new high-performance alloys, the addition of equipment in U.S. service and sales centers to improve the Company's ability to provide a product closer to the form required by the customer and the continued effort, through the technical expertise of the Company, to find solutions to customer challenges.

The following table sets forth the approximate percentage of the Company's fiscal 2018 net revenues generated through each of the Company's distribution channels.

	From Domestic Locations	From Foreign Locations	Total
Company mill direct/service and sales centers	47 %	28 %	75 %
Independent distributors/sales agents	25 %	— %	25 %
Total	72 %	28 %	100 %

The Company's top twenty customers accounted for approximately 41%, 38% and 36% of the Company's net revenues in fiscal 2016, 2017 and 2018, respectively. No customer or group of affiliated customers of the Company accounted for more than 10% of the Company's net revenues in fiscal 2016, 2017 or 2018.

Manufacturing Process

High-performance alloys require a lengthier, more complex production process and are more difficult to manufacture than lower-performance alloys, such as stainless steel. The alloying elements in high-performance alloys must be highly refined during melting, and the manufacturing process must be tightly controlled to produce precise chemical properties. The resulting alloyed material is more difficult to process because, by design, it is more resistant to deformation. Consequently, high-performance alloys require that a greater force be applied when hot or cold working and are less susceptible to reduction or thinning when rolling or forging. This results in more cycles of rolling, annealing and pickling compared to a lower-performance alloy to achieve proper dimensions. Certain alloys may undergo forty or more distinct stages of melting, remelting, annealing, hot reduction, cold reduction, pickling and testing before they achieve the specifications required by a customer. This longer production cycle contributes to slower inventory turns. The Company manufactures its high-performance alloys in various forms, including sheet, coil, plate, billet/ingot, tubular, wire and other forms. The Company also performs value-added cutting services to supply certain customers with product cut to their specification.

At the Kokomo, Indiana facility, the manufacturing process begins with raw materials being combined, melted and refined in a precise manner to produce the chemical composition specified for each high-performance alloy. The Company's primary melt facility utilizes two different melting processes. The argon oxygen decarburization process utilizes gas controls to remove carbon and other undesirable elements, thereby allowing more tightly-controlled chemistries, which in turn produce more consistent properties in the high-performance alloys. The other primary melt method utilizes vacuum induction melting, which involves the melting of raw materials through electromagnetic induction while under vacuum conditions to produce the desired tightly-controlled chemistry. The control systems allow for statistical process control monitoring in real time to improve product quality. For most high-performance alloys, this molten material is cast into electrodes and additionally refined through electroslag remelting. The resulting ingots are then forged or rolled to an intermediate shape and size depending upon the intended final product form. Intermediate shapes destined for flat products are then sent through a series of hot and cold rolling, annealing, pickling, leveling and shearing operations before being cut to final size.

The Company has a four-high Steckel rolling mill for use in hot rolling high-performance alloys, created specifically for that purpose. The four-high Steckel rolling mill was installed in 1982 and is one of the most powerful four-high Steckel rolling mills in the world. The mill is capable of generating approximately 12.0 million pounds of separating force and rolling a plate up to 72 inches wide. The mill includes integrated computer controls (with automatic gap control and programmed rolling schedules), two coiling Steckel furnaces and seven heating furnaces. Computer-controlled rolling schedules for each of the hundreds of combinations of product shapes and sizes the Company produces allow the mill to roll numerous widths and gauges to exact specifications without stoppages or changeovers.

The Company also operates a three-high hot rolling mill and a two-high hot rolling mill, each of which is capable of custom processing much smaller quantities of material than the four-high Steckel rolling mill. These mills provide the Company with significant flexibility in running smaller batches of varied products in response to customer requirements. The Company believes the flexibility provided by the three-high and two-high mills provides the Company with an advantage over its major competitors in obtaining smaller specialty orders.

The coil and sheet operation includes the ability to cold roll to tight tolerances, bright anneal, oxidize anneal and pickle, along with finishing processes that slit and cut to size. The Company recently made the capital investment to redesign, rebuild, and operate a cold mill that has been shuttered for a decade, resulting in a significant increase in capacity in that area. The Company has also invested, installed, and begun to operate a new processing line for more annealing capacity to support the added rolling capacity. This added annealing capacity gives the Company the ability to offer either bright annealed finish or anneal and pickled finish that will be determined by specifications, application or type of alloy.

The Arcadia, Louisiana facility uses feedstock produced at the Kokomo facility to fabricate welded and seamless alloy pipe and tubing and purchases extruded tube hollows to produce seamless titanium tubing. The manufacturing processes at Arcadia require cold pilger mills, weld mills, draw benches, annealing furnaces and pickling facilities. The Company recently completed a capital investment project that added capacity in the above-mentioned processes.

The Mountain Home, North Carolina facility primarily manufactures finished high-performance alloy wire. Finished wire products and powder are also warehoused at this facility.

Backlog

The Company defines backlog to include firm commitments from customers for delivery of product at established prices. There are orders in the backlog at any given time which include prices that are subject to adjustment based on changes in raw material costs, that can vary from approximately 30%-50% of the orders. Historically, approximately 75% of the Company's backlog orders have shipped within six months and approximately 90% have shipped within 12 months. The backlog figures do not typically reflect that portion of the Company's business conducted at its service and sales centers on a spot or "just-in-time" basis. For additional discussion of backlog, see Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations contained in this Annual Report on Form 10-K.

Consolidated Backlog at Fiscal Quarter End

	2014	2015	2016	2017	2018
			(in millions)		
1st quarter	$ 180.2	$ 215.5	$ 204.7	$ 167.3	$ 205.7
2nd quarter	202.3	220.4	193.5	170.8	212.3
3rd quarter	204.7	192.9	187.2	180.9	220.6
4th quarter	221.3	185.8	168.3	177.3	216.0

Raw Materials

Raw materials represented an estimated 36% of cost of sales in fiscal 2018. Nickel, a major component of many of the Company's products, accounted for approximately 34% of raw material costs, or approximately 12% of total cost of sales in fiscal 2018. Other raw materials include cobalt, chromium, molybdenum and tungsten. Melt materials consist of virgin raw material, purchased scrap and internally produced scrap.

The average nickel price per pound for cash buyers for the 30-day period ended on September 30, 2016, 2017 and 2018, as reported by the London Metals Exchange, was $4.63, $5.10 and $5.68 respectively. Prices for certain other raw materials which are significant in the manufacture of the Company's products, such as molybdenum, cobalt and chrome were higher in fiscal 2018 compared to fiscal 2017.

Although alternative sources of supply are available, the Company currently purchases nickel through an exclusive arrangement with a single supplier to ensure consistent quality and supply. The Company purchases raw materials through various arrangements including fixed-term contracts and spot purchases, which involve a variety of pricing mechanisms. In cases where the Company prices its products at the time of order placement, the Company attempts to establish selling prices with reference to known costs of materials, thereby reducing the risk associated with changes in the cost of raw materials. However, to the extent that the price of nickel fluctuates rapidly, there may be a favorable or unfavorable effect on the Company's gross profit margins. The Company periodically purchases material forward with certain suppliers in connection with fixed price agreements with customers. In the event a customer fails to meet the

expected volume levels or the consumption schedule deviates from the expected schedule, a rapid or prolonged decrease in the price of raw materials could adversely affect the Company's operating results.

The Company values inventory utilizing the first-in, first-out ("FIFO") inventory costing methodology. Under the FIFO inventory costing method, the cost of materials included in cost of sales may be different from the current market price at the time of sale of finished product due to the length of time from the acquisition of the raw material to the sale of the finished product. In a period of decreasing raw material costs, the FIFO inventory valuation method normally results in higher costs of sales as compared to last-in, first out method. Conversely, in a period of rising raw material costs, the FIFO inventory valuation method normally results in lower costs of sales.

Research and Technical Support

The Company's technology facilities are located at the Kokomo headquarters and consist of 19,000 square feet of offices and laboratories, as well as an additional 90,000 square feet of paved storage area. The Company has six fully equipped technology testing laboratories, including a mechanical and wear test lab, a metallographic lab, an electron microscopy lab, a corrosion lab, a high-temperature lab and a welding lab. These facilities also contain a reduced scale, fully equipped melt shop and process lab. As of September 30, 2018, the technology, engineering and technological testing staff consisted of 25 persons, 11 of whom have engineering or science degrees, including 5 with doctoral degrees, with the majority of degrees in the field of metallurgical engineering or materials science.

During fiscal 2018, research and development projects were focused on new alloy development, new product form development, supportive data generation and new alloy concept validation, relating to products for the aerospace, industrial gas turbine, chemical processing and oil and gas industries. In addition, significant projects were conducted to generate technical data in support of major market application opportunities in areas such as renewable energy, fuel cell systems, biotechnology (including toxic waste incineration and pharmaceutical manufacturing) and power generation.

Competition

The high-performance alloy market is a highly competitive market in which eight to ten major producers participate in various product forms. The Company's primary competitors in flat rolled products include Special Metals Corporation, a subsidiary of Precision Castparts Corp., Allegheny Technologies, Inc. and VDM Metals GmbH. The Company faces strong competition from domestic and foreign manufacturers of both high-performance alloys (similar to those the Company produces) and other competing metals. The Company may face additional competition in the future to the extent new materials are developed, such as plastics, ceramics or additive manufacturing that may be substituted for the Company's products. The Company also believes that it will face increased competition from non-U.S. entities in the next five to ten years, especially from competitors located in Eastern Europe and Asia. For example, recent tariff increases between the U.S. and China, among other changes could lead to a "trade war" that could adversely affect the Company's competitive position. Additionally, in recent years, the Company's domestic business has been challenged by a strong U.S. dollar, which makes the goods of foreign competitors less expensive to import into the U.S and makes the Company's products more expensive to export outside the U.S.

In recent years, the Company experienced strong price competition from competitors who produce both stainless steel and high-performance alloys due primarily to weakness in the stainless steel market. Increased competition requires the Company to price its products competitively, which pressures the Company's gross profit margin and net income. The Company continues to respond to this competition by increasing emphasis on service centers, offering value-added services, improving its cost structure and striving to improve delivery times and reliability.

Employees

As of September 30, 2018, the Company employed 1,157 full-time employees worldwide. All eligible hourly employees at the Kokomo, Indiana and Arcadia, Louisiana plants (541 in the aggregate) are covered by two collective bargaining agreements.

On July 1, 2018, the Company entered into a new five-year collective bargaining agreement with the United

Steelworkers of America, which covers eligible hourly employees at the Kokomo, Indiana plant. This agreement will expire in June 2023.

On December 21, 2015, the Company entered into a new collective bargaining agreement with the United Steelworkers of America which covers eligible hourly employees at the Company's Arcadia, Louisiana plant. This agreement will expire in December 2020.

Management believes that current relations with the union are satisfactory.

Environmental Matters

The Company's facilities and operations are subject to various foreign, federal, state and local laws and regulations relating to the protection of human health and the environment, including those governing the discharge of pollutants into the environment and the storage, handling, use, treatment and disposal of hazardous substances and wastes. In the U.S., such laws include, without limitation, the Occupational Safety and Health Act, the Clean Air Act, the Clean Water Act, the Toxic Substances Control Act and the Resource Conservation and Recovery Act. As environmental laws and regulations continue to evolve, it is likely the Company will be subject to increasingly stringent environmental standards in the future, particularly under air quality and water quality laws and standards related to climate change issues, such as reporting of greenhouse gas emissions. Violations of these laws and regulations can result in the imposition of substantial penalties and can require facility improvements. Expenses related to environmental compliance, which are primarily included in Cost of sales on the Consolidated Statements of Operations, were approximately $2.8 million for fiscal 2018 and are currently expected to be approximately $2.5 million for fiscal 2019.

The Company's facilities are subject to periodic inspection by various regulatory authorities, who from time to time have issued findings of violations of governing laws, regulations and permits. In the past five years, the Company has paid administrative fines, none of which have had a material effect on the Company's financial condition, for alleged violations relating to environmental matters, requirements relating to its Title V Air Permit and alleged violations of record keeping and notification requirements relating to industrial waste water discharge. Capital expenditures of approximately $1.1 million were made for pollution control improvements during fiscal 2018, with additional expenditures of approximately $1.4 million for similar improvements planned for fiscal 2019.

The Company has received permits from the Indiana Department of Environmental Management and the North Carolina Department of Environment and Natural Resources to close and provide post-closure environmental monitoring and care for certain areas of its Kokomo and Mountain Home, North Carolina facilities, respectively.

The Company is required among other things to monitor groundwater and to continue post-closure maintenance of the former disposal areas at each site. As a result, the Company is aware of elevated levels of certain contaminants in the groundwater, and additional testing and corrective action by the Company could be required. The Company is unable to estimate the costs of any further corrective action at these sites, if required. Accordingly, the Company cannot assure that the costs of any future corrective action at these or any other current or former sites would not have a material effect on the Company's financial condition, results of operations or liquidity.

The Company may also incur liability for alleged environmental damages associated with the off-site transportation and disposal of hazardous substances. Generators of hazardous substances which are transported to disposal sites where environmental problems are alleged to exist are subject to claims under the Comprehensive Environmental Response, Compensation and Liability Act of 1980, or CERCLA, and state counterparts. CERCLA imposes strict, joint and several liabilities for investigatory and cleanup costs upon hazardous substance generators, site owners and operators and other potentially responsible parties. The Company is currently named as a potentially responsible party at one site. There can be no assurance that the Company will not be named as a potentially responsible party at other sites in the future or that the costs associated with those sites would not have a material adverse effect on the Company's financial condition, results of operations or liquidity.

On February 11, 2016, the Company voluntarily reported to the Louisiana Department of Environmental Quality a leak that it discovered in one of its chemical cleaning operations at its Arcadia, Louisiana facility. As a result of the discovery, the Company is working with that department to determine the extent of the issue and appropriate remediation.

Executive Officers of the Company

The following table sets forth certain information concerning the persons who served as executive officers of the Company as of September 30, 2018. Except as indicated in the following paragraphs, the principal occupations of these persons have not changed during the past five years.

Name	Age	Position with Haynes International, Inc.
Michael L. Shor	59	President and Chief Executive Officer
Daniel W. Maudlin	52	Vice President—Finance, Treasurer and Chief Financial Officer
Janice W. Gunst	46	Vice President—General Counsel & Corporate Secretary
Venkat R. Ishwar	66	Vice President—Marketing & Technology
Marlin C. Losch	58	Vice President—Sales & Distribution
Jean C. Neel	59	Vice President—Corporate Affairs
Scott R. Pinkham	51	Vice President—Tube & Wire
David L. Strobel	57	Vice President—Operations
David S. Van Bibber	47	Controller and Chief Accounting Officer
Jeffrey L. Young	61	Vice President & Chief Information Officer

Mr. Shor was elected President and Chief Executive Officer of the Company in September 2018. Prior to that, he served as interim President and Chief Executive Officer of the Company from May 2018 through September 2018, Chairman of the Board of the Company from February 2017 through September 2018 and has been a director since 2012.

Mr. Maudlin has served as the Vice President-Finance and Chief Financial Officer of the Company since December 2012.

Ms. Gunst has served as Vice President—General Counsel and Corporate Secretary of the Company since August 2011.

Dr. Ishwar has served as Vice President—Marketing & Technology of the Company since January 2010.

Mr. Losch has served as Vice President—Sales & Distribution of the Company since January 2010.

Ms. Neel has served as Vice President—Corporate Affairs of the Company since April 2000.

Mr. Pinkham has served as Vice President—Tube and Wire Products of the Company since September 2018. Prior to that, he served as Vice President—Manufacturing of the Company since March 2008.

Mr. Strobel has served as Vice President—Operations of the Company since September 2018. Prior to that, he was a consultant to manufacturing companies through his company Silver Eagle Consulting. Mr. Strobel was also Senior Vice President and Chief Technology Officer of Carpenter Technology Corporation from June 2015 to August 2016 and Senior Vice President – Operations of Carpenter Technology from September 2011 to June 2015.

Mr. Van Bibber has served as Controller and Chief Accounting Officer of the Company since December 2012.

Mr. Young has served as Vice President & Chief Information Officer of the Company since November 2005.

Item 1A. Risk Factors

The following risk factors should be considered carefully in addition to the other information contained in this filing.

The risks and uncertainties described below are not the only ones we face and represent risks that our management believes are material to our Company and our business. Additional risks and uncertainties not presently known to us or that we currently deem not material may also harm our business. If any of the following risks actually occur, our business, financial condition or results of operations could be harmed.

Risks Related to Our Business

Our revenues may fluctuate widely based upon changes in demand for our customers' products.

Demand for our products is dependent upon and derived from the level of demand for the machinery, parts and equipment produced by our customers, which are principally manufacturers and fabricators of machinery, parts and equipment for highly specialized applications. Historically, certain of the markets in which we compete have experienced unpredictable, wide demand fluctuations. Because of the comparatively high level of fixed costs associated with our manufacturing processes, significant declines in those markets have had a disproportionately adverse impact on our operating results.

Since we became an independent company, we have, in several instances, experienced substantial year-to-year declines in net revenues, primarily as a result of decreases in demand in the industries to which our products are sold. In fiscal 2002, 2003, 2009, 2010, 2013 and 2016, our net revenues, when compared to the immediately preceding year, declined by approximately 10.3%, 21.2%, 31.1%, 13.0%, 16.7% and 16.6%, respectively. We may experience similar fluctuations in our net revenues in the future. Additionally, demand is likely to continue to be subject to substantial year-to-year fluctuations as a consequence of industry cyclicality, as well as other factors such as global economic uncertainty, and such fluctuations may have a material adverse effect on our business.

Profitability in the high-performance alloy industry is highly sensitive to changes in sales volumes.

The high-performance alloy industry is characterized by high capital investment and high fixed costs. The cost of raw materials is the primary variable cost in the manufacture of our high-performance alloys and, in fiscal 2018, represented approximately 36% of our total cost of sales. Other manufacturing costs, such as labor, energy, maintenance and supplies, often thought of as variable, have a significant fixed element. Profitability is, therefore, very sensitive to changes in volume, and relatively small changes in volume can result in significant variations in earnings. Our ability to effectively utilize our manufacturing assets depends greatly upon continuing demand in our end markets, successfully increasing our market share and continued acceptance of our new products into the marketplace. Any failure to effectively utilize our manufacturing assets may negatively impact our business.

We are subject to risks associated with global trade matters

We are subject to macroeconomic downturns in the United States and abroad that may affect the general economic climate, our performance and the demand of our customers. Previous turmoil in the global economy has had, and future turmoil may have, an adverse impact on our business and our financial condition. In addition to the impact that the global financial crisis previously had, we may face significant challenges if conditions in the global economy worsen. Further, any global trade wars or similar economic turmoil, including new or existing tariffs, could adversely affect our business. Our competitors outside of the United States may not be subject to these tariffs or other measures, and therefore, could have a significant competitive advantage over us in that respect. In addition, the effect of the exit of the United Kingdom from the European Union is currently unknown and could adversely affect our business.

In addition, we are subject to various domestic and international risks and uncertainties, including changing social conditions and uncertainties relating to the current and future political climate. Changes in governmental policies (particularly those that would limit or reduce defense spending) could have an adverse effect on our financial condition and results of operations and may reduce our customers' demand for our products and/or depress pricing of those products

used in the defense industry or which have other military applications, resulting in a material adverse impact on our business, prospects, results of operations, revenues and cash flows. Furthermore, any actual armed hostilities and any future terrorist attacks in the U.S. or abroad could also have an adverse impact on the U.S. economy, global financial markets and our business. The effects may include, among other things, a decrease in demand in the aerospace industry due to reduced air travel, as well as reduced demand in the other industries we serve. Depending upon the severity, scope and duration of these effects, the impact on our business could be material.

We operate in cyclical markets.

A significant portion of our revenues are derived from the highly cyclical aerospace, power generation and chemical processing markets. Our sales to the aerospace industry constituted 52.1% of our total sales in fiscal 2018. Our industrial gas turbine and chemical processing sales constituted 12.0% and 18.2%, respectively, of our total sales in fiscal 2018.

The commercial aerospace industry is historically driven by demand from commercial airlines for new aircraft. The U.S. and international commercial aviation industries continue to face challenges arising from the global economic climate, competitive pressures and fuel costs. Demand for commercial aircraft is influenced by industry profitability, trends in airline passenger traffic, the state of U.S. and world economies, the ability of aircraft purchasers to obtain required financing and numerous other factors, including the effects of terrorism and health and safety concerns. The military aerospace cycle is highly dependent on U.S. and foreign government funding which is driven by, among other factors, the effects of terrorism, a changing global political environment, U.S. foreign policy, the retirement of older aircraft and technological improvements to new engines that increase reliability. Accordingly, the timing, duration and magnitude of cyclical upturns and downturns cannot be forecasted with certainty. Downturns or reductions in demand for our products sold into the aerospace market could have a material adverse effect on our business.

The industrial gas turbine market is also cyclical in nature. Demand for power generation products is global and is affected by the state of the U.S. and world economies, the availability of financing to power generation project sponsors and the political environments of numerous countries. The availability of fuels and related prices also have a large impact on demand. Reductions in demand for our products sold into the industrial gas turbine industry may have a material adverse effect on our business. In addition, in the event demand in this industry does not return, our business could be materially and adversely affected.

We also sell products into the chemical processing industry, which is also cyclical in nature. Customer demand for our products in this market may fluctuate widely depending on U.S. and world economic conditions, the availability of financing, and the general economic strength of the end use customers in this market. Cyclical declines or sustained weakness in this market could have a material adverse effect on our business.

Our business depends, in part, on the success of commercial aircraft programs and our ability to accelerate production levels to timely match order increases in new or existing programs.

The success of our business will depend, in part, on the success of new and existing commercial aircraft programs. We are currently under contract to supply components for a number of commercial aircraft programs. The programs are scheduled to have production increases over the next several years. Our failure to achieve production levels to timely match any related orders could have a material adverse effect on our business. Cancellation, reductions or delays of orders or contracts by our customers or in any of these programs, or regulatory or certification-related groundings or other delays or cancellations to new or existing aircraft programs or to the scheduled production increases for any aircraft programs, could also have a material adverse effect on our business.

The competitive nature of our business results in pressure for price concessions to our customers and increased pressure to reduce our costs.

We are subject to substantial competition in all of the markets we serve, and we expect this competition to continue. As a result, we have made significant price concessions to our customers in the aerospace, chemical processing and power generation markets from time to time, and we expect customer pressure for further price concessions to continue. Maintenance of our market share will depend, in part, on our ability to sustain a cost structure that enables us to be

cost-competitive. If we are unable to adjust our costs relative to our pricing, our profitability will suffer. Our effectiveness in managing our cost structure will be a key determinant of future profitability and competitiveness.

Reductions in government expenditures or changes in spending priorities could adversely affect our military aerospace business.

The budget for the U.S. Department of Defense may be reduced from current levels. In addition to debt reduction efforts already authorized, it is possible that the U.S. government could reduce or further delay its spending on, or reprioritize its spending away from, the military aerospace industry. Budgetary cuts could negatively affect our business.

Aerospace demand is primarily dependent on two manufacturers.

A significant portion of our aerospace products are sold to fabricators and are ultimately used in the production of new commercial aircraft. There are only two primary manufacturers of large commercial aircraft in the world, The Boeing Company and Airbus. A significant portion of our aerospace sales are dependent on the number of new aircraft built by these two manufacturers, which is in turn dependent on a number of factors over which we have little or no control. Those factors include demand for new aircraft from around the globe, success of new commercial and military aircraft programs and factors that impact manufacturing capabilities, such as the availability of raw materials and manufactured components, changes in highly exacting performance requirements and product specifications, U.S. and world economic conditions, changes in the regulatory environment and labor relations between the aircraft manufacturers and their work forces. A significant interruption or slowdown in the number of new aircraft built by the aircraft manufacturers could have a material adverse effect on our business.

Our operations are dependent on production levels at our Kokomo facility.

Our principal assets are located at our primary integrated production facility in Kokomo, Indiana and at our production facilities in Arcadia, Louisiana and in Mountain Home, North Carolina. The Arcadia and Mountain Home plants as well as all of the domestic and foreign service centers rely to a significant extent upon feedstock produced at the Kokomo facility. Any production failures, shutdowns or other significant problems at the Kokomo facility could have a material adverse effect on our financial condition and results of operations. We maintain property damage insurance to provide for reconstruction of damaged equipment, as well as business interruption insurance to mitigate losses resulting from any production shutdown caused by an insured loss. Although we believe that our insurance is adequate to cover any such losses, that may not be the case. One or more significant uninsured losses at our Kokomo facility may have a material adverse effect on our business.

In addition, from time to time we schedule planned outages on the equipment at our Kokomo facility for maintenance and upgrades. These projects are subject to a variety of risks and uncertainties, including a variety of market, operational and labor-related factors, many of which may be beyond our control. Should a planned shut down on a significant piece of equipment last substantially longer than originally planned, there could be a material adverse effect on our business.

Our production may be interrupted due to equipment failures, lack of critical spares, or other events affecting our factories.

Our manufacturing processes depend on certain sophisticated and high-value equipment, some of which has been in operation for a long period of time for which there may be only limited or no production alternatives. Failures of this equipment, or the lack of critical spares to timely repair this equipment, could result in production delays, revenue loss and significant repair costs. In addition, our factories rely on the availability of electrical power and natural gas, transportation for raw materials and finished products and employee access to our workplace that are subject to interruption in the event of severe weather conditions or other natural or manmade events. While we maintain backup resources to the extent practicable, a severe or prolonged equipment outage, failure or other interruptive event affecting areas where we have significant manufacturing operations may result in loss of manufacturing or shipping days, which could have a material adverse effect on our business. Natural or manmade events that interrupt significant manufacturing operations of our customers also could have a material adverse effect on our business.

Issues related to our agreements with Titanium Metals Corporation could require us to make significant payments and could disrupt our operations and materially affect our financial results.

We entered into a Conversion Services Agreement and an Access and Security Agreement with Titanium Metals Corporation (TIMET) in November 2016 that provide for the performance of certain titanium conversion services through November 2026. TIMET was acquired by Precision Castparts Corp. which owns Special Metals Corporation, a direct competitor of ours. Events of default under the Conversion Services Agreement include (a) a change in control in which the successor does not assume the agreement, (b) a violation by us of certain non-compete obligations relating to the manufacture and conversion of titanium and (c) failure to meet agreed-upon delivery and quality requirements. If an event of default under the Conversion Services Agreement occurs, TIMET could require us to repay the unearned portion of the $50.0 million fee paid to us by TIMET when the agreement was signed, plus liquidated damages of $25.0 million. Our obligations to pay these amounts to TIMET are secured by a security interest in our four-high Steckel rolling mill, through which we process a substantial amount of our products. In addition, the Access and Security Agreement with TIMET includes, among other terms, an access right that would allow TIMET to use certain of our operating assets, including the four-high mill, to perform titanium conversion services in the event of our bankruptcy or the acceleration of our indebtedness. Exercise by TIMET of its rights under its security interest following a default and non-payment of the amounts provided in the Conversion Services Agreement or exercise of the access rights under the Access and Security Agreement could cause significant disruption in our Kokomo operations, which would have a material adverse effect on our business.

In addition, the Conversion Services Agreement contains a requirement that we reserve a significant amount of capacity exclusively for TIMET. That agreement does not contain a volume commitment on TIMET's part. The agreement also severely limits our ability to manufacture titanium for any customer other than TIMET. In recent years, our business with TIMET has been declining.

During periods of lower demand in other alloy markets, some of our competitors may use their available capacity to produce higher volumes of high-performance alloys, which leads to increased competition in the high-performance alloy market.

We have experienced increased competition from competitors who produce both stainless steel and high-performance alloys. Due to continued under-utilization of capacity in the stainless steel market, we believe these competitors increased their production levels and sales activity in high-performance alloys to keep capacity in their mills as full as possible, while offering very competitive prices and delivery times. If the stainless market does not improve, continued competition from stainless steel producers could negatively impact our average selling price and reduce our gross profit margin.

In addition, as a result of the competition in our markets, we have made significant price concessions to our customers from time to time, and we expect customer pressure for further price concessions to continue. Maintenance of our market share will depend, in part, on our ability to sustain a cost structure that enables us to be cost-competitive. If we are unable to adjust our costs relative to our pricing, our profitability will suffer. Our effectiveness in managing our cost structure will be a key determinant of future profitability and competitiveness.

Periods of reduced demand and excess supply as well as the availability of substitute lower-cost materials can adversely affect our ability to price and sell our products at the profitability levels we require to be successful.

Additional worldwide capacity and reduced demand for our products could significantly impact future worldwide pricing, which would adversely impact our business. In recent years, several of our competitors have added capacity that represents direct competition with the Company's business. In addition, continued availability of lower-cost, substitute materials may also cause significant fluctuations in future results as our customers opt for a lower-cost alternative.

We change prices on our products as we deem necessary. In addition to the above general competitive impact, other market conditions and various economic factors beyond our control can adversely affect the timing of our pricing actions. The effects of any pricing actions may be delayed due to long manufacturing lead times or the terms of existing contracts. There is no guarantee that the pricing actions we implement will be effective in maintaining our profit margin levels.

Rapid fluctuations in the price of nickel may materially adversely affect our business.

To the extent that we are unable to adjust to rapid fluctuations in the price of nickel, there may be a negative effect on our gross profit margins. In fiscal 2018, nickel, a major component of many of our products, accounted for approximately 34% of our raw material costs, or approximately 12% of our total cost of sales. We enter into several different types of sales contracts with our customers, some of which allow us to pass on increases in nickel prices to our customers. In other cases, we fix the nickel component of our prices for a period of time through the life of a long-term contract. In yet other cases, we price our products at the time of order, which allows us to establish prices with reference to known costs of our nickel inventory, but which does not allow us to offset an unexpected rise in the price of nickel. We may not be able to successfully offset rapid increases in the price of nickel or other raw materials in the future. In the event that raw material price increases occur that we are unable to pass on to our customers, our cash flows or results of operations could be materially adversely affected.

Our results of operations may also be negatively impacted if both customer demand and nickel prices rapidly fall at the same time. Because we value our inventory utilizing the first-in, first-out inventory costing methodology, a rapid decrease in raw material costs has a negative effect on our operating results. In those circumstances, we recognize higher material cost in cost of sales relative to lower raw material market prices that drive the sales price.

In addition, we periodically enter into forward purchase agreements for our nickel supply. If we enter into a forward purchase agreement which is not matched to one or more customer contracts with fixed nickel prices, a rapid or prolonged decrease in the price of nickel could adversely impact our business.

Our business is dependent on a number of raw materials that are subject to volatility in price and availability.

We use a number of raw materials in our products which are found in only a few parts of the world and are available from a limited number of suppliers. The availability and costs of these materials may be influenced by private or government cartels, changes in world politics, additional regulation, labor relations between the materials producers and their work force, unstable governments in exporting nations, inflation, general economic conditions and export quotas imposed by governments in nations with rare earth element supplies. The ability of key material suppliers to meet quality and delivery requirements or to provide materials on price and other terms acceptable to us can also impact our ability to meet commitments to customers. Future shortages or price fluctuations in raw materials could result in decreased sales as well as margins, or otherwise adversely affect our business. The enactment of new or increased import duties on raw materials imported by us could also increase the costs to us of obtaining the raw materials and might adversely affect our business.

If suppliers increase the price of critical raw materials, we may not have alternative sources of supply. In some cases, we have entered into exclusive supply agreements with respect to raw materials, which could adversely affect our business if the exclusive supplier cannot meet quality and delivery requirements to provide materials on price and other terms acceptable to us. In addition, to the extent that we have quoted prices to customers and accepted customer orders for products prior to purchasing necessary raw materials, or have existing fixed-price contracts, we may be unable to raise the price of products to cover all or part of the increased cost of the raw materials.

The manufacturing of the majority of our products is a complex process and requires long lead times. We may experience delays or shortages in the supply of raw materials. If we are unable to obtain adequate and timely deliveries of required raw materials, we may be unable to timely manufacture sufficient quantities of products. This could cause us to lose sales, incur additional costs, delay new product introductions or suffer harm to our reputation.

We value our inventory using the FIFO method, which could put pressure on our margins.

The cost of our inventories is determined using the first-in, first-out (FIFO) method. Under the FIFO inventory costing method, the cost of materials included in cost of sales may be different than the current market price at the time of sale of finished product due to the length of time from the acquisition of raw material to the sale of the finished product. In a period of decreasing raw material costs, the FIFO inventory valuation normally results in higher costs of sales as compared to the last-in, first-out method. This could result in compression of the gross margin on our product sales.

Changes in tax rules and regulations, or interpretations thereof, may adversely affect our effective tax rates.

We are a U.S. based company with customers and suppliers in foreign countries. We import various raw materials used in our production processes, and we export goods to our foreign customers. The United States, the European Commission, countries in the EU and other countries where we do business have been considering changes in relevant tax, border tax, accounting and other laws, regulations and interpretations, that may unfavorably impact our effective tax rate or result in other costs to us. In addition, the Company has deferred tax assets on its balance sheet which could be subjected to unfavorable impacts if tax rates are reduced, such as those that occurred at the end of calendar 2017.

Failure to successfully develop, commercialize, market and sell new applications and new products could adversely affect our business.

We believe that our proprietary alloys and metallurgical manufacturing expertise provide us with a competitive advantage over other high-performance alloy producers. Our ability to maintain this competitive advantage depends on our ability to continue to offer products that have equal or better performance characteristics than competing products at competitive prices. Our future growth will depend, in part, on our ability to address the increasingly demanding needs of our customers by enhancing the properties of our existing alloys, by timely developing new applications for our existing products, and by timely developing, commercializing, marketing and selling new products. If we are not successful in these efforts, or if our new products and product enhancements do not adequately meet the requirements of the marketplace and achieve market acceptance, our business could be negatively affected.

We are subject to risks relating to our cybersecurity measures and to misappropriation of information generally.

We have put in place a number of systems, processes and practices designed to protect against intentional or unintentional misappropriation or corruption of our systems and information or disruption of our operations. These include, for example, the appropriate encryption of network access. Despite such efforts, we are subject to breaches of security systems which may result in unauthorized access, misappropriation, corruption or disruption of the information we are trying to protect, in which case we could suffer material harm. Access to our proprietary information regarding new alloy formulations would allow our competitors to use that information in the development of competing products. Current employees have, and former employees may have, access to a significant amount of information regarding our operations which could be disclosed to our competitors or otherwise used to harm us. In addition, our systems could be subject to sabotage by employees or third parties, which could slow or stop production or otherwise adversely affect our business. Any misappropriation or corruption of our systems and information or disruption of our operations could have a material adverse effect on our business.

An interruption in energy services may cause manufacturing curtailments or shutdowns.

We rely upon third parties for our supply of energy resources consumed in the manufacture of our products. The prices for and availability of electricity, natural gas, oil and other energy resources are subject to volatile market conditions. These market conditions often are affected by political and economic factors beyond our control. Disruptions in the supply of energy resources could temporarily impair our ability to manufacture products for customers. Further, increases in energy costs, or changes in costs relative to energy costs paid by competitors, has and may continue to adversely affect our business. To the extent that these uncertainties cause suppliers and customers to be more cost sensitive, increased energy prices may have an adverse effect on our business.

We may be adversely affected by environmental, health and safety laws, regulations, costs and other liabilities.

We are subject to various foreign, federal, state and local environmental, health and safety laws and regulations, including those governing the discharge of pollutants into the environment, the storage, handling, use, treatment and disposal of hazardous substances and wastes and the health and safety of our employees. Under these laws and regulations, we may be held liable for all costs arising out of any release of hazardous substances on, under or from any of our current or former properties or any off-site location to which we sent or arranged to be sent wastes for disposal or treatment, and such costs may be material. We could also be held liable for any and all consequences arising out of human exposure to such substances or other hazardous substances that may be attributable to our products or other environmental damage. In

addition, some of these laws and regulations require our facilities to operate under permits that are subject to renewal or modification. These laws, regulations and permits can require expensive pollution control equipment or operational changes to limit actual or potential impacts to the environment. Violations of these laws, regulations or permits can also result in the imposition of substantial penalties, permit revocations and/or facility shutdowns.

We have received permits from the environmental regulatory authorities in Indiana and North Carolina to close and to provide post-closure monitoring and care for certain areas of our Kokomo and Mountain Home facilities that were used for the storage and disposal of wastes, some of which are classified as hazardous under applicable regulations. We are required to monitor groundwater and to continue post-closure maintenance of the former disposal areas at each site. As a result, we are aware of elevated levels of certain contaminants in the groundwater and additional corrective action could be required. Additionally, it is possible that we could be required to undertake other corrective action for any other solid waste management unit or other conditions existing or determined to exist at our facilities. We are unable to estimate the costs of any further corrective action, if required. However, the costs of future corrective action at these or any other current or former sites could have a material adverse effect on our business.

We may also incur liability for alleged environmental damages associated with the off-site transportation and disposal of hazardous substances. Our operations generate hazardous substances, many of which we accumulate at our facilities for subsequent transportation and disposal or recycling by third parties off-site. Generators of hazardous substances which are transported to disposal sites where environmental problems are alleged to exist are subject to liability under CERCLA and state counterparts. In addition, we may have generated hazardous substances disposed of at sites which are subject to CERCLA or equivalent state law remedial action. We have been named as a potentially responsible party at one site. CERCLA imposes strict, joint and several liabilities for investigatory and cleanup costs upon hazardous substance generators, site owners and operators and other potentially responsible parties regardless of fault. If we are named as a potentially responsible party at other sites in the future, the costs associated with those future sites could have a material adverse effect on our business.

Environmental laws are complex, change frequently and have tended to become increasingly stringent over time. While we have budgeted for future capital and operating expenditures to comply with environmental laws, changes in any environmental law may increase our costs of compliance and liabilities arising from any past or future releases of, or exposure to, hazardous substances and may materially adversely affect our business. See "Business—Environmental Matters."

Increased regulation of greenhouse gases or other environmental issues could have a material adverse impact on our results of operations, financial condition and cash flows.

Regulation and forms of legislation aimed at regulating environmental issues, including greenhouse gas emissions, have been and will likely continue to be considered globally. As a high-performance alloy manufacturer, we may be affected, both directly and indirectly, if environmental legislation requires the Company or its customers, suppliers or partners to adjust manufacturing or other relevant processes, or to otherwise incur costs of compliance, which could have a material adverse impact on our business.

Government regulation is increasing and if we fail to comply with such increased regulation, we could be subject to fines, penalties and expenditures.

The United States Congress has adopted several significant pieces of legislation, such as the Sarbanes-Oxley Act of 2002 and the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, that affect our operation as well as those of other publicly traded companies. In addition, regulations relating to data protection and privacy law have become increasingly stringent. We may be subject to significant fines and penalties if we fail to comply with these laws or their implementing regulations, and the increasingly stringent regulations could require us to make additional unforeseen expenditures. Any such fines, penalties or expenditures could have a material adverse effect on our business.

Regulations related to conflict minerals could adversely impact our business.

The Dodd-Frank Act and related SEC rules require disclosure of the use of tin, tantalum, tungsten and gold, known as conflict minerals, in products manufactured by public companies. These rules require a reasonable country of origin inquiry to determine whether such minerals originated from the Democratic Republic of Congo (the "DRC") or an adjoining country and, under some circumstances, whether such minerals helped finance the armed conflict in the DRC. Conflict minerals disclosures are required to be filed annually. There are costs associated with complying with these disclosure requirements, including costs to determine the origin of conflict minerals used in our products. Also, we may face disqualification as a supplier for customers and reputational challenges if the procedures we implement do not satisfy all concerned stakeholders. In addition, these rules could adversely affect the sourcing, supply and pricing of materials used in our products.

Our business is affected by federal rules, regulations and orders applicable to some of our customers who are government contractors.

A number of our products are manufactured and sold to customers who are parties to U.S. government contracts or subcontracts. Consequently, we are indirectly subject to various federal rules, regulations and orders applicable to government contractors. From time to time, we are also subject to government inquiries and investigations of our business practices due to our participation in government programs. These inquiries and investigations are costly and consuming of internal resources. Violations of applicable government rules and regulations could result in civil liability, in cancellation or suspension of existing contracts or in ineligibility for future contracts or subcontracts funded in whole or in part with federal funds, any of which could have a material adverse effect on our business.

We could be required to make additional contributions to our defined benefit pension plans as a result of adverse changes in interest rates and the capital markets.

Our estimates of liabilities and expenses for pension benefits incorporate significant assumptions, including the rate used to discount the future estimated liability, the long-term rate of return on plan assets and several assumptions relating to the employee workforce (salary increases, retirement age and mortality). We currently expect that we will be required to make future minimum contributions to our defined benefit pension plans. A decline in the value of plan investments in the future, an increase in costs or liabilities or unfavorable changes in laws or regulations that govern pension plan funding could materially change the timing and amount of required pension funding. A requirement to fund any deficit created in the future could have a material adverse effect on our business.

If we are unable to recruit, hire and retain skilled and experienced personnel, our ability to effectively manage and expand our business will be harmed.

Our success largely depends on the skills, experience and efforts of our officers and other key employees who may terminate their employment at any time. The loss of any of our senior management team could harm our business. The announcement of the loss of one of our key employees could negatively affect our stock price. Our ability to retain our skilled workforce and our success in attracting and hiring new skilled employees will be a critical factor in determining whether we will be successful in the future. We face challenges in hiring, training, managing and retaining employees in certain areas including metallurgical researchers, equipment technicians and sales and marketing staff. If we are unable to recruit, hire and retain skilled employees, our new product and alloy development and commercialization could be delayed and our marketing and sales efforts could be hindered, which would adversely impact our business.

The risks inherent in our international operations may adversely impact our revenues, results of operations and financial condition.

We anticipate that we will continue to derive a significant portion of our revenues from operations in international markets. As we continue to expand internationally, we will need to hire, train and retain qualified personnel for our direct sales efforts and retain distributors and train their personnel in countries where language, cultural or regulatory impediments may exist. Distributors, regulators or government agencies may not continue to accept our products, services and business practices. In addition, we purchase raw materials on the international market. The sale and shipment of our

products and services across international borders, as well as the purchase of raw materials from international sources, subject us to the trade regulations of various jurisdictions. Compliance with such regulations is costly. Any failure to comply with applicable legal and regulatory obligations could impact us in a variety of ways that include, but are not limited to, significant criminal, civil and administrative penalties, including imprisonment of individuals, fines and penalties, denial of export privileges, seizure of shipments and restrictions on certain business activities. Failure to comply with applicable legal and regulatory obligations could result in the disruption of our shipping, sales and service activities. Our international sales operations expose us and our representatives, agents and distributors to risks inherent in operating in foreign jurisdictions any one or more of which may adversely affect our business, including:

- our ability to obtain, and the costs associated with obtaining, U.S. export licenses and other required export or import licenses or approvals;
- changes in duties and tariffs, taxes, trade restrictions, license obligations and other non-tariff barriers to trade;
- burdens of complying with the Foreign Corrupt Practices Act and a wide variety of foreign laws and regulations;
- business practices or laws favoring local companies;
- fluctuations in foreign currencies;
- restrictive trade policies of foreign governments;
- longer payment cycles and difficulties collecting receivables through foreign legal systems;
- difficulties in enforcing or defending agreements and intellectual property rights; and
- foreign political or economic conditions.

Any material decrease in our international revenues or inability to expand our international operations as a result of these or other factors would adversely impact our business.

Export sales could present risks to our business.

Export sales account for a significant percentage of our revenues, and we believe this will continue to be the case in the future. Risks associated with export sales include: political and economic instability, including weak conditions in the world's economies; accounts receivable collection; export controls; changes in legal and regulatory requirements; policy changes affecting the markets for our products; changes in tax laws and tariffs; trade duties; and exchange rate fluctuations (which may affect sales to international customers and the value of profits earned on export sales when converted into dollars). Any of these factors could materially adversely affect our business.

Although collective bargaining agreements are in place for certain employees, union or labor disputes could still disrupt the manufacturing process.

Our operations rely heavily on our skilled employees. Any labor shortage, disruption or stoppage caused by any deterioration in employee relations or difficulties in the renegotiation of labor contracts could reduce our operating margins and income. Approximately 52% percent of our U.S. employees are affiliated with unions or covered by collective bargaining agreements. The Company entered into two collective bargaining agreements with the United Steel Workers of America which cover eligible hourly employees at the Company's Arcadia, Louisiana and Kokomo, Indiana facilities. Failure to negotiate new labor agreements when required could result in a work stoppage at one or more of our facilities. In addition, other Company facilities could be subject to union organizing activity. Although we believe that our labor relations have generally been satisfactory, it is possible that we could become subject to additional work rules imposed by agreements with labor unions, or that work stoppages or other labor disturbances could occur in the future, any of which could reduce our operating margins and income and place us at a disadvantage relative to non-union competitors.

Product liability and product warranty risks could adversely affect our operating results.

We produce many critical products for commercial and military aircraft, industrial gas turbines, chemical

processing plants and pharmaceutical production facilities. Failure of our products could give rise to substantial product liability and other damage claims. We maintain insurance addressing this risk, but there can be no assurance that the insurance coverage will be adequate or will continue to be available on terms acceptable to us.

Additionally, we manufacture our products to strict contractually-established specifications using complex manufacturing processes. If we fail to meet the contractual requirements for a product, we may be subject to warranty costs to repair or replace the product itself and additional costs related to customers' damages or the investigation and inspection of non-complying products. These costs are generally not insured.

Our business subjects us to risk of litigation claims, including those that might not be covered by insurance.

Litigation claims may relate to the conduct of our business, including claims pertaining to product liability, commercial disputes, employment actions, employee benefits, compliance with domestic and federal laws and personal injury. Due to the uncertainties of litigation, we might not prevail on claims made against us in the lawsuits that we currently face, and additional claims may be made against us in the future. The outcome of litigation cannot be predicted with certainty, and some of these lawsuits, claims or proceedings may be determined adversely to us. The resolution in any reporting period of one or more of these matters could have a material adverse effect on our business, particularly in the event that adverse outcomes are not covered by insurance.

Our insurance may not provide enough coverage.

We maintain various forms of insurance, including insurance covering claims related to our properties and risks associated with our operations. Our existing property and liability insurance coverages contain exclusions and limitations on coverage. From time-to-time, in connection with renewals of insurance, we have experienced additional exclusions and limitations on coverage, larger self-insured retentions and deductibles and significantly higher premiums. As a result, in the future, our insurance coverage may not cover claims to the extent that it has in the past and the costs that we incur to procure insurance may increase significantly, either of which could have an adverse effect on our business.

We depend on our Information Technology (IT) infrastructure to support the current and future information requirements of our operations which exposes us to risk.

Management relies on IT infrastructure, including hardware, network, software, people and processes, to provide useful information to support assessments and conclusions about operating performance. We recently implemented an IT system change. If we do not effectively utilize the new system or it does not operate as envisioned, our business could be harmed. Our inability to produce relevant or reliable measures of operating performance in an efficient, cost-effective and well-controlled fashion may have significant negative impacts on our business.

Failure to protect our intellectual property rights could adversely affect our business.

We rely on a combination of confidentiality, invention assignment and other types of agreements and trade secret, trademark and patent law to establish, maintain, protect and enforce our intellectual property rights. Our efforts in regard to these measures may be inadequate, however, to prevent others from misappropriating our intellectual property rights. In addition, laws in some non-U.S. countries affecting intellectual property are uncertain in their application, which can affect the scope or enforceability of our intellectual property rights. Any of these events or factors could diminish or cause us to lose the competitive advantages associated with our intellectual property, which could have a material adverse effect on our business.

Any significant delay or problems in the expansion of our operations could materially adversely affect our business, financial condition and results of operations.

We have undertaken significant capital projects in order to enhance, expand and/or upgrade our facilities and operational capabilities. Our ability to achieve the anticipated increased revenues or otherwise realize acceptable returns on these investments or other strategic capital projects that we may undertake is subject to a number of risks, many of which are beyond our control, including the ability of management to ensure the necessary resources are in place to properly execute these projects on time and in accordance with planned costs, the ability of key suppliers to deliver the necessary equipment according to schedule, customer demand and our ability to implement these projects with minimal impact to our existing operations. In addition, the cost to implement any given strategic capital project ultimately may prove to be greater than originally anticipated. If we are not able to achieve the anticipated results from the implementation

of any of our strategic capital projects, or if we incur unanticipated implementation costs or delays, our business may be materially adversely affected.

We consider acquisition, joint ventures and other business combination opportunities, as well as possible business unit dispositions, as part of our overall business strategy, which involve uncertainties and potential risks that we cannot predict or anticipate fully.

We intend to continue to strategically position our businesses in order to improve our ability to compete. Strategies we may employ include seeking new or expanding existing specialty market niches for our products, expanding our global presence, acquiring businesses complementary to existing strengths and continually evaluating the performance and strategic fit of our existing business units. From time to time, management of the Company holds discussions with management of other companies to explore acquisitions, joint ventures and other business combination opportunities as well as possible business unit dispositions. As a result, the relative makeup of our business is subject to change. Acquisitions, joint ventures and other business combinations involve various inherent risks, such as: assessing accurately the value, strengths, weaknesses, contingent and other liabilities and potential profitability of acquisition or other transaction candidates; the potential loss of key personnel of an acquired business; our ability to achieve identified financial and operating synergies anticipated to result from an acquisition or other transaction; diversion of the attention of certain management personnel from their day-to-day duties; and unanticipated changes in business and economic conditions affecting an acquisition or other transaction. International acquisitions could be affected by many factors, including, without limitation, export controls, exchange rate fluctuations, domestic and foreign political conditions and deterioration in domestic and foreign economic conditions.

A global recession or disruption in global financial markets could adversely affect us.

A global recession or disruption in the global financial markets presents risks and uncertainties that we cannot predict. During recessionary economic conditions or financial market disruptions, we face risks that may include:

- declines in revenues and profitability from reduced or delayed orders by our customers;
- supply problems associated with any financial constraints faced by our suppliers;
- restrictions on our access to credit sources;
- reductions to our banking group or to our committed credit availability due to combinations or failures of financial institutions; and
- increases in corporate tax rates to finance government spending programs.

Political and social turmoil could adversely affect our business.

The war on terrorism, as well as political and social turmoil, could put pressure on economic conditions in the United States and worldwide. These political, social and economic conditions could make it difficult for us, our suppliers and our customers to forecast accurately and plan future business activities, and could adversely affect the financial condition of our suppliers and customers and affect customer decisions as to the amount and timing of purchases from us. As a result, our business could be materially adversely affected.

The carrying value of goodwill and other intangible assets may not be recoverable.

Goodwill and other intangible assets are recorded at fair value on the date of acquisition. We review these assets at least annually for impairment. Impairment may result from, among other things, deterioration in performance, adverse market conditions, adverse changes in applicable laws or regulations and a variety of other factors. Any future impairment of goodwill or other intangible assets could have a material adverse effect on our business.

Healthcare legislation has and may continue to impact our business.

The Patient Protection and Affordable Care Act and other recent legislation relating to healthcare have increased our annual employee healthcare cost obligations and are expected to continue to increase our annual employee healthcare cost obligations going forward. This area of law is expected to continue to change, and we cannot predict the effect that healthcare legislation or regulation will ultimately have on our business.

Our working capital requirements may negatively affect our liquidity and capital resources.

Our working capital requirements can vary significantly, depending in part on the timing of our delivery obligations under various customer contracts and the payment terms with our customers and suppliers. If our working capital needs exceed our cash flows from operations, we would look to our cash balances and availability for borrowings under our existing credit facility to satisfy those needs, as well as potential sources of additional capital, which may not be available on satisfactory terms and in adequate amounts, if at all.

Risks Related to Shares of Our Common Stock

Our stock price is subject to fluctuations that may not be related to our performance as a result of being traded on a public exchange.

The stock market can be highly volatile. The market price of our common stock is likely to be similarly volatile, and investors in our common stock may experience a decrease in the value of their stock, including decreases unrelated to our operating performance or prospects. The price of our common stock could be subject to wide fluctuations in response to a number of factors, including, but not limited to, those described elsewhere in this "Risk Factors" section and those listed below:

- fluctuations in the market price of nickel, raw materials or energy;
- market conditions in the end markets into which our customers sell their products, principally aerospace, power generation and chemical processing;
- announcements of technological innovations or new products and services by us or our competitors;
- the operating and stock price performance of other companies that investors may deem comparable to us;
- announcements by us of acquisitions, alliances, joint development efforts or corporate partnerships in the high-temperature resistant alloy and corrosion-resistant alloy markets;
- market conditions in the technology, manufacturing or other growth sectors; and
- rumors relating to us or our competitors.

Payment of dividends will depend on our future financial condition and performance.

Although our Board of Directors currently intends to continue the payment of regular quarterly cash dividends on shares of our common stock, the timing and amount of future dividends will depend on the Board's assessment of our operations, financial condition, projected liabilities, compliance with contractual restrictions in our credit agreement, restrictions imposed by applicable law and other factors. We cannot guarantee that we will continue to declare dividends at the same or similar rates.

Provisions of our certificate of incorporation and by-laws could discourage potential acquisition proposals and could deter or prevent a change in control.

Some provisions in our certificate of incorporation and by-laws, as well as Delaware statutes, may have the effect of delaying, deterring or preventing a change in control. These provisions, including those regulating the nomination of directors, may make it more difficult for other persons, without the approval of our Board of Directors, to launch takeover attempts that a stockholder might consider to be in his or her best interest. These provisions could limit the price that some investors might be willing to pay in the future for shares of our common stock.

Item 1B. Unresolved Staff Comments

There are no unresolved comments by the staff of the U.S. Securities and Exchange Commission.

Item 2. Properties

Manufacturing Facilities. The Company owns manufacturing facilities in the following locations:

- Kokomo, Indiana—manufactures and sells all product forms, other than tubular and wire goods;
- Arcadia, Louisiana—manufactures and sells welded and seamless tubular goods; and
- Mountain Home, North Carolina—manufactures and sells high-performance alloy wire.

The Kokomo plant, the Company's primary production facility, is located on approximately 180 acres of industrial property and includes over 1.0 million square feet of building space. There are three sites consisting of (1) a headquarters and research laboratory; (2) primary and secondary melting, continuous annealing furnaces, forge press and several smaller hot mills; and (3) the Company's four-high Steckel rolling mill and sheet product cold working equipment, including two cold strip mills and three bright anneal furnaces. All alloys and product forms other than tubular and wire goods are produced in Kokomo.

The Arcadia plant is located on approximately 42 acres of land and includes 202,500 square feet of buildings on a single site. Arcadia uses feedstock produced in Kokomo to fabricate welded and seamless high-performance alloy pipe and tubing and purchases extruded tube hollows to produce seamless titanium tubing. Manufacturing processes at Arcadia require cold pilger mills, weld mills, draw benches, annealing furnaces and pickling facilities.

The Mountain Home plant is located on approximately 29 acres of land and includes approximately 100,000 square feet of building space. The Mountain Home facility is primarily used to manufacture finished high-performance alloy wire. Finished wire products are also warehoused at this facility.

The owned facilities located in the United States are subject to a mortgage which secures the Company's obligations under its U.S. revolving credit facility with a group of lenders led by Wells Fargo Capital Finance, LLC. For more information, see Note 7 to the Consolidated Financial Statements included in this Annual Report on Form 10-K.

Service and Sales Centers. The service and sales centers, which stock and sell all product forms, contain equipment capable of precision laser and water jet processing services to cut and shape products to customers' precise specifications. The Company owns service and sales centers in the following locations:

- Openshaw, England
- Lenzburg, Switzerland

The Openshaw plant, located near Manchester, England, consists of approximately 5 acres of land and over 85,000 square feet of buildings on a single site.

In addition, the Company leases service and sales centers, which stock and sell all product forms, in the following locations:

- La Mirada, California
- Houston, Texas
- LaPorte, Indiana
- Shanghai, China
- Windsor, Connecticut

Sales Centers. The Company leases sales centers, which sell all product forms, in the following locations:

- Paris, France
- Zurich, Switzerland

- Singapore
- Milan, Italy
- Tokyo, Japan

On January 1, 2015, the company entered into a capital lease agreement for the building that houses the assets and operations of LaPorte Custom Metal Processing (LCMP). The capital asset and obligation are recorded at the present value of the minimum lease payments. The asset is included in Property, plant and equipment, net on the Consolidated Balance Sheet and is depreciated over the 20 year lease term. The long-term component of the capital lease obligation is included in Long-term obligations (See Note 18. Long-term Obligation).

All owned and leased service and sales centers not described in detail above are single site locations and are less than 100,000 square feet, except for the LaPorte service center which is approximately 230,000 square feet. The Company is currently in the process of modifying its facilities to meet its current and anticipated future business needs. Consistent therewith, in May 2016, the Company announced the relocation of its Lebanon, Indiana service center operations to LaPorte, Indiana which was completed during fiscal 2018.

Item 3. Legal Proceedings

The Company is subject to extensive federal, state and local laws and regulations. Future developments and increasingly stringent regulations could require the Company to make additional unforeseen expenditures for these matters. The Company is regularly involved in litigation, both as a plaintiff and as a defendant, relating to its business and operations. Such litigation includes, without limitation, federal and state EEOC administrative and judicial actions, litigation of commercial matters and litigation and administrative actions relating to environmental matters. For more information, see “Item 1. Business—Environmental Matters.” Litigation and administrative actions may result in substantial costs and may divert management’s attention and resources, and the level of future expenditures for legal matters cannot be determined with any degree of certainty. Nonetheless, based on the facts presently known, management does not expect expenditures for pending legal proceedings to have a material effect on the Company’s financial position, results of operations or liquidity.

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.

The Company's common stock is listed on the NASDAQ Global Market ("NASDAQ") and traded under the symbol "HAYN".

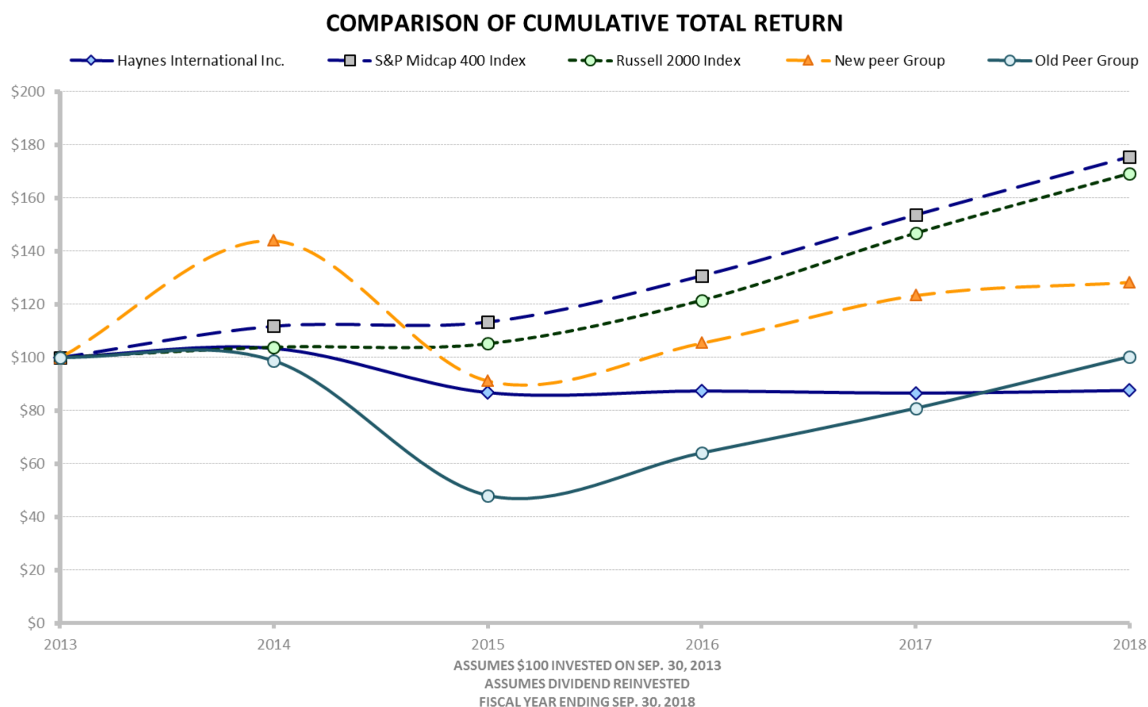
As of November 1, 2018, there were approximately 42 holders of record of the Company's common stock.

The Company has historically paid quarterly cash dividends. While it is the Company's intention to continue to pay quarterly cash dividends for fiscal 2019 and beyond, any decision to pay future cash dividends will be made by the Company's Board of Directors and will depend upon the Company's earnings, financial condition and other factors.

Cumulative Total Stockholder Return

The graph below compares the cumulative total stockholder return on the Company's common stock to the cumulative total return of the Russell 2000 Index, S&P MidCap 400 Index, and Peer Groups for each of the last five fiscal years ended September 30. The cumulative total return assumes an investment of $100 on September 30, 2013 and the reinvestment of any dividends during the period. The Russell 2000 is a broad-based index that includes smaller market capitalization stocks. The S&P MidCap 400 Index is the most widely used index for mid-sized companies. Management believes that the S&P MidCap 400 is representative of companies with similar market and economic characteristics to Haynes. Furthermore, we also believe the Russell 2000 Index is representative of the Company's current market capitalization status and this index is also provided on a comparable basis. The companies included in the New Peer Group Index: Allegheny Technologies, Inc., Arconic, Inc., Carpenter Technology Corp., Commercial Metals, Inc., Global Brass and Copper Holdings, Inc., Insteel Industries, Inc., Kaiser Aluminum Corporation, Materion Corporation, Olympic Steel, Inc., and Universal Stainless & Alloy Products, Inc.. The companies included in the Old Peer Group Index are: Allegheny Technologies, Inc., Universal Stainless & Alloy Products, Inc., A. M. Castle & Co. and Carpenter Technology Corp. The Company chose to expand the number of companies into a new peer group as A.M. Castle & Co. ceased trading on a public exchange which left the old peer group with only three comparable companies. Management believes that the companies included in the Peer Groups, taken as a whole, provide a meaningful comparison in terms of competition, product offerings and other relevant factors. The total stockholder return for the peer groups is weighted according to the respective issuer's stock market capitalization at the beginning of each period.

COMPARISON OF 5 YEAR CUMULATIVE TOTAL RETURN
Among Haynes, The Russell 2000 Index, The S&P MidCap 400
Index and our Peer Group



	2013	2014	2015	2016	2017	2018
Haynes International, Inc.	100.00	103.37	86.79	87.39	86.59	87.60
Russell 2000	100.00	103.93	105.23	121.50	146.70	169.06
S&P MidCap 400	100.00	111.82	113.38	130.76	153.66	175.49
Old Peer Group	100.00	98.67	48.04	64.05	80.82	100.21
New Peer Group	100.00	143.96	91.25	105.45	123.37	128.31

Item 6. Selected Financial Data

This information should be read in conjunction with “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and the consolidated financial statements and related notes thereto included elsewhere in this Annual Report on Form 10-K.

Amounts below are in thousands, except backlog, which is in millions, share and per share information and average nickel price.

	Year Ended September 30,				
	2014	2015	2016	2017	2018
Statement of Operations Data:					
Net revenues	$ 455,410	$ 487,635	$ 406,359	$ 395,209	$ 435,326
Cost of sales	408,112	393,971	358,779	365,499	387,648
Selling, general and administrative expense	38,693	42,572	39,684	42,393	47,111
Research and technical expense	3,556	3,598	3,698	3,855	3,785
Operating income (loss)	5,049	47,494	4,198	(16,538)	(3,218)
Interest expense (income), net	(71)	318	447	679	836
Provision for (benefit from) income taxes	1,369	16,690	(1,269)	(7,027)	17,697
Net income (loss)	$ 3,751	$ 30,486	$ 5,020	$ (10,190)	$ (21,751)
Net income (loss) per share:					
Basic	$ 0.30	$ 2.45	$ 0.40	$ (0.83)	$ (1.75)
Diluted	$ 0.30	$ 2.45	$ 0.40	$ (0.83)	$ (1.75)
Dividends declared per common share	$ 0.88	$ 0.88	$ 0.88	$ 0.88	$ 0.88
Weighted average shares outstanding:					
Basic	12,291,881	12,331,805	12,361,483	12,397,099	12,419,564
Diluted	12,321,700	12,344,209	12,366,197	12,397,099	12,419,564

	September 30,				
	2014	2015	2016	2017	2018
Balance Sheet Data:					
Working capital	$ 322,591	$ 332,015	$ 310,872	$ 300,468	$ 304,151
Property, plant and equipment, net	174,083	185,351	199,182	192,556	179,400
Total assets	610,771	638,191	649,601	621,819	588,694
Total debt	745	4,574	8,256	7,896	8,127
Long-term portion of debt	745	4,574	8,256	7,896	7,980
Accrued pension and postretirement benefits[1]	177,797	217,837	255,346	208,476	170,180
Stockholders' equity	346,730	341,989	311,299	333,772	333,220
Cash dividends paid	10,906	10,952	10,988	11,009	11,013

	2014	2015	2016	2017	2018
Consolidated Backlog at Fiscal Quarter End[2]:					
1st quarter	$ 180.2	$ 215.5	$ 204.7	$ 167.3	$ 205.7
2nd quarter	202.3	220.4	193.5	170.8	212.3
3rd quarter	204.7	192.9	187.2	180.9	220.6
4th quarter	221.3	185.8	168.3	177.3	216.0

	Year Ended September 30,				
	2014	2015	2016	2017	2018
Average nickel price per pound[3]	$ 8.20	$ 4.49	$ 4.63	$ 5.10	$5.68

(1) Significant increases in the pension and postretirement benefits liability occurred in fiscal 2015, primarily due to a change to a new mortality table, and in fiscal 2016, which was mostly due to reductions in the discount rate used to value the future liability. Conversely, significant decreases occurred in fiscal 2017 and fiscal 2018 primarily due to the increase in the discount rate used to value the future liability. This has been reflected actuarially as a change to the Pension and Postretirement Benefits Liability and a corresponding change to the accumulated Other Comprehensive Loss account. On a prospective basis, if interest rates were to rise, this would cause a decrease in the liability and accumulated other comprehensive loss.

(2) The Company defines backlog to include firm commitments from customers for delivery of product at established prices. There are orders in the backlog at any given time which include prices that are subject to adjustment based on changes in raw material costs, which can vary from approximately 30%-50% of the orders. Historically, approximately 75% of the backlog orders have shipped within six months and approximately 90% have shipped within 12 months. The backlog figures do not typically reflect that portion of the business conducted at service

and sales centers on a spot or “just-in-time” basis.

(3) Represents the average price for a cash buyer as reported by the London Metals Exchange for the 30 days ending on the last day of the period presented.

Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations

Please refer to page 2 of this Annual Report on Form 10-K for a cautionary statement regarding forward-looking information.

Overview of Business

The Company is one of the world’s largest producers of high-performance nickel- and cobalt-based alloys in flat product form, such as sheet, coil and plate. The Company is focused on developing, manufacturing, marketing and distributing technologically advanced, high-performance alloys, which are used primarily in the aerospace, chemical processing and industrial gas turbine industries. The global specialty alloy market consists of three primary sectors: stainless steel, general-purpose nickel alloys and high-performance nickel- and cobalt-based alloys. The Company competes primarily in the high-performance nickel- and cobalt-based alloy sector, which includes high-temperature resistant alloys, or HTA products, and corrosion-resistant alloys, or CRA products. The Company believes it is one of the principal producers of high-performance alloy flat products in sheet, coil and plate forms. The Company also produces its products as seamless and welded tubulars and in bar, billet and wire forms.

The Company has manufacturing facilities in Kokomo, Indiana; Arcadia, Louisiana; and Mountain Home, North Carolina. The Kokomo facility specializes in flat products, the Arcadia facility specializes in tubular products and the Mountain Home facility specializes in wire products. The Company distributes its products primarily through its direct sales organization, which includes 12 service and/or sales centers in the United States, Europe and Asia. All of these centers are Company-operated.

Overview of Markets

The following table includes a breakdown of net revenues, shipments and average selling prices to the markets served by the Company for the periods shown.

	Year Ended September 30,									
	2014		2015		2016		2017		2018	
	Amount	% of Total	Amount	% of Total	Amount	% of Total	Amount	% of Total	Amount	% of Total
Net Revenues (dollars in millions)										
Aerospace	$ 195.2	42.9 %	$ 215.1	44.1 %	$ 197.4	48.6 %	$ 192.5	48.7 %	$ 226.9	52.1 %
Chemical processing	113.4	24.9	111.6	22.9	72.3	17.8	70.5	17.8	79.2	18.2
Industrial gas turbine	86.7	19.0	74.4	15.3	68.1	16.8	61.5	15.6	52.4	12.0
Other markets	44.4	9.8	59.8	12.2	45.0	11.0	43.2	10.9	53.4	12.3
Total product	439.7	96.6	460.9	94.5	382.8	94.2	367.7	93.0	411.9	94.6
Other revenue[1]	15.7	3.4	26.7	5.5	23.6	5.8	27.5	7.0	23.4	5.4
Net revenues	$ 455.4	100.0 %	$ 487.6	100.0 %	$ 406.4	100.0 %	$ 395.2	100.0 %	$ 435.3	100.0 %
U.S.	$ 261.6	57.4 %	$ 287.7	59.0 %	$ 233.6	57.5 %	$ 235.5	59.6 %	$ 258.3	59.3 %
Foreign	$ 193.8	42.6 %	$ 199.9	41.0 %	$ 172.8	42.5 %	$ 159.7	40.4 %	$ 177.0	40.7 %
Shipments by Market (millions of pounds)										
Aerospace	8.8	40.7 %	9.2	45.3 %	8.7	48.3 %	8.8	48.6 %	9.8	53.3 %
Chemical processing	5.2	24.2	4.3	21.2	2.8	15.6	3.2	17.7	3.9	21.2
Industrial gas turbine	5.9	27.2	4.7	23.2	5.0	27.8	4.5	24.9	2.9	15.8
Other markets	1.7	7.9	2.1	10.3	1.5	8.3	1.6	8.8	1.8	9.8
Total Shipments	21.7	100.0 %	20.3	100.0 %	18.0	100.0 %	18.1	100.0 %	18.4	100.0 %
Average Selling Price Per Pound										
Aerospace	$ 22.10		$ 23.27		$ 22.64		$ 21.76		$ 23.05	
Chemical processing	21.63		25.97		26.68		22.28		20.54	
Industrial gas turbine	14.74		15.99		13.71		13.77		18.27	
Other markets	26.11		28.98		30.74		26.36		29.14	
Total product[2]	20.30		22.75		21.31		20.30		22.38	
Total average selling price	21.02		24.07		22.62		21.81		23.66	

(1) Other revenue consists of toll conversion, royalty income, scrap sales and revenue recognized from the TIMET agreement (see Note 15 in the Notes to the Consolidated Financial Statements). Other revenue does not include associated shipment pounds.

(2) Total product price per pound excludes “Other Revenue”.

Aerospace demand in the first half of fiscal 2014 was negatively impacted by customer destocking within the supply chain. This period of low demand began to recover in the latter half of fiscal 2014, and the recovery continued through fiscal 2015, which proved to be a record year in volume for the Company in aerospace shipments at that time. Aerospace demand moderated slightly in fiscal 2016 due to delays in the transition to new engine platforms combined with some softness in demand driven by lower oil and fuel costs. As these issues normalized, pounds shipped increased slightly in fiscal 2017 although at a lower average selling price, resulting in a decline in aerospace revenues in fiscal 2017. Underpinning demand for new engines is a desire for more fuel-efficiency and lower emissions, which had been tempered with previous decreases in fuel prices. The slight pull-back was temporary, and in fiscal 2018 aerospace volume hit record levels and revenue increased 17.9% and represented 52.1% of the Company’s overall revenue. Boeing and Airbus have reported sizeable backlog increases along with forecasted increases in production schedules and continued emphasis on accelerating production. Management also anticipates that the maintenance, repair and overhaul business will continue at a steady to increasing pace due to required maintenance schedules for the rising number of engines in service year-over-year.

Chemical processing industry revenue declined in both fiscal 2014 and 2015 then took a sizable step down in fiscal 2016 and decreased again in fiscal 2017. Sales into this market in fiscal 2015 and the second half of fiscal 2016 included some high-value special application projects with high average selling prices per pound, but overall base-volumes in this market were low in both fiscal 2015 and 2016 compared to prior years. Fiscal 2017 volume shipments increased, but at a lower average price per pound, resulting in lower chemical processing revenue in fiscal 2017 compared to fiscal

2016. Chemical processing revenue in fiscal 2018 increased 12.3% due to recovery in the base business, as well as a moderate increase in specialty application projects. Demand for large volume orders has been at relatively low levels during the past several years. The main driver of demand in this market is capital spending in the chemical processing sector driven by end-user demand for housing, automotive, energy and agricultural products. The chemical processing market is sensitive to oil prices, currency fluctuations and fiscal policies as well as world economic conditions and GDP growth. Increased sales to the chemical processing industry in fiscal 2018 were related to improvement in global spending in the chemical processing sector. Additional drivers of demand in this market were the increase in North American production of natural gas liquids and the further downstream processing of chemicals that may utilize equipment that requires high-performance alloys.

Sales to the industrial gas turbine market have declined each year from fiscal 2014 to 2018. The collapse of oil prices in 2014 had an adverse impact on small-frame industrial gas turbines used to power oil platforms and transmission systems. As oil prices have moderately recovered, demand has shown improvement in the small-frame turbines. Reported significant overcapacity in large-frame turbines primarily used for electrical generation combined with growth in renewable energy facilities has taken a toll on demand for large frame gas turbines. Two of the large OEM producers of large-frame turbines have reported weak demand and announced restructuring plans in their power generation businesses. While this period of weak demand is not expected to recover quickly, management believes that long-term demand in this market will stabilize due to higher activity in power generation and alternative power systems. Industrial gas turbines are favored in electric generating facilities due to low capital cost at installation, fewer emissions than traditional fossil fuel-fired facilities and favorable natural gas prices provided by availability of non-conventional (shale) gas supplies. As the large-turbine overbuilt situation improves, demand for industrial gas turbines is expected to increase.

Volume shipped into the other markets category increased from fiscal 2014 to 2015, then moderated in fiscal 2016 and improved in both fiscal 2017 and 2018. Sales to this market in fiscal 2015 included some high-value special application projects with high average selling prices per pound. The industries in this category focus on upgrading overall product quality, improving product performance through increased efficiency, prolonging product life and lowering long-term costs. Companies in these industries are looking to achieve these goals through the use of "advanced materials" which support the increased use of high-performance alloys in an expanding number of applications. In addition to supporting and expanding the traditional businesses of oil and gas, flue-gas desulfurization, automotive and heat treating, the Company expects increased levels of activity overall in non-traditional markets such as fuel cells and alternative energy applications in the long term.

Planned Equipment Outage and Upgrade

The Company is undergoing a significant planned equipment outage and upgrade in the Company's cold-finishing production area during the first quarter of fiscal 2019. Certain components of one of the three annealing lines will be down for a planned upgrade which began in mid-October 2018. The duration is expected to be ten to twelve weeks, with the upgraded annealing line put back into service at the end of December 2018 or early January 2019. The additional capital expenditure related to this outage is approximately $2.0 million. This outage is necessary to attain the higher capacity levels expected from the Company's recent capital investments. Production levels through the cold-finishing production area before the upgrade were at 13.5 million pounds, and the upgrade is expected to increase capacity to 18.0 million pounds. This outage is expected to have a significant impact on the Company's financial results in the first quarter of fiscal 2019, with reduced revenue and reduced profitability to below breakeven. However, once complete, this line is expected to be one of the key drivers to revenue growth and strengthening profitability over the balance of fiscal 2019.

Summary of Capital Spending

Capital spending was $15.0 million and $11.1 million in fiscal 2017 and 2018, respectively, and the forecast for capital spending in fiscal 2019 is approximately $16.0 million. The $16.0 million of planned capital spending in fiscal 2019 includes the completion of bright annealing upgrades of approximately $2.0 million.

Strategic Acquisition Activity

Growth through strategic acquisitions is an important part of the Company's overall strategy to increase shareholder value. During the third quarter of fiscal 2018, we recorded an expense of $1.5 million related to certain legal

and due-diligence costs incurred in a strategic acquisition initiative that reached late stage negotiations, but ultimately did not result in an executed purchase agreement. The Company remains committed to pursuing alternative strategies to increase shareholder value and strengthen the Company.

Chief Executive Officer Transition

During the third quarter of fiscal 2018, Mark M. Comerford informed the Board of Directors of his intention to retire as President and Chief Executive Officer and a director of the Company. Effective as of May 29, 2018, the Board of Directors appointed Michael L. Shor as interim President and Chief Executive Officer of the Company. Effective September 1, 2018, the Board of Directors unanimously appointed Mr. Shor as the Company's President and Chief Executive Officer. In connection with his interim appointment, Mr. Shor resigned as a member of the Corporate Governance and Nominating Committee of the Company's Board and then, upon accepting the permanent position, Mr. Shor stepped down from his role as Chairman of the Board but remains a member of the Board. Robert H. Getz, a director of the Company since 2006, has been elected by the Board to replace Mr. Shor as Chairman.

Mr. Shor has been a director of the Company since August 1, 2012. Mr. Shor retired as Executive Vice President—Advanced Metals Operations & Premium Alloys Operations of Carpenter Technology Corporation ("Carpenter") on July 1, 2011 after a thirty-year career with Carpenter. At Carpenter, Mr. Shor held managerial positions in technology, marketing and operations before assuming full responsibility for the performance of Carpenter's operating divisions. The Board believes Mr. Shor's extensive management experience, and specific specialty materials experience, well qualify him for his role as President and Chief Executive Officer.

In connection with Mr. Comerford's retirement, the Company entered into a Resignation and General Release Agreement (the "Retirement Agreement"). Under the Retirement Agreement, Mr. Comerford resigned from all positions he held as an officer or director of the Company or any of its subsidiaries and as a member of the Board effective as of May 29, 2018 (the "Resignation Date") and served as an advisor to the Chief Executive Officer of the Company until September 30, 2018. Between the Resignation Date and September 30, 2018, Mr. Comerford continued to receive his base salary at the same rate as in effect on the Resignation Date and participated in the employee health and welfare benefit plans offered by the Company to its employees, subject to the terms and conditions of such plans. In connection with Mr. Comerford's retirement, the Company recorded costs in the amount of $1.3 million as a charge to expense during fiscal 2018.

Impact of the Tax Cuts and Jobs Act on Deferred Tax Assets

On December 22, 2017, the Tax Cuts and Jobs Act (the "Act") was signed into law. Among other changes was a permanent reduction in the federal corporate income tax rate from 35% to 21%, which the Company expects will positively impact the Company's future effective tax rate and after-tax earnings in the United States. As a result of the Act, the Company's blended federal corporate income tax rate for fiscal 2018 was 24.5%.

As a result of the reduction in the federal corporate income tax rate, the Company was required to revalue its net deferred tax asset to account for the future impact of lower corporate tax rates on this deferred amount and record any change in the value of such asset as a one-time non-cash charge on its income statement. This resulted in a discrete tax expense adjustment of $16.6 million, which increased the Company's reported net loss for fiscal 2018. Additionally, the Act resulted in the recording of a one-time tax on foreign sourced income which amounted to $2.2 million, for a total impact of $18.8 million, which further increased the Company's reported net loss for fiscal 2018.

Expansion of LaPorte, Indiana Operations

The Company announced on May 2, 2016 its decision to expand and streamline its distribution footprint by investing in new plant and equipment at its processing facility located in LaPorte, Indiana. In connection with the expansion, the Company relocated its service center operations in Lebanon, Indiana to LaPorte. The project began in the first quarter of fiscal 2016 and was completed by the end of the first quarter of fiscal 2018. During fiscal 2018, the Company expensed $1.5 million for costs related to the relocation, including but not limited to, physical relocation costs, employee retention costs and duplicate lease costs.

Volumes, Competition and Pricing

Volumes remained at a low-level through fiscal 2018 with volumes for fiscal 2016, 2017 and 2018 at 18.0 million, 18.1 million and 18.4 million pounds, respectively. Fiscal 2016 and 2017 lower volume levels were driven by low chemical processing base business levels due to the collapse of the oil & gas market and its impact on capital spending decisions in the chemical processing market. Also, special projects were at weak levels in certain quarters. In fiscal 2018, volumes improved in aerospace, chemical processing base business and special projects, however volumes in industrial gas turbines declined dramatically. In fiscal 2018, volumes into the aerospace market, chemical processing and other markets increased 11.3%, 21.9% and 11.8%, respectively, while volumes into the industrial gas turbine market declined 35.9%. Volumes below the 20-million-pound level (or 5 million pounds per quarter) create a significant margin headwind. Several initiatives are underway to improve volume levels. Volume in the fourth quarter of fiscal 2018 improved, and the 5-million-pound level was achieved, together with expansion of margins and profitability.

Product average selling price per pound in fiscal 2018 increased overall within each market with the exception of chemical processing, compared to fiscal 2017. The decline in the chemical processing product average selling price per pound was related to a higher amount of base-business commodity products. Several focus initiatives are underway to improve pricing and margins in certain products, especially proprietary alloys and those manufactured on constrained equipment, as well as reducing costs and improving volume levels. These initiatives include effectively utilizing open capacity on major assets and managing mix at constrained assets in order to, among other things, derive a proper return on investment from the $120 million in growth capital the Company has invested since 2012. In addition, these initiatives include programs designed to take advantage of the Company's expert technical abilities in delivering innovative products and applications combined with its niche manufacturing and value-added service capabilities to penetrate end markets.

The average market price of nickel as reported by the London Metals Exchange in fiscal 2014 was $7.51 per pound, which declined 20.9% to $5.94 per pound for fiscal 2015, declined 30.3% further to $4.14 per pound in fiscal 2016, then increased moderately to $4.70 in fiscal 2017 and increased 30.0% to $5.95 in fiscal 2018. The London Metals Exchange price for the 30-days ending September 30, 2018 was $5.68 per pound. The Company values inventory utilizing the first-in, first-out ("FIFO") inventory costing methodology. In a period of decreasing raw material costs, the FIFO inventory valuation normally results in higher costs of sales as compared to the last-in, first out method. Conversely, in a period of rising prices, the FIFO inventory valuation normally results in lower costs of sales as compared to the last-in, first out method.

Gross Profit Margin Trend Performance

The following tables show net revenue, gross profit margin and gross profit margin percentage for fiscal 2017 and fiscal 2018.

	Trend of Gross Profit Margin and Gross Profit Margin Percentage for Fiscal 2017			
	Quarter Ended			
	December 31	March 31	June 30	September 30
Net revenues	$ 93,355	$ 103,112	$ 97,977	$ 100,765
Gross Profit Margin	10,487	9,788	3,662	5,773
Gross Profit Margin %	11.2%	9.5%	3.7%	5.7%

	Trend of Gross Profit Margin and Gross Profit Margin Percentage for Fiscal 2018			
	Quarter Ended			
	December 31	March 31	June 30	September 30
Net revenues	$ 89,693	$ 110,206	$ 113,114	$ 122,313
Gross Profit Margin	7,010	11,452	13,270	15,946
Gross Profit Margin %	7.8%	10.4%	11.7%	13.0%

After hitting extremely low levels in the second half of fiscal 2017, gross margins have improved ending with gross margin in the fourth quarter of fiscal 2018 at $15.9 million and gross margin as a percentage of net sales at 13.0%. As described above, several focus initiatives are underway to improve margins including improving volumes and pricing, mix management and cost reductions. The fourth quarter volume was 5.0 million pounds, which was higher than previous quarters and at a level that begins to decrease the headwind of poor absorption of fixed costs. Gross margin dollars also

improved due to better levels of specialty application projects in fiscal 2018 and better pricing levels.

Working Capital

Controllable working capital, which includes accounts receivable, inventory, accounts payable and accrued expenses, was $291.9 million at September 30, 2018, an increase of $32.7 million or 12.6% from $259.1 million at September 30, 2017. This increase of $32.7 million includes an increase in inventory of $28.6 million and accounts receivable of $11.8 million, partially offset by increases in accounts payable and accrued expenses of $7.7 million. The higher level of inventory is driven by the high backlog levels and higher production levels over the course of fiscal 2018.

Dividends Declared

On November 15, 2018, the Company announced that the Board of Directors declared a regular quarterly cash dividend of $0.22 per outstanding share of the Company's common stock. The dividend is payable December 17, 2018 to stockholders of record at the close of business on December 3, 2018. The aggregate cash payout based on current shares outstanding will be approximately $2.8 million, or approximately $11.0 million on an annualized basis.

Backlog

Set forth below is information relating to the Company's backlog and the 30-day average nickel price per pound as reported by the London Metals Exchange. This information should be read in conjunction with the consolidated financial statements and related notes thereto and the remainder of "Management's Discussion and Analysis of Financial Condition and Results of Operations" included in this Annual Report on Form 10-K.

	Quarter Ended				Quarter Ended			
	December 31, 2016	March 31, 2017	June 30, 2017	September 30, 2017	December 31, 2017	March 31, 2018	June 30, 2018	September 30, 2018
Backlog								
Dollars (in thousands)	$ 167,286	$ 170,848	$ 180,922	$ 177,300	$ 205,718	$ 212,312	$ 220,596	$ 216,020
Pounds (in thousands)	6,795	6,960	7,496	6,453	8,073	7,764	7,646	7,260
Average selling price per pound	$ 24.62	$ 24.55	$ 24.14	$ 27.48	$ 25.48	$ 27.35	$ 28.85	$ 29.75
Average nickel price per pound								
London Metals Exchange[(1)]	$ 5.00	$ 4.64	$ 4.05	$ 5.10	$ 5.18	$ 6.08	$ 6.85	$ 5.68

(1) Represents the average price for a cash buyer as reported by the London Metals Exchange for the 30 days ending on the last day of the period presented.

Backlog was $216.0 million at September 30, 2018, a decrease of approximately $4.6 million, or 2.1%, from $220.6 million at June 30, 2018. The backlog dollars decreased during the fourth quarter of fiscal 2018 due to a 5.0% decrease in backlog pounds partially offset by a 3.1% increase in backlog average selling price. The primary driver for the reduction in backlog was lower order entry which is typical during the summer months especially from the Company's European customers. The increase in average selling price is due to a higher-value product mix and higher selling prices in the backlog.

The backlog increased by $38.7 million, or 21.8%, from $177.3 million at September 30, 2017 to $216.0 million at September 30, 2018 due to a 12.5% increase in backlog pounds combined with an 8.3% increase in backlog average selling price. The increase in backlog pounds was primarily driven by increases in demand in the aerospace, chemical processing and other markets. This overall increase in backlog underlies management's optimism for improving financial results going forward.

Revenues by geographic area

Net revenues in fiscal 2016, 2017 and 2018 were generated primarily by the Company's U.S. operations. Sales to domestic customers comprised approximately 58%, 60% and 59% of the Company's net revenues in fiscal 2016, 2017 and

2018, respectively. In addition, the majority of the Company's operating costs are incurred in the U.S., as all of its manufacturing facilities are located in the U.S. It is expected that net revenues will continue to be highly dependent on the Company's domestic sales and manufacturing facilities in the U.S.

The Company's foreign and export sales were approximately $172.8 million, $159.7 million and $177.0 million for fiscal 2016, 2017 and 2018, respectively. Additional information concerning foreign operations and export sales is set forth in Note 13 to the Consolidated Financial Statements included in this Annual Report on Form 10-K.

Quarterly Market Information

	Quarter Ended				Quarter Ended			
	December 31, 2016	**March 31, 2017**	**June 30, 2017**	**September 30, 2017**	**December 31, 2017**	**March 31, 2018**	**June 30, 2018**	**September 30, 2018**
Net revenues (in thousands)								
Aerospace	$ 45,784	$ 49,536	$ 46,895	$ 50,300	$ 46,839	$ 59,033	$ 59,646	$ 61,380
Chemical processing	19,128	18,081	15,017	18,241	13,356	21,148	21,364	23,301
Industrial gas turbine	14,593	17,827	14,731	14,372	13,421	11,755	11,866	15,308
Other markets	8,429	9,923	14,379	10,472	9,238	12,724	14,863	16,592
Total product revenue	87,934	95,367	91,022	93,385	82,854	104,660	107,739	116,581
Other revenue	5,421	7,745	6,955	7,380	6,839	5,546	5,375	5,732
Net revenues	$ 93,355	$ 103,112	$ 97,977	$ 100,765	$ 89,693	$ 110,206	$ 113,114	$ 122,313
Shipments by markets (in thousands of pounds)								
Aerospace	2,017	2,322	2,207	2,301	2,023	2,578	2,645	2,598
Chemical processing	605	771	858	929	687	1,000	1,018	1,150
Industrial gas turbine	1,039	1,403	1,011	1,015	876	640	622	728
Other markets	316	350	501	472	332	479	498	524
Total shipments	3,977	4,846	4,577	4,717	3,918	4,697	4,783	5,000
Average selling price per pound								
Aerospace	$ 22.70	$ 21.33	$ 21.25	$ 21.86	$ 23.15	$ 22.90	$ 22.55	$ 23.63
Chemical processing	31.62	23.45	17.50	19.64	19.44	21.15	20.99	20.26
Industrial gas turbine	14.05	12.71	14.57	14.16	15.32	18.37	19.08	21.03
Other markets	26.67	28.35	28.70	22.19	27.83	26.56	29.85	31.66
Total average selling price (product only; excluding other revenue)	22.11	19.68	19.89	19.80	21.15	22.28	22.53	23.32
Total average selling price (including other revenue)	23.47	21.28	21.41	21.36	22.89	23.46	23.65	24.46

Results of Operations

Year Ended September 30, 2018 Compared to Year Ended September 30, 2017

($ in thousands, except per share figures)

	Year Ended September 30,				Change	
	2017		2018		Amount	%
Net revenues	$ 395,209	100.0 %	$ 435,326	100.0 %	$ 40,117	10.2 %
Cost of sales	365,499	92.5 %	387,648	89.0 %	22,149	6.1 %
Gross profit	29,710	7.5 %	47,678	11.0 %	17,968	60.5 %
Selling, general and administrative expense	42,393	10.7 %	47,111	10.8 %	4,718	11.1 %
Research and technical expense	3,855	1.0 %	3,785	0.9 %	(70)	(1.8)%
Operating income (loss)	(16,538)	(4.2)%	(3,218)	(0.7)%	13,320	(80.5)%
Interest income	(186)	(0.0)%	(82)	(0.0)%	104	(55.9)%
Interest expense	865	0.2 %	918	0.2 %	53	6.1 %
Income (loss) before income taxes	(17,217)	(4.4)%	(4,054)	(0.9)%	13,163	(76.5)%
Provision for (benefit from) income taxes	(7,027)	(1.8)%	17,697	4.1 %	24,724	(351.8)%
Net income (loss)	$ (10,190)	(2.6)%	$ (21,751)	(5.0)%	$ (11,561)	113.5 %
Net income (loss) per share:						
Basic	$ (0.83)		$ (1.75)			
Diluted	$ (0.83)		$ (1.75)			
Weighted average shares outstanding:						
Basic	12,397,099		12,419,564			
Diluted	12,397,099		12,419,564			

The following table includes a breakdown of net revenues, shipments and average selling prices to the markets served by the Company for the periods shown.

By market

	Year Ended September 30,		Change	
	2017	**2018**	**Amount**	**%**
Net revenues **(dollars in thousands)**				
Aerospace	$ 192,515	$ 226,898	$ 34,383	17.9 %
Chemical processing	70,467	79,169	8,702	12.3 %
Industrial gas turbine	61,523	52,350	(9,173)	(14.9)%
Other markets	43,203	53,417	10,214	23.6 %
Total product revenue	367,708	411,834	44,126	12.0 %
Other revenue	27,501	23,492	(4,009)	(14.6)%
Net revenues	$ 395,209	$ 435,326	$ 40,117	10.2 %
Pounds by market **(in thousands)**				
Aerospace	8,847	9,844	997	11.3 %
Chemical processing	3,163	3,855	692	21.9 %
Industrial gas turbine	4,468	2,866	(1,602)	(35.9)%
Other markets	1,639	1,833	194	11.8 %
Total shipments	18,117	18,398	281	1.6 %
Average selling price per pound				
Aerospace	$ 21.76	$ 23.05	$ 1.29	5.9 %
Chemical processing	22.28	20.54	(1.74)	(7.8)%
Industrial gas turbine	13.77	18.27	4.50	32.7 %
Other markets	26.36	29.14	2.78	10.5 %
Total product (excluding other revenue)	20.30	22.38	2.08	10.2 %
Total average selling price (including other revenue)	$ 21.81	$ 23.66	$ 1.85	8.5 %

Net Revenues. Net revenues were $435.3 million in fiscal 2018, an increase of 10.2% from $395.2 million in fiscal 2017, due to an increase in average selling price per pound combined with an increase in volume. The average product selling price was $22.38 per pound in fiscal 2018, an increase of 10.2%, or $2.08, from $20.30 per pound in fiscal 2017. Volume was 18.4 million pounds in fiscal 2018, an increase of 1.6% from 18.1 million pounds in fiscal 2017 with increases in the aerospace, chemical processing and other markets, however the increase was nearly offset by a dramatic drop in industrial gas turbine volumes of 35.9%. The average product selling price per pound increased as a result of higher raw material market prices, price increases and other pricing considerations, which increased average selling price per pound by approximately $1.14, combined with a higher value product mix, which increased the average selling price per pound by approximately $0.94.

Sales to the aerospace market were $226.9 million in fiscal 2018, an increase of 17.9% from $192.5 million in fiscal 2017, due to an 11.3%, increase in volume, combined with a 5.9%, or $1.29, increase in the average selling price per pound. The increase in volume reflects the increase in new engine platform sales combined with the Company's enhanced capacity from the cold-finishing capital investment. The average selling price per pound increase reflects a change in market prices of raw materials and other pricing consideration, which increased average selling price per pound by approximately $1.32, partially offset by a slightly lower-value mix, which decreased average selling price per pound by approximately $0.03.

Sales to the chemical processing market were $79.2 million in fiscal 2018, an increase of 12.3% from $70.5 million in fiscal 2017, due to a 21.9% increase in volume, partially offset by a 7.8%, or $1.74, decrease in the average selling price per pound. Volumes increased in fiscal 2018 from low levels in both base business and special projects in fiscal 2017. The average selling price per pound decrease reflects a lower-value product mix driven by the higher base-business volumes of commodity alloys combined with a change in market prices of raw materials and other pricing considerations, which decreased average selling price per pound by approximately $1.42 and $0.32, respectively.

Sales to the industrial gas turbine market were $52.4 million in fiscal 2018, a decrease of 14.9% from $61.5 million in fiscal 2017, due to a 35.9% decrease in volume partially offset by a 32.7%, or $4.50, increase in the average selling price per pound. The decrease in volume was primarily due to weak demand, along with a lower level of ingot orders shipped in fiscal 2018 compared to the same period of fiscal 2017. Demand for large-frame industrial gas turbines has been weak due to an over-build in the industry as well as growth in renewable energy facilities. The two large OEM producers of large-frame turbines announced significant restructurings in their power generation businesses. The increase in average selling price per pound primarily reflects a change to a higher-value product mix and higher market raw material prices and other pricing considerations, which increased average selling price per pound by approximately $2.63 and $1.87, respectively.

Sales to other markets were $53.4 million in fiscal 2018, an increase of 23.6% from $43.2 million in fiscal 2017, due to an 11.8% increase in volume, combined with a 10.5%, or $2.78, increase in average selling price per pound. The increase in volume is due primarily to increases in demand in the flue-gas desulfurization market. The increase in average selling price reflects higher market raw material prices and other pricing considerations along with a higher-value product mix, which increased average selling price per pound by approximately $2.00 and $0.80, respectively.

Other Revenue. Other revenue was $23.5 million in fiscal 2018, a decrease of 14.6% from $27.5 million in fiscal 2017. The decrease in other revenue is primarily attributable to decreased conversion services.

Cost of Sales. Cost of sales was $387.6 million, or 89.0% of net revenues, in fiscal 2018 compared to $365.5 million, or 92.5% of net revenues, in fiscal 2017. Cost of sales in fiscal 2018 increased by $22.1 million primarily due to higher volumes, a higher-value product mix and costs associated with relocating the Lebanon service center to LaPorte as previously announced.

Gross Profit. As a result of the above factors, gross margin was $47.7 million for fiscal 2018, an increase of $18.0 million from $29.7 million in fiscal 2017. Gross margin as a percentage of net revenue increased to 11.0% in fiscal 2018 as compared to 7.5% in fiscal 2017.

Selling, General and Administrative Expense. Selling, general and administrative expense was $47.1 million for fiscal 2018, an increase of $4.7 million, or 11.1%, from $42.4 million in fiscal 2017. The significant drivers of the increase in fiscal 2018 included two events that took place during the third quarter of fiscal 2018. First, expense of $1.5 million was recorded related to certain legal and due diligence costs incurred in a strategic acquisition initiative that reached late stage negotiations but ultimately did not result in an executed purchase agreement. Second, expense of $1.3 million was recorded related to the retirement of the Company's Chief Executive Officer. A portion of the increase in cost was attributable to higher management incentive compensation expense of $1.1 million and $0.5 million of increased bad debt expense. As a result of the above-mentioned charges, selling, general and administrative expense as a percentage of net revenues increased to 10.8% for fiscal 2018 compared to 10.7% for the same period of fiscal 2017.

Research and Technical Expense. Research and technical expense was $3.8 million, or 0.9% of revenue, for fiscal 2018, compared to $3.9 million, or 1.0% of net revenue, in fiscal 2017.

Operating Income/(Loss). As a result of the above factors, operating loss in fiscal 2018 was $(3.2) million, compared to operating loss of $(16.5) million in fiscal 2017.

Income Taxes. Income tax expense was $17.7 million during fiscal 2018, a difference of $24.7 million from a benefit of $7.0 million in the same period of fiscal 2017. The higher tax expense for fiscal 2018 as compared to fiscal 2017 is primarily attributable to the passage of the Tax Cuts and Jobs Act during fiscal 2018, which required the Company to revalue its deferred tax assets based on the lowering of the statutory tax rate of 35% to 21% (24.5% in fiscal 2018). The section entitled "Impact of the Tax Cuts and Jobs Act on Deferred Tax Assets" and Note 6 to the consolidated financial statements in this Annual Report on Form 10-K for the year ended September 30, 2018 set forth additional information regarding the impact of the Tax Cuts and Jobs Act.

Net Income/(Loss). As a result of the above factors, net loss for fiscal 2018 was $(21.8) million (which includes a $20.9 million impact of the Tax Cuts and Jobs Act and other special charges), an increase of $11.6 million from net loss of $(10.2) million in fiscal 2017.

Year Ended September 30, 2017 Compared to Year Ended September 30, 2016

($ in thousands, except per share figures)

	Year Ended September 30,				Change	
	2016		2017		Amount	%
Net revenues	$ 406,359	100.0 %	$ 395,209	100.0 %	$ (11,150)	(2.7)%
Cost of sales	358,779	88.3 %	365,499	92.5 %	6,720	1.9 %
Gross profit	47,580	11.7 %	29,710	7.5 %	(17,870)	(37.6)%
Selling, general and administrative expense	39,684	9.8 %	42,393	10.7 %	2,709	6.8 %
Research and technical expense	3,698	0.9 %	3,855	1.0 %	157	4.2 %
Operating income (loss)	4,198	1.0 %	(16,538)	(4.2)%	(20,736)	(493.9)%
Interest income	(108)	(0.0)%	(186)	(0.0)%	(78)	72.2 %
Interest expense	555	0.1 %	865	0.2 %	310	55.9 %
Income (loss) before income taxes	3,751	0.9 %	(17,217)	(4.4)%	(20,968)	(559.0)%
Provision for (benefit from) income taxes	(1,269)	(0.3)%	(7,027)	(1.8)%	(5,758)	453.7 %
Net income (loss)	$ 5,020	1.2 %	$ (10,190)	(2.6)%	$ (15,210)	(303.0)%
Net income (loss) per share:						
Basic	$ 0.40		$ (0.83)			
Diluted	$ 0.40		$ (0.83)			
Weighted average shares outstanding:						
Basic	12,361,483		12,397,099			
Diluted	12,366,197		12,397,099			

The following table includes a breakdown of net revenues, shipments and average selling prices to the markets served by the Company for the periods shown.

By market

	Year Ended September 30,		Change	
	2016	**2017**	**Amount**	**%**
Net revenues **(dollars in thousands)**				
Aerospace	$ 197,445	$ 192,515	$ (4,930)	(2.5)%
Chemical processing	72,316	70,467	(1,849)	(2.6)%
Industrial gas turbine	68,063	61,523	(6,540)	(9.6)%
Other markets	45,033	43,203	(1,830)	(4.1)%
Total product revenue	382,857	367,708	(15,149)	(4.0)%
Other revenue	23,502	27,501	3,999	17.0 %
Net revenues	$ 406,359	$ 395,209	$ (11,150)	(2.7)%
Pounds by market **(in thousands)**				
Aerospace	8,720	8,847	127	1.5 %
Chemical processing	2,816	3,163	347	12.3 %
Industrial gas turbine	4,965	4,468	(497)	(10.0)%
Other markets	1,465	1,639	174	11.9 %
Total shipments	17,966	18,117	151	0.8 %
Average selling price per pound				
Aerospace	$ 22.64	$ 21.76	$ (0.88)	(3.9)%
Chemical processing	25.68	22.28	(3.40)	(13.2)%
Industrial gas turbine	13.71	13.77	0.06	0.4 %
Other markets	30.74	26.36	(4.38)	(14.2)%
Total product (excluding other revenue)	21.31	20.30	(1.01)	(4.7)%
Total average selling price (including other revenue)	$ 22.62	$ 21.81	$ (0.81)	(3.6)%

Net Revenues. Net revenues were $395.2 million in fiscal 2017, a decrease of 2.7% from $406.4 million in fiscal 2016, due to a decrease in average selling price per pound partially offset by an increase in volume. The average product selling price was $20.30 per pound in fiscal 2017, a decrease of 4.7%, or $(1.01), from $21.31 per pound in fiscal 2016. Volume was 18.1 million pounds in fiscal 2017, an increase of 0.8% from 18.0 million pounds in fiscal 2016 with increases in the aerospace, chemical processing and other markets. The average product selling price per pound decreased as a result of pricing competition and lower levels of specialty application projects, which decreased average selling price per pound by approximately $1.35, and a lower-value product mix, which decreased average selling price per pound by approximately $0.43, partially offset by higher raw material market prices, which increased average selling price by approximately $0.77 per pound.

Sales to the aerospace market were $192.5 million in fiscal 2017, a decrease of 2.5% from $197.4 million in fiscal 2016, due to a 3.9%, or $0.88, decrease in the average selling price per pound, partially offset by a 1.5% increase in volume. The increase in volume reflects solid aerospace demand especially with respect to new generation engines. The average selling price per pound decrease reflects an increase in pricing competition and a change to a lower-value product mix, which decreased average selling price per pound by approximately $1.03 and $0.63, respectively, partially offset by a change in market prices of raw materials, which increased average selling price per pound by approximately $0.78.

Sales to the chemical processing market were $70.5 million in fiscal 2017, a decrease of 2.6% from $72.3 million in fiscal 2016, due to a 13.2%, or $3.40, decrease in the average selling price per pound, partially offset by a 12.3% increase in volume. Volumes increased in fiscal 2017 from very low levels. The decrease in the average selling price per pound reflects a change to a lower-value product mix and increased pricing competition, which decreased average selling price per pound by approximately $2.69 and $1.16, respectively, partially offset by higher raw material market prices, which increased average selling price per pound by approximately $0.45.

Sales to the industrial gas turbine market were $61.5 million in fiscal 2017, a decrease of 9.6% from $68.1 million in fiscal 2016, due to a 10.0% decrease in volume partially offset by a 0.4%, or $0.06, increase in the average selling price per pound. The decrease in volume was due primarily to a decreased level of transactional business in this market, along with a lower level of ingot orders shipped. The increase in average selling price per pound reflects a change to a higher-value product mix and higher raw material market prices, which increased average selling price per pound by approximately $1.04 and $0.84, respectively, partially offset by increased pricing competition, which decreased average selling price per pound by approximately $1.82.

Sales to other markets were $43.2 million in fiscal 2017, a decrease of 4.1% from $45.0 million in fiscal 2016, due to a 14.2% decrease in average selling price per pound, partially offset by an 11.9% increase in volume. The increase in volume is due primarily to small increases in volume in the flue-gas desulfurization and oil and gas markets, along with small improvements in transactional orders in other markets. The decrease in the average selling price reflects a change in product mix to lower-value forms and alloys and increased pricing competition, which decreased average selling price per pound by approximately $3.31 and $2.23, respectively, partially offset by an increase in raw material market prices, which increased average selling price per pound by approximately $1.15.

Other Revenue. Other revenue was $27.5 million in fiscal 2017, an increase of 17.0% from $23.5 million in fiscal 2016. The increase in other revenue was primarily attributable to increased conversion services and miscellaneous revenue combined with adjustments to sales reserves.

Cost of Sales. Cost of sales was $365.5 million, or 92.5% of net revenues, in fiscal 2017 compared to $358.8 million, or 88.3% of net revenues, in fiscal 2016. Cost of sales in fiscal 2017 increased by $6.7 million as compared to fiscal 2016 primarily due to higher volume, higher raw material costs and increased pension expense, partially offset by a lower-value product mix sold.

Gross Profit. As a result of the above factors, gross margin was $29.7 million for fiscal 2017, a decrease of $17.9 million from $47.6 million in fiscal 2016 driven by less favorable product mix as a result of less specialty application projects. Gross margin as a percentage of net revenue decreased to 7.5% in fiscal 2017 as compared to 11.7% in fiscal 2016.

Selling, General and Administrative Expense. Selling, general and administrative expense was $42.4 million for fiscal 2017, an increase of $2.7 million, or 6.8%, from $39.7 million in fiscal 2016. The increase in expense was primarily driven by fluctuations in foreign currencies of $2.1 million. Higher pension expense and higher bad debt expense also contributed to the increased expense. Selling, general and administrative expenses as a percentage of net revenues increased to 10.7% for fiscal 2017, compared to 9.8% for fiscal 2016.

Research and Technical Expense. Research and technical expense was $3.9 million, or 1.0% of revenue, for fiscal 2017, compared to $3.7 million, or 0.9% of net revenue, in fiscal 2016.

Operating Income/(Loss). As a result of the above factors, operating loss in fiscal 2017 was $(16.5) million, compared to operating income of $4.2 million in fiscal 2016.

Income Taxes. A benefit from income taxes of $7.0 million was incurred in fiscal 2017, a difference of $5.8 million from a tax benefit of $1.3 million in fiscal 2016. The effective tax rate for fiscal 2017 was 40.8%, compared to 33.8% in fiscal 2016. The higher tax rate in fiscal 2017 was attributed to a higher proportion of net loss recorded in the higher-rate United States jurisdiction in fiscal 2017 as compared to fiscal 2016.

Net Income/(Loss). As a result of the above factors, net loss for fiscal 2017 was $(10.2) million, a decrease of $15.2 million from net income of $5.0 million in fiscal 2016.

Liquidity and Capital Resources

Comparative cash flow analysis (2017 to 2018)

During fiscal 2018, the Company's primary source of cash was cash on-hand and the revolving credit facility which was temporarily drawn against in the fourth quarter of fiscal 2018, however paid back to zero by September 30, 2018. At September 30, 2018, the Company had cash and cash equivalents of $9.8 million, inclusive of $7.3 million that was held by foreign subsidiaries in various currencies, compared to $46.3 million at September 30, 2017.

Net cash used in operating activities was $13.7 million in fiscal 2018 compared to net cash provided by operating activities of $13.1 million in fiscal 2017. The cash used in operating activities during fiscal 2018 was driven by increases in controllable working capital (inventory, accounts receivable, accounts payable and accrued expenses) of $32.3 million (excluding the impact of foreign exchange) compared to cash used of $2.8 million in fiscal 2017, as well as higher pension contributions of $8.8 million as compared to $6.8 million during fiscal 2017. Additionally, the absence of cash provided in fiscal 2018 from restricted cash contributed to lower cash generated in fiscal 2018 as compared to fiscal 2017 of approximately $5.4 million. These factors were partially offset by income generated from operations excluding the impacts of expense that do not impact cash such as depreciation and amortization expense, pension expense and income tax expense.

Net cash used in investing activities in fiscal 2018 of $11.1 million was lower than cash used in investing activities in fiscal 2017 of $15.0 million by $3.9 million as a result of lower additions to property, plant and equipment, primarily driven by capital spend in cold-finish during fiscal 2017 that did not repeat in fiscal 2018.

Net cash used in financing activities in fiscal 2018 of $11.5 million included $11.0 million of dividend payments and approximately $0.2 million of stock re-purchases made to satisfy taxes in relation to the vesting of restricted stock, which is comparable to the prior year. Additionally, during the fourth quarter of fiscal 2018, the Company borrowed $4.2 million from the revolving credit facility which was fully repaid during the quarter.

Comparative cash flow analysis (2016 to 2017)

During fiscal 2017, the Company's primary sources of cash were cash on-hand and cash from operations, as detailed below. At September 30, 2017, the Company had cash and cash equivalents of $46.3 million compared to $59.3 million (excluding restricted cash of $5.4 million) at September 30, 2016. As of September 30, 2017, the Company had cash and cash equivalents of $13.4 million that was held by foreign subsidiaries in various currencies.

Net cash provided by operating activities was $13.1 million in fiscal 2017 compared to $54.0 million in fiscal 2016. The lower cash provided in fiscal 2017 was largely driven by net losses of $10.2 million in fiscal 2017 compared to net income of $5.0 million in fiscal 2016 as well as changes in working capital, in particular, cash used from higher inventories of $7.0 million in fiscal 2017 compared to cash generated from lower inventories of $6.6 million in fiscal 2016 and cash generated from lower accounts receivable of $0.8 million in fiscal 2017 compared to cash generated from lower accounts receivable of $11.0 million in fiscal 2016. Additionally, cash paid for income taxes was $2.3 million in fiscal 2017 compared to cash refunded of $6.5 million in fiscal 2016. This was partially offset by cash provided from increases in accounts payable and accrued expenses of $3.5 million in fiscal 2017 compared to cash used from decreases in accounts payable in fiscal 2016.

Net cash used in investing activities in fiscal 2017 of $15.0 million was lower than cash used in investing activities in fiscal 2016 of $31.6 million by $16.6 million as a result of lower additions to property, plant and equipment, as the Company's capacity expansion in sheet manufacturing was completed during fiscal 2017.

Net cash used in financing activities in fiscal 2017 of $11.4 million included $11.0 million of dividend payments and approximately $0.3 million of stock re-purchases made to satisfy taxes in relation to the vesting of restricted stock, which is comparable to the prior year.

Future sources of liquidity

The Company's sources of liquidity for fiscal 2019 are expected to consist primarily of cash generated from operations, cash on-hand and, if needed, borrowings under the U.S. revolving credit facility. At September 30, 2018, the Company had cash of $9.8 million, an outstanding balance of zero on the U.S. revolving credit facility and access to a total of approximately $120.0 million under the U.S. revolving credit facility, subject to a borrowing base formula and certain reserves. Management believes that the resources described above will be sufficient to fund planned capital expenditures and working capital requirements over the next twelve months.

U.S. revolving credit facility

The Company and Wells Fargo Capital Finance, LLC ("Wells Fargo") entered into a Third Amended and Restated Loan and Security Agreement (the "Amended Agreement") with certain other lenders with an effective date of July 14, 2011. On July 7, 2016, the Company amended the agreement to, among other things, extend the term through July 7, 2021

and reduce unused line fees and certain administrative fees. The maximum revolving loan amount under the Amended Agreement is $120.0 million, subject to a borrowing base formula and certain reserves. The Amended Agreement permits an increase in the maximum revolving loan amount from $120.0 million up to an aggregate amount of $170.0 million at the request of the borrower. Borrowings under the U.S. revolving credit facility bear interest, at the Company's option, at either Wells Fargo's "prime rate", plus up to 0.75% per annum, or the adjusted Eurodollar rate used by the lender, plus up to 2.0% per annum. As of September 30, 2018, the U.S. revolving credit facility had a zero balance.

The Company must pay monthly, in arrears, a commitment fee of 0.20% per annum on the unused amount of the U.S. revolving credit facility total commitment. For letters of credit, the Company must pay 1.5% per annum on the daily outstanding balance of all issued letters of credit, plus customary fees for issuance, amendments and processing.

The Company is subject to certain covenants as to fixed charge coverage ratios and other customary covenants, including covenants restricting the incurrence of indebtedness, the granting of liens and the sale of assets. The covenant pertaining to fixed charge coverage ratios is only effective in the event the amount of excess availability under the revolver is less than 10.0% of the maximum credit revolving loan amount. The Company is permitted to pay dividends and repurchase common stock if certain financial metrics are met (most of which do not apply in the case of regular quarterly dividends less than $20.0 million in the aggregate in a year and repurchases in connection with the vesting of shares of restricted stock). As of September 30, 2018, the most recent required measurement date under the Amended Agreement, management believes the Company was in compliance with all applicable financial covenants under the Amended Agreement. Borrowings under the U.S. revolving credit facility are collateralized by a pledge of substantially all of the U.S. assets of the Company, including the equity interests in its U.S. subsidiaries, but excluding the four-high Steckel rolling mill and related assets, which are pledged to Titanium Metals Corporation ("TIMET") to secure the performance of the Company's obligations under a Conversion Services Agreement with TIMET (see discussion of TIMET at Note 15 in the Company's Notes to Consolidated Financial Statements in this Annual Report on Form 10-K). The U.S. revolving credit facility is also secured by a pledge of a 65% equity interest in each of the Company's direct foreign subsidiaries.

Future uses of liquidity

The Company's primary uses of cash over the next twelve months are expected to consist of expenditures related to:

- Funding operations;
- Capital spending;
- Dividends to stockholders; and
- Pension and postretirement plan contributions.

Capital investment in fiscal 2018 was $11.1 million, and the plan for capital spending in fiscal 2019 is $16.0 million. See "Summary of Capital Spending" in this Annual Report on Form 10-K for additional discussion of actual and planned capital spending.

Contractual Obligations

The following table sets forth the Company's contractual obligations for the periods indicated, as of September 30, 2018:

Contractual Obligations	Payments Due by Period				
	Total	Less than 1 year	1-3 Years	3-5 Years	More than 5 years
			(in thousands)		
Credit facility fees[1]	$ 790	$ 280	$ 510	$ —	$ —
Operating lease obligations	4,527	2,681	1,714	132	—
Capital and finance lease obligations	17,696	1,011	1,994	2,036	12,655
Raw material contracts (primarily nickel)	26,104	26,104	—	—	—
Capital projects and other commitments	7,821	7,821	—	—	—
Pension plan[2]	61,452	4,000	12,000	12,000	33,452
Non-qualified pension plans	716	95	190	190	241
Other postretirement benefits[3]	50,000	5,000	10,000	10,000	25,000
Environmental post-closure monitoring	504	55	120	110	219
Total	$ 169,610	$ 47,047	$ 26,528	$ 24,468	$ 71,567

(1) As of September 30, 2018, the revolver balance was zero, therefore no interest is due. However, the Company is obligated to the Bank for unused line fees and quarterly management fees.

(2) The Company has a funding obligation to contribute $61,452 to the domestic pension plan. These payments will be tax deductible. All benefit payments under the domestic pension plan will come from the plan and not the Company.

(3) Represents expected other postretirement benefits based upon anticipated timing of payments.

Inflation or Deflation

While neither inflation nor deflation has had, nor does the Company expect them to have, a material impact on operating results, there can be no assurance that the Company's business will not be affected by inflation or deflation in the future. Historically, the Company has had the ability to pass on to customers both increases in consumable costs and material costs because of the value-added contribution the material makes to the final product. Raw material comprises the most significant portion of product costs. Nickel, cobalt and molybdenum, the primary raw materials used to manufacture the Company's products, all have experienced significant fluctuations in price. In the future, the Company may not be able to successfully offset rapid increases in the price of nickel or other raw materials. In the event of raw material price declines, the Company's customers may delay order placement, resulting in lower volumes. In the event that raw material price increases that the Company is unable to pass on to its customers occur, the Company's cash flows or results of operations could be materially adversely affected.

Critical Accounting Policies and Estimates

Overview

Management's Discussion and Analysis of Financial Condition and Results of Operations discusses the Company's consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States of America. The preparation of these financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the 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. On an on-going basis, management evaluates its estimates and judgments, including those related to bad debts, inventories, income taxes, asset impairments, retirement benefits, matters related to product liability and other lawsuits and environmental matters. The process of determining significant estimates is fact specific and takes into account factors such as historical experience, current and expected economic conditions, product mix, pension asset mix and, in some cases, actuarial techniques and various other factors that are believed to be reasonable under the circumstances. The results of this process form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. The Company routinely reevaluates these significant factors and makes adjustments

where facts and circumstances dictate. Actual results may differ from these estimates under different assumptions or conditions.

The Company's accounting policies are more fully described in Note 2 in the Notes to the Consolidated Financial Statements included in Item 8 of this Annual Report on Form 10-K. The Company has identified certain critical accounting policies, which are described below. The following listing of policies is not intended to be a comprehensive list of all of the Company's accounting policies. In many cases, the accounting treatment of a particular transaction is specifically dictated by generally accepted accounting principles, with no need for management's judgment in their application. There are also areas in which management's judgment in selecting any available alternative would not produce a materially different result.

Revenue Recognition

Revenue is recognized when collectability is reasonably assured and when title passes to the customer which is generally at the time of shipment (F.O.B. shipping point or at a foreign port for certain export customers) or, in the case of conversion services, when the service is performed. Allowances for sales returns are recorded as a component of net revenues in the periods in which the related sales are recognized. Management determines this allowance based on historical experience. Should returns increase above historical experience, additional allowances may be required. Additionally, the Company recognizes revenue attributable to an up-front fee received from Titanium Metals Corporation ("TIMET") as a result of a twenty-year agreement, entered into on November, 17, 2006 to provide conversion services to TIMET. See Note 15 Deferred Revenue for a description of accounting treatment relating to this up-front fee.

Pension and Postretirement Benefits

The Company has defined benefit pension and postretirement plans covering most of its current and former employees. Significant elements in determining the assets or liabilities and related income or expense for these plans are the expected return on plan assets (if any), the discount rate used to value future payment streams, expected trends in health care costs and other actuarial assumptions. Annually, the Company evaluates the significant assumptions to be used to value its pension and postretirement plan assets and liabilities based on current market conditions and expectations of future costs. If actual results are less favorable than those projected by management, additional expense may be required in future periods.

The selection of the U.S. pension plan's (the Plan) assumption for the expected long-term rate of return on plan assets is based upon the Plan's target allocation of 60% equities and 40% bonds, and the expected rate of return for each equity/bond asset class. Based upon the target allocation and each asset class's expected return, the Plan's return on assets assumption of 7.25% is reasonable, and is unchanged since last year's assumption. The return on assets is based on fair value of the plan assets and their investment allocation at the beginning of the fiscal year. The Company also realizes that historical performance is no guarantee of future performance.

In the short term, substantial decreases in plan assets will result in higher plan funding contribution levels and higher pension expenses. A decrease of 25 basis points in the expected long-term rate of return on plan assets would result in an increase in annual pension expense of about $493,000. To the extent that the actual return on plan assets during the year exceeds or falls short of the assumed long-term rate of return, an asset gain or loss is created. For funding purposes, gains and losses are generally amortized over a 7-year period. As an example, each $1.0 million in asset loss created by unfavorable investment performance results in seven annual payments (contributions) of approximately $170,000 depending upon the precise effective interest rate in the valuation and the timing of the contribution.

Decreases in discount rates used to value future payment streams will result in higher liabilities for pension and postretirement plans. A decrease of 25 basis points would result in $8.2 million higher liability for the U.S. pension plan and $4.4 million higher liability for the postretirement plan. This increase in liability would also increase the accumulated other comprehensive loss that would be amortized as higher pension and postretirement expense over an amortization period of approximately 6.8 and 7.5 years, respectively.

Salaried employees hired after December 31, 2005 and hourly employees hired after June 30, 2007 are not covered by the pension plan; however, they are eligible for an enhanced matching program of the defined contribution plan (401(k)). Effective December 31, 2007, the U.S. pension plan was amended to freeze benefits for all non-union employees in the U.S. Effective September 30, 2009, the U.K. pension plan was amended to freeze benefits for employees

in the plan.

During the fourth quarter of fiscal 2018, the Company transferred assets of $13,576 to a third-party insurance company in exchange for the assumption of pension liability for approximately 397 retired participants. The pension liability for those retirees is not included in the projected benefit obligation as of September 30, 2018.

Impairment of Long-lived Assets and Other Intangible Assets

The Company reviews long-lived assets for impairment whenever events or circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability of long-lived assets to be held and used is measured by a comparison of the carrying amount of the asset to the undiscounted future cash flows expected to be generated by the asset. If the carrying amount of an asset exceeds its estimated future cash flows, an impairment charge is recognized in the amount by which the carrying amount exceeds the fair value of the asset. The Company reviews assets for impairment annually or more frequently if events or circumstances indicate that the carrying amount may be impaired on trademark and patent intangible assets.

Income Taxes

The Company accounts for deferred tax assets and liabilities using enacted tax rates for the effect of temporary differences between book and tax basis of recorded assets and liabilities. A valuation allowance is required if it is more likely than not that some portion or all of the deferred tax assets will not be realized. The determination of whether or not a valuation allowance is needed is based upon an evaluation of both positive and negative evidence. In its evaluation of the need for a valuation allowance, the Company assesses prudent and feasible tax planning strategies. The ultimate amount of deferred tax assets realized could be different from those recorded, as influenced by potential changes in enacted tax laws and the availability of future taxable income.

Recently Issued Accounting Pronouncements

See Note 2—Summary of Significant Accounting Policies of Notes to Consolidated Financial Statements for information regarding New Accounting Standards.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

Market risk is the potential loss arising from adverse changes in market rates and prices. The Company is exposed to various market risks, including changes in interest rates, foreign currency exchange rates and the price of raw materials, particularly nickel.

Changes in interest rates affect the Company's interest expense on variable rate debt. All of the Company's revolver availability is at a variable rate at September 30, 2017 and 2018. The Company's outstanding variable rate debt was zero at September 30, 2017 and 2018. The Company has not entered into any derivative instruments to hedge the effects of changes in interest rates.

The foreign currency exchange risk exists primarily because the Company's foreign subsidiaries maintain receivables and payables denominated in currencies other than their functional currency. Foreign currency forward contracts are entered into as a means to partially offset the impact of cash transactions occurring at the foreign affiliates in currencies other than the entities' functional currency. The U.S. operations transact their foreign sales in U.S. dollars, thereby avoiding fluctuations in foreign exchange rates. Any exposure aggregating more than $500,000 requires approval from the Company's Vice President of Finance. The Company is not currently party to any currency contracts.

Fluctuations in the price of nickel, the Company's most significant raw material, subject the Company to commodity price risk. The Company manages its exposure to this market risk through internally established policies and procedures, including negotiating raw material escalators within product sales agreements and continually monitoring and revising customer quote amounts to reflect the fluctuations in market prices for nickel. The Company does not presently use derivative instruments to manage this market risk but may in the future. The Company monitors its underlying market risk exposure from a rapid change in nickel prices on an ongoing basis and believes that it can modify or adapt its strategies as necessary. The Company periodically purchases raw material forward with certain suppliers. However, there is a risk that the Company may not be able to successfully offset a rapid increase or decrease in the cost of raw material in the future.

Item 8. Financial Statements and Supplementary Data

HAYNES INTERNATIONAL, INC. AND SUBSIDIARIES
INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

Audited Consolidated Financial Statements of Haynes International, Inc. and Subsidiaries as of September 30, 2018 and 2017 and for the years ended September 30, 2018, September 30, 2017 and September 30, 2016

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and the Board of Directors of Haynes International, Inc.

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Haynes International, Inc. and subsidiaries (the "Company") as of September 30, 2018 and 2017, the related consolidated statements of operations, comprehensive income (loss), stockholders' equity, and cash flows for each of the three years in the period ended September 30, 2018, and the related notes (collectively referred to as the "financial statements"). We also have audited the Company's internal control over financial reporting as of September 30, 2018, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Company as of September 30, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended September 30, 2018, in conformity with accounting principles generally accepted in the United States of America. Also, in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of September 30, 2018, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by COSO.

Basis for Opinions

The Company's management is responsible for these financial statements, 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 Annual Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on these financial statements and an opinion on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the financial statements included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures to respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

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

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

/s/ Deloitte & Touche LLP

Indianapolis, IN
November 15, 2018

We have served as the Company's auditor since fiscal year 1998.

HAYNES INTERNATIONAL, INC. AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS
(in thousands, except share and per share data)

	September 30, 2017	September 30, 2018
ASSETS		
Current assets:		
Cash and cash equivalents	$ 46,328	$ 9,802
Accounts receivable, less allowance for doubtful accounts of $620 and $1,130 at September 30, 2017 and September 30, 2018, respectively	61,602	73,437
Inventories	244,457	273,045
Income taxes receivable	—	7,240
Other current assets	2,781	2,825
Total current assets	355,168	366,349
Property, plant and equipment, net	192,556	179,400
Deferred income taxes	58,133	25,454
Other assets	5,107	7,163
Goodwill	4,789	4,789
Other intangible assets, net	6,066	5,539
Total assets	$ 621,819	$ 588,694
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 32,802	$ 37,140
Accrued expenses	14,108	17,463
Income taxes payable	195	—
Accrued pension and postretirement benefits	5,095	5,095
Deferred revenue—current portion	2,500	2,500
Total current liabilities	54,700	62,198
Long-term obligations (less current portion) (Note 18)	7,896	8,443
Deferred revenue (less current portion)	20,329	17,829
Deferred income taxes	1,741	1,919
Accrued pension benefits (less current portion)	90,957	62,072
Accrued postretirement benefits (less current portion)	112,424	103,013
Total liabilities	288,047	255,474
Commitments and contingencies (Notes 9 and 10)	—	—
Stockholders' equity:		
Common stock, $0.001 par value (40,000,000 shares authorized, 12,544,933 and 12,546,591 shares issued and 12,509,757 and 12,504,478 shares outstanding at September 30, 2017 and September 30, 2018, respectively)	13	13
Preferred stock, $0.001 par value (20,000,000 shares authorized, 0 shares issued and outstanding)	—	—
Additional paid-in capital	248,733	251,053
Accumulated earnings	159,366	126,588
Treasury stock, 35,176 shares at September 30, 2017 and 42,113 shares at September 30, 2018	(1,646)	(1,869)
Accumulated other comprehensive loss	(72,694)	(42,565)
Total stockholders' equity	333,772	333,220
Total liabilities and stockholders' equity	$ 621,819	$ 588,694

The accompanying notes are an integral part of these consolidated financial statements.

HAYNES INTERNATIONAL, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF OPERATIONS
(in thousands, except share and per share data)

	Year Ended September 30, 2016	Year Ended September 30, 2017	Year Ended September 30, 2018
Net revenues	$ 406,359	$ 395,209	$ 435,326
Cost of sales	358,779	365,499	387,648
Gross profit	47,580	29,710	47,678
Selling, general and administrative expense	39,684	42,393	47,111
Research and technical expense	3,698	3,855	3,785
Operating income (loss)	4,198	(16,538)	(3,218)
Interest income	(108)	(186)	(82)
Interest expense	555	865	918
Income (loss) before income taxes	3,751	(17,217)	(4,054)
Provision for (benefit from) income taxes	(1,269)	(7,027)	17,697
Net income (loss)	$ 5,020	$ (10,190)	$ (21,751)
Net income (loss) per share:			
Basic	$ 0.40	$ (0.83)	$ (1.75)
Diluted	$ 0.40	$ (0.83)	$ (1.75)
Weighted Average Common Shares Outstanding			
Basic	12,361	12,397	12,420
Diluted	12,366	12,397	12,420
Dividends declared per common share	$ 0.88	$ 0.88	$ 0.88

The accompanying notes are an integral part of these consolidated financial statements.

HAYNES INTERNATIONAL, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(in thousands)

	Year Ended September 30, 2016	Year Ended September 30, 2017	Year Ended September 30, 2018
Net income (loss)	$ 5,020	$ (10,190)	$ (21,751)
Other comprehensive income (loss), net of tax:			
Pension and postretirement	(19,569)	39,624	32,029
Foreign currency translation adjustment	(7,001)	2,205	(1,900)
Other comprehensive income (loss)	(26,570)	41,829	30,129
Comprehensive income (loss)	$ (21,550)	$ 31,639	$ 8,378

The accompanying notes are an integral part of these consolidated financial statements.

HAYNES INTERNATIONAL, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(in thousands, except share data)

	Common Stock		Additional Paid-in Capital	Accumulated Earnings	Treasury Stock	Accumulated Other Comprehensive Income (Loss)	Total Stockholders' Equity
	Shares	Par					
Balance September 30, 2015	12,446,000	$ 12	$ 244,488	$ 186,533	$ (1,091)	$ (87,953)	$ 341,989
Net income (loss)				5,020			5,020
Dividends paid ($0.88 per share)				(10,988)			(10,988)
Other comprehensive loss						(26,570)	(26,570)
Exercise of stock options	10,000		310				310
Tax impact of forfeited vested options			(114)				(114)
Tax impact of dividends on restricted stock			(39)				(39)
Issue restricted stock (less forfeitures)	42,810						—
Purchase of treasury stock	(7,661)				(289)		(289)
Stock compensation			1,980				1,980
Balance September 30, 2016	12,491,149	$ 12	$ 246,625	$ 180,565	$ (1,380)	$ (114,523)	$ 311,299
Net income (loss)				(10,190)			(10,190)
Dividends paid ($0.88 per share)				(11,009)			(11,009)
Other comprehensive loss						41,829	41,829
Issue restricted stock (less forfeitures)	24,625	1	(1)				—
Purchase of treasury stock	(6,017)				(266)		(266)
Stock compensation			2,109				2,109
Balance September 30, 2017	12,509,757	$ 13	$ 248,733	$ 159,366	$ (1,646)	$ (72,694)	$ 333,772
Net income (loss)				(21,751)			(21,751)
Dividends paid and accrued ($0.88 per share)				(11,027)			(11,027)
Other comprehensive income						30,129	30,129
Issue restricted stock (less forfeitures)	1,658						—
Purchase of treasury stock	(6,937)				(223)		(223)
Stock compensation			2,320				2,320
Balance September 30, 2018	12,504,478	$ 13	$ 251,053	$ 126,588	$ (1,869)	$ (42,565)	$ 333,220

The accompanying notes are an integral part of these consolidated financial statements.

HAYNES INTERNATIONAL, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CASH FLOWS

	Year Ended September 30, 2016	Year Ended September 30, 2017	Year Ended September 30, 2018
Cash flows from operating activities:			
Net income (loss)	$ 5,020	$ (10,190)	$ (21,751)
Adjustments to reconcile net income (loss) to net cash provided by (used in) operating activities:			
Depreciation	20,533	21,601	22,627
Amortization	503	496	527
Pension and post-retirement expense - U.S. and U.K.	19,048	23,435	14,110
Change in long-term obligations	73	(15)	(7)
Stock compensation expense	1,980	2,109	2,320
Excess tax expense from restricted stock vesting	153	—	—
Deferred revenue	2,488	(7,488)	(2,500)
Deferred income taxes	1,428	(10,072)	23,115
Loss on disposition of property	438	612	250
Change in assets and liabilities:			
Restricted cash	(5,446)	5,446	—
Accounts receivable	10,965	755	(12,590)
Inventories	6,611	(6,982)	(29,905)
Other assets	237	287	(2,120)
Accounts payable and accrued expenses	(1,782)	3,476	10,220
Income taxes	3,773	709	(7,406)
Accrued pension and postretirement benefits	(12,035)	(11,052)	(10,627)
Net cash provided by (used in) operating activities	53,987	13,127	(13,737)
Cash flows from investing activities:			
Additions to property, plant and equipment	(31,633)	(15,006)	(11,085)
Net cash provided by (used in) investing activities	(31,633)	(15,006)	(11,085)
Cash flows from financing activities:			
Revolving credit facility borrowings	—	—	4,200
Revolving credit facility repayments	—	—	(4,200)
Dividends paid	(10,988)	(11,009)	(11,013)
Proceeds from exercise of stock options	310	—	—
Payment for purchase of treasury stock	(289)	(266)	(223)
Excess tax expense from restricted stock vesting	(153)	—	—
Payment for debt issuance cost	(291)	—	—
Payments on long-term obligation	(91)	(166)	(258)
Net cash provided by (used in) financing activities	(11,502)	(11,441)	(11,494)
Effect of exchange rates on cash	(600)	351	(210)
Increase (decrease) in cash and cash equivalents:	10,252	(12,969)	(36,526)
Cash and cash equivalents:			
Beginning of period	49,045	59,297	46,328
End of period	$ 59,297	$ 46,328	$ 9,802
Supplemental disclosures of cash flow information:			
Interest (net of capitalized interest)	$ 486	$ 807	$ 860
Income taxes paid (refunded), net	$ (6,471)	$ 2,335	$ 1,965
Capital expenditures incurred, but not yet paid	$ 1,869	$ 1,910	$ 703
Dividends declared but not yet paid	$ —	$ —	$ 14
Lease obligation incurred	$ —	$ 4,100	$ —

The accompanying notes are an integral part of these consolidated financial statements.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(in thousands, except share and per share data and as otherwise noted)

Note 1. Background and Organization

Description of Business

Haynes International, Inc. and its subsidiaries (the “Company”, “Haynes”, “we”, “our” or “us”) develops, manufactures, markets and distributes technologically advanced, high-performance alloys primarily for use in the aerospace, industrial gas turbine and chemical processing industries. The Company’s products are high-temperature resistant alloys (“HTA”) and corrosion-resistant alloys (“CRA”). The Company’s HTA products are used by manufacturers of equipment that is subjected to extremely high temperatures, such as jet engines for the aerospace industry, gas turbine engines for power generation, waste incineration and industrial heating equipment. The Company’s CRA products are used in applications that require resistance to extreme corrosion, such as chemical processing, power plant emissions control and hazardous waste treatment. The Company produces its high-performance alloys primarily in sheet, coil and plate forms. In addition, the Company produces its products as seamless and welded tubulars, and in slab, bar, billets and wire forms.

High-performance alloys are characterized by highly engineered, often proprietary, metallurgical formulations primarily of nickel, cobalt and other metals with complex physical properties. The complexity of the manufacturing process for high-performance alloys is reflected in the Company’s relatively high average selling price per pound, compared to the average selling price of other metals, such as carbon steel sheet, stainless steel sheet and aluminum. The high-performance alloy industry has significant barriers to entry such as the combination of (i) demanding end-user specifications, (ii) a multi-stage manufacturing process and (iii) the technical sales, marketing and manufacturing expertise required to develop new applications.

Note 2. Summary of Significant Accounting Policies

A. Principles of Consolidation and Nature of Operations

The consolidated financial statements include the accounts of Haynes International, Inc. and its wholly-owned subsidiaries. All intercompany transactions and balances are eliminated. The Company has manufacturing facilities in Kokomo, Indiana; Mountain Home, North Carolina; and Arcadia, Louisiana with service centers in LaPorte, Indiana; LaMirada, California; Houston, Texas; Windsor, Connecticut; Openshaw, England; Lenzburg, Switzerland; Shanghai, China; and sales offices in Paris, France; Zurich, Switzerland; Singapore; Milan, Italy; and Tokyo, Japan.

B. Cash and Cash Equivalents

The Company considers all highly liquid investment instruments, including investments with original maturities of three months or less at acquisition, to be cash equivalents, the carrying value of which approximates fair value due to the short maturity of these investments.

C. Accounts Receivable

The Company maintains allowances for doubtful accounts for estimated losses resulting from the inability of its customers to make required payments. The Company markets its products to a diverse customer base, both in the United States of America and overseas. Trade credit is extended based upon evaluation of each customer’s ability to perform its obligation, which is updated periodically.

D. Revenue Recognition

The Company recognizes revenue when collectability is reasonably assured and when title passes to the customer, which is generally at the time of shipment with freight terms of free on board (FOB) shipping point or at a foreign port for certain export customers. Allowances for sales returns are recorded as a component of net sales in the periods in which the related sales are recognized. The Company determines this allowance based on historical experience. Additionally, the Company recognizes revenue attributable to an up-front fee received from Titanium Metals Corporation (TIMET) as a

result of a twenty-year agreement entered into on November 17, 2006 to provide conversion services to TIMET. See Note 15 Deferred Revenue for a description of accounting treatment relating to this up-front fee.

E. Inventories

Inventories are stated at the lower of cost or market. The cost of inventories is determined using the first-in, first-out (FIFO) method. The Company writes down its inventory for estimated obsolescence or unmarketable inventory in an amount equal to the difference between the cost of inventory and the estimated market or scrap value, if applicable, based upon assumptions about future demand and market conditions.

F. Goodwill and Other Intangible Assets

The Company has goodwill, patents, trademarks, customer relationships and other intangibles. As the patents and customer relationships have a definite life, they are amortized over lives ranging from two to sixteen years. The Company reviews patents and customer relationships for impairment whenever events or circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability of the assets is measured by a comparison of the carrying amount of the asset to the undiscounted future cash flows expected to be generated by the asset. If the carrying amount of an asset exceeds its estimated future cash flows, an impairment charge is recognized in the amount by which the carrying amount exceeds the fair value of the asset.

Goodwill and trademarks (indefinite lived) are tested for impairment at least annually as of January 31 for goodwill and August 31 for trademarks (the annual impairment testing dates), or more frequently if impairment indicators exist. If the carrying value of the trademarks exceeds the fair value (determined using an income approach, based upon a discounted cash flow of an assumed royalty rate), impairment of the trademark may exist resulting in a charge to earnings to the extent of the impairment. The impairment test for goodwill is performed by comparing the fair value of a reporting unit with its carrying amount and recognizing an impairment loss in the event that the carrying amount is greater than the fair value. Any goodwill impairment loss recognized would not exceed the total carrying amount of goodwill allocated to that reporting unit. No impairment was recognized in the years ended September 30, 2016, 2017 or 2018 because the fair value exceeded the carrying values.

During fiscal 2018, there were no changes in the carrying amount of goodwill.

Amortization of the patents, customer relationships and other intangibles was $503, $496 and $527 for the years ended September 30, 2016, 2017 and 2018, respectively. The following represents a summary of intangible assets at September 30, 2017 and 2018:

September 30, 2017	Gross Amount	Accumulated Amortization	Carrying Amount
Patents	$ 4,030	$ (3,656)	$ 374
Trademarks	3,800	—	3,800
Customer relationships	2,100	(426)	1,674
Other	291	(73)	218
	$ 10,221	$ (4,155)	$ 6,066

September 30, 2018	Gross Amount	Accumulated Amortization	Carrying Amount
Patents	$ 4,030	$ (3,977)	$ 53
Trademarks	3,800	—	3,800
Customer relationships	2,100	(574)	1,526
Other	291	(131)	160
	$ 10,221	$ (4,682)	$ 5,539

Estimated future Aggregate Amortization Expense: **Year Ended September 30,**		
2019	$	255
2020		199
2021		179
2022		133
2023		129
Thereafter		844

G. Property, Plant and Equipment

Additions to property, plant and equipment are recorded at cost with depreciation calculated primarily by using the straight-line method based on estimated economic useful lives, which are generally as follows:

Buildings and improvements			40	years
Machinery and equipment	5	—	14	years
Land improvements			20	years

Expenditures for maintenance and repairs and minor renewals are charged to expense; major renewals are capitalized. Upon retirement or sale of assets, the cost of the disposed assets and the related accumulated depreciation are removed from the accounts and any resulting gain or loss is credited or charged to operations.

The Company records capitalized interest for long-term construction projects to capture the cost of capital committed prior to the placed in service date as a part of the historical cost of acquiring the asset. Interest is not capitalized when the balance on the revolver is zero.

The Company reviews long-lived assets for impairment whenever events or circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability of long-lived assets to be held and used is measured by a comparison of the carrying amount of the asset to the undiscounted future cash flows expected to be generated by the asset. If the carrying amount of an asset exceeds its estimated future cash flows, an impairment charge is recognized in the amount by which the carrying amount exceeds the fair value of the asset. No impairment was recognized during the years ended September 30, 2016, 2017 or 2018.

H. Environmental Remediation

When it is probable that a liability has been incurred or an asset of the Company has been impaired, a loss is recognized assuming the amount of the loss can be reasonably estimated. The measurement of environmental liabilities by the Company is based on currently available facts, present laws and regulations and current technology. Such estimates take into consideration the expected costs of post-closure monitoring based on historical experience.

I. Pension and Postretirement Benefits

The Company has defined benefit pension and postretirement plans covering most of its current and former employees. Significant elements in determining the assets or liabilities and related income or expense for these plans are the expected return on plan assets, the discount rate used to value future payment streams, expected trends in health care costs and other actuarial assumptions. Annually, the Company evaluates the significant assumptions to be used to value its pension and postretirement plan assets and liabilities based on current market conditions and expectations of future costs. If actual results are less favorable than those projected by management, additional expense may be required in future periods. Salaried employees hired after December 31, 2005 and hourly employees hired after June 30, 2007 are not covered by the pension plan; however, they are eligible for an enhanced matching program of the defined contribution plan (401(k)). Effective December 31, 2007, the U.S. pension plan was amended to freeze benefits for all non-union employees in the U.S. Effective September 30, 2009, the U.K. pension plan was amended to freeze benefits for employees in the plan. Effective January 1, 2007, a plan amendment of the postretirement medical plan caps the Company’s liability related to retiree health care costs at $5,000 annually.

J. Foreign Currency Exchange

The Company's foreign operating entities' financial statements are denominated in the functional currencies of each respective country, which are the local currencies. All assets and liabilities are translated to U.S. dollars using exchange rates in effect at the end of the year, and revenues and expenses are translated at the weighted average rate for the year. Translation gains or losses are recorded as a separate component of comprehensive income (loss) and transaction gains and losses are reflected in the consolidated statements of operations.

Gains and losses arising from the impact of foreign currency exchange rate fluctuations on transactions in foreign currency are included in selling, general and administrative expense. Beginning in the third quarter of fiscal 2018, the Company entered into foreign currency forward contracts (See Note 19.). The purpose of these forward contracts is to reduce income statement volatility resulting from the transaction gains and losses.

K. Research and Technical Costs

Research and technical costs related to the development of new products and processes are expensed as incurred. Research and technical costs for the years ended September 30, 2016, 2017 and 2018 were $3,698, $3,855 and $3,785, respectively.

L. Income Taxes

The Company accounts for deferred tax assets and liabilities using enacted tax rates for the effect of temporary differences between book and tax basis of recorded assets and liabilities. A valuation allowance is required if it is more likely than not that some portion or all of the deferred tax assets will not be realized. The determination of whether or not a valuation allowance is needed is based upon an evaluation of both positive and negative evidence. In its evaluation of the need for a valuation allowance, the Company utilizes prudent and feasible tax planning strategies. The ultimate amount of deferred tax assets realized could be different from those recorded, as influenced by potential changes in enacted tax laws and the availability of future taxable income. The Company records uncertain tax positions on the basis of a two-step process whereby (1) it is determined whether it is more likely than not that the tax positions will be sustained based on the technical merits of the position and (2) for those tax positions that meet the more-likely-than-not recognition threshold, we recognize the largest amount of tax benefit that is greater than 50 percent likely to be realized upon ultimate settlement with the related tax authority (See Note 6, Income Taxes).

M. Stock-based Compensation

As described in Note 11, the Company has incentive compensation plans that provide for the issuance of restricted stock, restricted stock units, performance shares, stock options and stock appreciation rights to key employees and non-employee directors. The Company recognizes compensation expense under the fair-value based method as a component of operating expenses.

N. Financial Instruments and Concentrations of Risk

The Company may periodically enter into forward currency exchange contracts to minimize the variability in the Company's operating results arising from foreign exchange rate movements. The Company does not engage in foreign currency speculation. At September 30, 2017 and 2018, the Company had no foreign currency exchange contracts outstanding.

Financial instruments which potentially subject the Company to concentrations of credit risk consist of cash and cash equivalents and accounts receivable. At September 30, 2018, and periodically throughout the year, the Company has maintained cash balances in excess of federally insured limits. The carrying amounts of cash and cash equivalents, accounts receivable and accounts payable approximate fair value because of the relatively short maturity of these instruments.

During 2016, 2017 and 2018, the Company did not have sales to any group of affiliated customers that were greater than 10% of net revenues. The Company generally does not require collateral with the exception of letters of credit with certain foreign sales. Credit losses amounted to $688 in fiscal 2018 and were within management's expectations. The Company does not believe it is significantly vulnerable to the risk of near-term severe impact from business concentrations with respect to customers, suppliers, products, markets or geographic areas.

O. Accounting Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America (U.S. GAAP) requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the 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. On an on-going basis, management evaluates its estimates and judgments, including those related to bad debts, inventories, income taxes, asset impairment, retirement benefits and environmental matters. The process of determining significant estimates is fact specific and takes into account factors such as historical experience, current and expected economic conditions, product mix, pension asset mix and in some cases, actuarial techniques, and various other factors that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. The Company routinely reevaluates these significant factors and makes adjustments where facts and circumstances dictate. Actual results may differ from these estimates under different assumptions or conditions.

P. Earnings Per Share

The Company accounts for earnings per share using the two-class method. The two-class method is an earnings allocation that determines net income per share for each class of common stock and participating securities according to participation rights in undistributed earnings. Non-vested restricted stock awards that include non-forfeitable rights to dividends are considered participating securities. Per share amounts are computed by dividing net income attributable to common shareholders by the weighted average shares outstanding during each period. Basic earnings per share is computed by dividing net income available to common stockholders for the period by the weighted average number of common shares outstanding for the period. The computation of diluted earnings per share is similar to basic earnings per share, except the denominator is increased to include the number of additional common shares that would have been outstanding if the potentially dilutive common shares had been issued.

Basic and diluted net income per share were computed as follows:

(in thousands, except share and per share data)	Years ended September 30, 2016	2017	2018
Numerator: Basic and Diluted			
Net income (loss)	$ 5,020	$ (10,190)	$ (21,751)
Dividends	(10,988)	(11,009)	(11,027)
Undistributed income (loss)	(5,968)	(21,199)	(32,778)
Percentage allocated to common shares [a]	99.0 %	100.0 %	100.0 %
Undistributed income (loss) allocated to common shares	(5,910)	(21,199)	(32,778)
Dividends paid on common shares outstanding	10,881	10,905	10,933
Net income (loss) available to common shares	4,971	(10,294)	(21,845)
Denominator: Basic and Diluted			
Weighted average common shares outstanding	12,361,483	12,397,099	12,419,564
Adjustment for dilutive potential common shares	4,714	—	—
Weighted average shares outstanding - Diluted	12,366,197	12,397,099	12,419,564
Basic net income (loss) per share	$ 0.40	$ (0.83)	$ (1.75)
Diluted net income (loss) per share	$ 0.40	$ (0.83)	$ (1.75)
Number of stock option shares excluded as their effect would be anti-dilutive	378,852	310,417	329,276
Number of restricted stock shares excluded as their effect would be anti-dilutive	121,285	107,854	91,008
[a] Percentage allocated to common shares - weighted average			
Common shares outstanding	12,361,483	12,397,099	12,419,564
Unvested participating shares	121,185	—	—
	12,482,668	12,397,099	12,419,564

Q. Recently Issued Accounting Pronouncements

In May 2014, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update (ASU) 2014-09, *Revenue from Contracts with Customers (Topic 606)*. The objective of the update is to recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. ASU 2015-14 deferred the effective date of the update to annual reporting periods beginning after December 15, 2017, including interim periods within that reporting period. This update provides a five-step analysis of transactions to determine when and how revenue is recognized, along with expanded disclosure requirements. An entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. The Company will adopt this accounting standard update using the modified retrospective method, with the cumulative effect of initially applying this update, recognized in the first quarter of fiscal 2019. The Company has evaluated the impact of this standard on individual customer contracts and based on this evaluation determined that from time to time, the Company may have customer agreements that require revenue to be recognized over time due to there being no alternative use for the product without significant economic loss and an enforceable right to payment including a normal profit margin from the customer in the event of contract termination. As of September 30, 2018, there were not any outstanding contracts that would require a cumulative adjustment to retained earnings under the modified retrospective method of implementation. Certain liabilities for estimated product returns will be re-classified to accrued expenses from a contra-asset within accounts receivable, less allowance for doubtful accounts.

In July 2015, the FASB issued ASU 2015-11, *Inventory (Topic 330)*. The objective of this update is to simplify the measurement of inventory valuation at the lower of cost or net realizable value. Net realizable value is the estimated selling price in the ordinary course of business, less reasonably predictable costs of completion, disposal and transportation. It is effective for annual reporting periods beginning after December 15, 2016 and interim periods within fiscal years

beginning after December 15, 2017. The Company adopted these changes in the first quarter of fiscal 2018, which did not result in a material impact to the Company's consolidated financial statements.

In February 2016, the FASB issued ASU 2016-02, *Leases (Topic 842)*. This new guidance will require that a lessee recognize assets and liabilities on the balance sheet for all leases with a lease term of more than twelve months, with the result being the recognition of a right of use asset and a lease liability. The new lease accounting requirements are effective for fiscal years beginning after December 18, 2018, including interim periods within those fiscal years. Early adoption is permitted. The Company is currently evaluating the impact of the new guidance on its consolidated financial statements.

In November 2016, the FASB issued ASU 2016-18, *Statement of Cash Flows (Topic 230)*. This new guidance requires that a statement of cash flows explain the change during the period in the total of cash, cash equivalents, and amounts generally described as restricted cash and restricted cash equivalents. Therefore, amounts generally described as restricted cash and cash equivalents should be included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period amounts shown on the statement of cash flows. This update is effective for fiscal years beginning after December 15, 2017, and is to be adjusted retrospectively.

In March 2017, the FASB issued ASU 2017-07, *Compensation – Retirement Benefits (Topic 715)*. This new guidance requires entities to (1) disaggregate the service cost component from the other components of net benefit cost and present it with other current compensation costs for related employees in the income statement and (2) present the other components elsewhere in the income statement and outside of income from operations if that subtotal is presented. In addition, the ASU requires entities to disclose the income statement lines that contain the other components if they are not presented on appropriately described separate lines. The amendments in this ASU also only allow the service cost component to be eligible for capitalization. This new guidance is effective for fiscal years beginning after December 15, 2017, including interim periods within those annual periods, with early adoption permitted. The amendments are to be applied retrospectively for the presentation of the service cost component and the other components of net periodic pension cost and net periodic postretirement benefit cost in the income statement and prospectively, on and after the effective date, for the capitalization of the service cost component of net periodic pension cost and net periodic postretirement benefit in assets. The Company will adopt the standard on October 1, 2018. As a result of the retrospective change in presentation, the adoption of this guidance will result in the reclassification of cost of goods sold of $14,997 and $7,040, and selling, general and administrative expense of $1,806 and $1,198, for the fiscal years ended September 30, 2017 and 2018, respectively, to Nonoperating retirement benefit expense on the Consolidated Statements of Operations.

In August 2018, the FASB issued ASU 2018-13, *Fair Value Measurement (Topic 820)*. This new guidance removes and modifies disclosure requirements on fair value statements. This update is effective for fiscal years beginning after December 15, 2019. The Company is currently evaluating the impact, if any, on its disclosures in the Notes to Consolidated Financial Statements.

In August 2018, the FASB issued ASU 2018-14, *Compensation-Retirement Benefits-Defined Benefit Plans-General (Subtopic 715-20)*. This new guidance removes and modifies disclosure requirements for employers that sponsor defined benefit pension or other postretirement plans. Some disclosure requirements that are removed include, among others, amounts in accumulated other comprehensive income expected to be recognized as components of net periodic benefit cost over the next fiscal year and the effects of a one-percentage-point change in assumed health care cost trend rates on the (a) aggregate of the service and interest cost components of net periodic benefit costs and (b) benefit obligation for postretirement health care benefits. This update is effective for fiscal years beginning after December 15, 2020. Early adoption is permitted.

Note 3. Inventories

Inventories are stated at the lower of cost or market. The cost of inventories is determined using the first-in, first-out ("FIFO") method. The following is a summary of the major classes of inventories:

	September 30, 2017	September 30, 2018
Raw Materials	$ 18,731	$ 17,897
Work-in-process	130,019	147,921
Finished Goods	94,331	105,640
Other	1,376	1,587
	$ 244,457	$ 273,045

Note 4. Property, Plant and Equipment

The following is a summary of the major classes of property, plant and equipment:

	September 30,	
	2017	2018
Land and land improvements	$ 9,345	$ 9,462
Buildings and improvements	44,705	45,327
Machinery and equipment	289,035	281,329
Construction in process	5,692	7,292
	348,777	343,410
Less accumulated depreciation	(156,221)	(164,010)
	$ 192,556	$ 179,400

As of September 30, 2018, the Company has $200 of assets under a capital lease for equipment related to the service center operation in Shanghai, China and $7,483 of assets under capital or finance leases for two buildings at the LaPorte, Indiana service center.

Note 5. Accrued Expenses

The following is a summary of the major classes of accrued expenses:

	September 30,	
	2017	2018
Employee compensation	$ 7,791	$ 8,825
Taxes, other than income taxes	2,422	2,673
Employee termination liabilities	—	1,562
Professional fees	746	1,225
Management incentive compensation	—	1,104
Utilities	909	982
Capital lease obligation, current	926	147
Other	1,314	945
	$ 14,108	$ 17,463

Note 6. Income Taxes

On December 22, 2017, the United States enacted the Tax Cuts and Jobs Act ("the Act"), which made significant changes to U.S. federal income tax law including, among other things, lowering corporate income tax rates, permitting bonus depreciation that will allow for full expensing of qualified property and imposing a repatriation tax on deemed repatriated earnings of foreign subsidiaries. Beginning October 1, 2017 and continuing through September 30, 2018, the Company's U.S. income was taxed at a 24.5% federal tax rate after which time the federal tax rate applicable to the Company was lowered to 21.0%. During fiscal 2018, deferred tax assets were revalued to the lower statutory rates of

21.0% which resulted in increased tax during fiscal 2018 of $16,633. An additional component of the Act, the transition tax applied on accumulated earnings and profits of controlled foreign corporations, resulted in increased tax expense of $2,170 during fiscal 2018.

On December 22, 2017, the United States Securities and Exchange Commission ("SEC") issued Staff Accounting Bulletin No. 118 ("SAB 118"), which provides guidance on accounting for the tax effects of the Tax Act. As of September 30, 2018 the Company has completed its accounting for the income tax effects of the Act with the exception of the provisions related to Global Intangible Low Taxed Income ("GILTI").

Because of the complexity of the new GILTI tax rules, we are continuing to evaluate this provision of the Tax Act and the application of ASC 740. Under U.S. GAAP, we are allowed to make an accounting policy choice of either (1) treating taxes due on future U.S. inclusions in taxable income related to GILTI as a current-period expense when incurred (the "period cost method") or (2) factoring such amounts into a company's measurement of its deferred taxes (the "deferred method"). Our selection of an accounting policy with respect to the new GILTI tax rules will depend, in part, on analyzing our global income to determine whether we expect to have future U.S. inclusions in taxable income related to GILTI and, if so, what the impact is expected to be. Because whether we expect to have future U.S. inclusions in taxable income related to GILTI depends on a number of different aspects of our estimated future results of global operations, we are not yet able to reasonably estimate the effect of this provision of the Tax Act. Therefore, we have not made any adjustments related to potential GILTI tax in our financial statements and have not made a policy decision regarding whether to record deferred taxes on GILTI.

The components of income (loss) before provision for income taxes and the provision for income taxes are as follows:

	Year Ended September 30,		
	2016	**2017**	**2018**
Income (loss) before income taxes:			
U.S.	$ (4,160)	$ (25,090)	$ (16,650)
Foreign	7,911	7,873	12,596
Total	$ 3,751	$ (17,217)	$ (4,054)
Provision for (benefit from) income taxes:			
Current:			
U.S. Federal	$ (4,427)	$ 933	$ (7,690)
Foreign	1,368	1,652	2,404
State	(141)	401	(137)
Total	(3,200)	2,986	(5,423)
Deferred:			
U.S. Federal	4,582	(8,781)	25,141
Foreign	(105)	—	—
State	(2,954)	(1,427)	(2,496)
Valuation allowance	408	195	475
Total	1,931	(10,013)	23,120
Total provision for (benefit from) income taxes	$ (1,269)	$ (7,027)	$ 17,697

The provision for income taxes applicable to results of operations differed from the U.S. federal statutory rate as follows:

	Year Ended September 30,		
	2016	2017	2018
Statutory federal tax rate	35.00 %	35.00 %	24.53 %
Tax provision for income taxes at the statutory rate	$ 1,313	$ (6,026)	$ (1,059)
Foreign tax rate differentials	(1,505)	(1,103)	(685)
Provision for state taxes, net of federal taxes	778	(371)	(45)
U.S. tax on distributed and undistributed earnings of foreign subsidiaries	523	452	240
Manufacturer's deduction	(98)	—	(86)
Tax credits	(1,198)	(409)	(511)
Transition tax	—	—	2,170
Federal and state tax rate change impact on deferred tax asset	(1,819)	192	16,633
Net operating loss carryback	—	—	407
Change in valuation allowance	408	195	475
Other, net	329	43	158
Provision for income taxes at effective tax rate	$ (1,269)	$ (7,027)	$ 17,697
Effective tax rate	(33.8)%	40.8 %	(436.5)%

During fiscal 2016, the Company's effective tax rate was negative relative to the statutory rate, primarily due to an increase in the value of the Company's deferred tax assets driven by a higher state tax rate and research credits. Additionally, the Company earned a greater proportion of profitability in foreign jurisdictions.

During fiscal 2017, the Company's effective tax rate was higher than the statutory rate, primarily due to the Company incurring a pre-tax loss in the United States and pre-tax income in the United Kingdom which has a lower effective tax rate than the statutory rate. When incurring a pre-tax loss, the effective tax rate of the Company will be higher than the statutory rate if certain tax jurisdictions with lower tax rates incur pre-tax income as a partial offset to the pre-tax loss in the United States.

During fiscal 2018, the Company's effective tax rate was negative relative to the statutory rate primarily due to the tax reform act that resulted in significant impacts on the value of the deferred tax asset as well a one-time transition tax on income generated by foreign entities. The tax reform act lowered the statutory rate from 35% to 21%, however, the 2018 statutory rate is calculated to be 24.53% based on the fiscal year-end date of September 30, 2018.

Deferred tax assets (liabilities) are comprised of the following:

	September 30,	
	2017	2018
Deferred tax assets:		
Pension and postretirement benefits	$ 74,602	$ 38,343
TIMET Agreement	8,417	4,775
Inventories	2,080	2,091
Accrued compensation and benefits	2,107	1,387
Accrued expenses and other	5,277	2,977
Tax attributes	11,579	4,178
Valuation allowance	(1,017)	(1,661)
Total deferred tax assets	$ 103,045	$ 52,090
Deferred tax liabilities:		
Property, plant and equipment, net	$ (45,155)	$ (27,521)
Intangible and other	(1,498)	(1,034)
Total deferred tax liabilities	$ (46,653)	$ (28,555)
Net deferred tax assets (liabilities)	$ 56,392	$ 23,535

As of September 30, 2018, the Company had state tax net operating loss carryforwards of $18,477, tax credits of $3,113 and foreign net operating loss carryforwards of $2,236. These tax attributes begin to expire in 2026, 2020, and 2020, respectively. The Company has recorded a valuation allowance against the foreign net operating loss carryforwards of $1,526 and federal and state tax credits of $1,152 because management does not believe that it is more likely than not that net operating loss carryforwards will be realized.

Undistributed earnings of certain of the Company's foreign subsidiaries amounted to approximately $65,750 at September 30, 2018. The Company considers those earnings reinvested indefinitely and, accordingly, aside from the one-time transition tax associated with the Act, no additional provision for U.S. income taxes has been provided. Determination of the amount of unrecognized deferred U.S. income tax liability is not practicable because of the complexities associated with its hypothetical calculation.

As of September 30, 2018, the Company is open to examination in the U.S. for the 2015 through 2018 tax years and in various foreign jurisdictions from 2016 through 2018. The Company is also open to examination in various states in the U.S., none of which were individually material. The Company is currently under examination by the Internal Revenue Service for the 2015 tax year.

Note 7. Debt

U.S. revolving credit facility

The Company and Wells Fargo Capital Finance, LLC ("Wells Fargo") entered into a Third Amended and Restated Loan and Security Agreement (the "Amended Agreement") with certain other lenders with an effective date of July 14, 2011. On July 7, 2016, the Company amended the agreement to, among other things, extend the term through July 7, 2021 and reduce unused line fees and certain administrative fees. The maximum revolving loan amount under the Amended Agreement is $120.0 million, subject to a borrowing base formula and certain reserves. The Amended Agreement permits an increase in the maximum revolving loan amount from $120.0 million up to an aggregate amount of $170.0 million at the request of the Company. Borrowings under the U.S. revolving credit facility bear interest, at the Company's option, at either Wells Fargo's "prime rate," plus up to 0.75% per annum, or the adjusted Eurodollar rate used by the lender, plus up to 2.0% per annum. As of September 30, 2018, the U.S. revolving credit facility had a zero balance. In addition, the Company must pay monthly, in arrears, a commitment fee of 0.20% per annum on the unused amount of the U.S. revolving credit facility total commitment. For letters of credit, the Company must pay 1.5% per annum on the daily outstanding balance of all issued letters of credit, plus customary fees for issuance, amendments and processing. The Company is subject to certain covenants such as fixed charge coverage ratios and other customary covenants, including covenants

restricting the incurrence of indebtedness, the granting of liens and the sale of assets. The covenant pertaining to fixed charge coverage ratios is only effective in the event the amount of excess availability under the revolver is less than 10.0% of the maximum credit revolving loan amount. The Company is permitted to pay dividends and repurchase common stock if certain financial metrics are met (which do not apply in the case of regular quarterly dividends less than $20.0 million in the aggregate in a year and repurchases in connection with the vesting of shares of restricted stock). Borrowings under the U.S. revolving credit facility are collateralized by a pledge of substantially all of the U.S. assets of the Company, including the equity interests in its U.S. subsidiaries, but excluding the four-high Steckel rolling mill and related assets, which are pledged to Titanium Metals Corporation ("TIMET") to secure the performance of the Company's obligations under a Conversion Services Agreement with TIMET (see discussion of TIMET at Note 15 in the Company's Notes to Consolidated Financial Statements in this Annual Report on Form 10-K). The U.S. revolving credit facility is also secured by a pledge of a 65% equity interest in each of the Company's direct foreign subsidiaries.

The Company's U.K. subsidiary (Haynes International Ltd.) has an overdraft facility of 1,700 Pounds Sterling ($2,215), all of which was available on September 30, 2018. The Company's French subsidiary (Haynes International, S.A.R.L.) has an overdraft banking facility of 240 Euro ($278), all of which was available on September 30, 2018. The Company's Swiss subsidiary (Haynes International AG) has an overdraft banking facility of 400 Swiss Francs ($407), all of which was available on September 30, 2018.

Note 8. Pension Plan and Retirement Benefits

Defined Contribution Plans

The Company sponsors a defined contribution plan (401(k)) for substantially all U.S. employees. The Company contributes an amount equal to 50% of an employee's contribution to the plan up to a maximum contribution of 3% of the employee's salary, except for all salaried employees and certain hourly employees (those hired after June 30, 2007 that are not eligible for the U.S. pension plan). The Company contributes an amount equal to 60% of an employee's contribution to the plan up to a maximum contribution of 6% of the employee's salary for these groups. Expenses associated with this plan for the years ended September 30, 2016, 2017 and 2018 totaled $1,652, $1,590 and $1,811, respectively.

The Company sponsors certain profit sharing plans for the benefit of employees meeting certain eligibility requirements. There were no contributions to these plans for the years ended September 30, 2016, 2017 and 2018.

Defined Benefit Plans

The Company has non-contributory defined benefit pension plans which cover most employees in the U.S. and the U.K.

Benefits provided under the Company's U.S. defined benefit pension plan are based on years of service and the employee's final compensation. The Company's funding policy is to contribute annually an amount deductible for federal income tax purposes based upon an actuarial cost method using actuarial and economic assumptions designed to achieve adequate funding of benefit obligations.

The Company has non-qualified pensions for former executives of the Company. Non-qualified pension plan expense for the years ended September 30, 2016, 2017 and 2018 was $91, $19 and $34, respectively. Accrued liabilities in the amount of $777 and $716 for these benefits are included in accrued pension and postretirement benefits liability at September 30, 2017 and 2018, respectively.

In addition to providing pension benefits, the Company provides certain health care and life insurance benefits for retired employees. Substantially all domestic employees become eligible for these benefits, if they reach normal retirement age while working for the Company. The Company's liability related to total retiree health care costs is limited to $5,000 annually.

The Company made contributions of $6,000, $6,000, and $8,000 to fund its domestic Company-sponsored pension plan for the years ended September 30, 2016, 2017 and 2018, respectively. The Company's U.K. subsidiary made

contributions of $778, $804 and $782 for the years ended September 30, 2016, 2017 and 2018, respectively, to the U.K. pension plan.

During the fourth quarter of fiscal 2018, the Company transferred assets of $13,576 to a third-party insurance company in exchange for the assumption of pension liability for approximately 397 retired participants. The pension liability for those retirees is not included in the projected benefit obligation as of September 30, 2018.

The Company uses a September 30 measurement date for its plans. The status of employee pension benefit plans and other postretirement benefit plans is summarized below:

	Defined Benefit Pension Plans Year Ended September 30,		Postretirement Health Care Benefits Year Ended September 30,	
	2017	2018	2017	2018
Change in Benefit Obligation:				
Projected benefit obligation at beginning of year	$ 337,338	$ 310,803	$ 125,117	$ 117,424
Service cost	6,282	5,536	350	336
Interest cost	10,577	10,801	4,292	4,311
Actuarial losses	(27,246)	(19,756)	(8,072)	(10,395)
Benefits paid	(14,682)	(14,178)	(4,263)	(3,663)
Transfer to third-party insurance company	—	(13,576)	—	—
Administrative expenses	(1,466)	(1,350)	—	—
Projected benefit obligation at end of year	$ 310,803	$ 278,280	$ 117,424	$ 108,013
Change in Plan Assets:				
Fair value of plan assets at beginning of year	$ 207,963	$ 224,094	$ —	$ —
Actual return on assets	25,475	18,501	—	—
Employer contributions	6,804	8,782	4,263	3,663
Benefits paid	(14,682)	(14,178)	(4,263)	(3,663)
Transfer to third-party insurance company	—	(13,576)	—	—
Administrative expenses	(1,466)	(1,350)	—	—
Fair value of plan assets at end of year	$ 224,094	$ 222,273	$ —	$ —
Funded Status of Plan:				
Unfunded status	$ (86,709)	$ (56,007)	$ (117,424)	$ (108,013)

Amounts recognized in the consolidated balance sheets are as follows:

	Defined Benefit Pension Plans September 30,		Postretirement Health Care Benefits September 30,		Non-Qualified Pension Plans September 30,		All Plans Combined September 30,	
	2017	2018	2017	2018	2017	2018	2017	2018
Accrued pension and postretirement benefits:								
Current	$ —	$ —	$ (5,000)	$ (5,000)	$ (95)	$ (95)	$ (5,095)	$ (5,095)
Non-current	(86,709)	(56,007)	(112,424)	(103,013)	(682)	(621)	(199,815)	(159,641)
Accrued pension and postretirement benefits	$ (86,709)	$ (56,007)	$ (117,424)	$ (108,013)	$ (777)	$ (716)	$ (204,910)	$ (164,736)
Accumulated other comprehensive loss:								
Net loss	66,819	38,808	35,286	21,891	—	—	102,105	60,699
Prior service cost	2,213	1,839	—	—	—	—	2,213	1,839
Total accumulated other comprehensive loss	$ 69,032	$ 40,647	$ 35,286	$ 21,891	$ —	$ —	$ 104,318	$ 62,538
Amounts expected to be recognized from AOCI into the statement of operations in the following year:								
Amortization of net loss	$ 4,910	$ 1,464	$ 2,999	$ 1,487	$ —	$ —	$ 7,909	$ 2,951
Amortization of prior service cost	374	205	—	—	—	—	374	205
	$ 5,284	$ 1,669	$ 2,999	$ 1,487	$ —	$ —	$ 8,283	$ 3,156

The non-current portion of the defined benefit pension plan portion of accrued pension and postretirement benefits amounts to $86,709 and $56,007 in fiscal 2017 and 2018, respectively. These amounts comprise the UK pension plan net pension asset of $3,566 and $5,444, respectively, which is included in Other assets on the consolidated balance sheets as well as the US pension plan accrued pension liability of $90,275 and $61,451, respectively, which are recorded in accrued pension benefit (less current portion) on the consolidated balance sheet.

The accumulated benefit obligation for the pension plans was $299,197 and $269,386 at September 30, 2017 and 2018, respectively.

The cost of the Company's postretirement benefits is accrued over the years employees provide service to the date of their full eligibility for such benefits. The Company's policy is to fund the cost of claims on an annual basis.

The components of net periodic pension cost and postretirement health care benefit cost are as follows:

	Defined Benefit Pension Plans Year Ended September 30,		
	2016	**2017**	**2018**
Service cost	$ 4,080	$ 6,282	$ 5,536
Interest cost	12,050	10,577	10,801
Expected return on assets	(14,380)	(14,419)	(15,157)
Amortization of prior service cost	808	808	374
Recognized actuarial loss	8,838	11,267	4,910
Net periodic cost	$ 11,396	$ 14,515	$ 6,464

	Postretirement Health Care Benefits Year Ended September 30,		
	2016	**2017**	**2018**
Service cost	$ 232	$ 350	$ 336
Interest cost	4,595	4,292	4,311
Recognized actuarial loss	2,825	4,278	2,999
Net periodic cost	$ 7,652	$ 8,920	$ 7,646

Assumptions

A 5.0% (5.0%-2017) annual rate of increase for the costs of covered health care benefits for ages under 65 and a 5.0% (5.0%-2017) annual rate of increase for ages over 65 were assumed for 2018 and remained at 5.0% for the under 65 and over 65 age groups in the years thereafter. A one percentage point change in assumed health care cost trend rates would have no effect on the total of service and interest cost components of postretirement health care expense in fiscal 2018 or on the accumulated postretirement benefit obligation as of September 30, 2018. The effect on total of service and interest cost components and the effect on accumulated postretirement benefit obligation is zero due to the plan amendment that caps the Company costs at $5,000 on an undiscounted basis per year.

The actuarial present value of the projected pension benefit obligation and postretirement health care benefit obligation for the plans at September 30, 2017 and 2018 were determined based on the following assumptions:

	September 30, 2017	September 30, 2018
Discount rate (postretirement health care)	3.75 %	4.13 %
Discount rate (U.S. pension plan)	3.63 %	4.00 %
Discount rate (U.K. pension plan)	2.50 %	2.80 %
Rate of compensation increase (U.S. pension plan only)	2.50 %	2.50 %

The net periodic pension and postretirement health care benefit costs for the plans were determined using the following assumptions:

	Defined Benefit Pension and Postretirement Health Care Plans		
	Year Ended September 30,		
	2016	2017	2018
Discount rate (postretirement health care plan)	4.25 %	3.50 %	3.75 %
Discount rate (U.S. pension plan)	4.00 %	3.25 %	3.63 %
Discount rate (U.K. pension plan)	3.70 %	2.30 %	2.50 %
Expected return on plan assets (U.S. pension plan)	7.50 %	7.50 %	7.25 %
Expected return on plan assets (U.K. pension plan)	4.10 %	2.70 %	3.30 %
Rate of compensation increase (U.S. pension plan only)	3.50 %	3.50 %	2.50 %

Plan Assets and Investment Strategy

The Company's pension plan assets by level within the fair value hierarchy at September 30, 2017 and 2018, are presented in the table below. The pension plan assets were accounted for at fair value. A financial instrument's categorization within the valuation hierarchy is based upon the lowest level of input that is significant to the fair value measurement. Investments in U.S and International equities, and Fixed Income are held in mutual funds and common / collective funds which are valued using net asset value (NAV) provided by the administrator of the fund. For more information on a description of the fair value hierarchy, see Note 16.

	September 30, 2017			
	Level 1 Active Markets for Identical Assets	Level 2 Other Observable Inputs	NAV	Total
U.S. Pension Plan Assets:				
U.S. common stock mutual funds	$ —	$ —	$ 73,430	$ 73,430
Common /collective funds				
Bonds	—	—	81,702	81,702
U.S. common stock	—	—	32,784	32,784
International equity	—	—	16,341	16,341
Total U.S.	$ —	$ —	$ 204,257	$ 204,257
U.K. Plan Assets:				
Equities	$ —	$ —	$ 8,913	$ 8,913
Bonds	—	—	7,750	7,750
Other	—	—	3,174	3,174
Total U.K.	$ —	$ —	$ 19,837	$ 19,837
Total pension plan assets	$ —	$ —	$ 224,094	$ 224,094

	September 30, 2018			
	Level 1 Active Markets for Identical Assets	Level 2 Other Observable Inputs	NAV	Total
U.S. Pension Plan Assets:				
U.S. common stock mutual funds	$ —	$ —	$ 72,947	$ 72,947
Common /collective funds				
Bonds	—	—	80,250	80,250
U.S. common stock	—	—	32,547	32,547
International equity	—	—	16,152	16,152
Total U.S.	$ —	$ —	$ 201,896	$ 201,896
U.K. Plan Assets:				
Equities	$ —	$ —	$ 8,150	$ 8,150
Bonds	—	—	9,781	9,781
Other	—	—	2,446	2,446
Total U.K.	$ —	$ —	$ 20,377	$ 20,377
Total pension plan assets	$ —	$ —	$ 222,273	$ 222,273

The primary financial objectives of the plans are to minimize cash contributions over the long term and preserve capital while maintaining a high degree of liquidity. A secondary financial objective is, where possible, to avoid significant downside risk in the short run. The objective is based on a long-term investment horizon so that interim fluctuations should be viewed with appropriate perspective.

It is the policy of the U.S. pension plan to invest assets with an allocation to equities as shown below. The balance of the assets is maintained in fixed income investments, and in cash holdings, to the extent permitted by the plan documents.

Asset classes as a percent of total assets:

Asset Class	Target[(1)]
Equity	60 %
Fixed Income	40 %
Real Estate and Other	— %

(1) From time to time the Company may adjust the target allocation by an amount not to exceed 10%.

In determining the expected rate of return on U.S. plan assets, the Company takes into account the target plan's allocation at September 30, 2018 of 60% equities and 40% fixed income. The Company assumes an approximately 3.00% to 4.00% equity risk premium above the broad bond market yields of 4.00% to 6.00%. Note that over very long historical periods, the realized risk premium has been higher. The Company believes that its assumption of a 7.25% long-term rate of return on plan assets is comparable to other companies, given the target allocation of the plan assets; however, there exists the potential for the use of a lower rate in the future.

The U.K. pension plan assets follow a more conservative investment objective due to the higher funding status of the plan.

Contributions and Benefit Payments

The Company has not yet determined the amounts to contribute to its domestic pension plans, domestic other postretirement benefit plans and the U.K. pension plan in fiscal 2019.

Pension and postretirement health care benefits, which include expected future service, are expected to be paid out of the respective plans as follows:

Postretirement

Fiscal Year Ending September 30	Pension	Health Care
2019	$ 14,226	$ 5,000
2020	14,768	5,000
2021	15,251	5,000
2022	15,790	5,000
2023	16,243	5,000
2024 - 2028 (in total)	85,854	25,000

Note 9. Commitments

The Company leases certain transportation vehicles, warehouse facilities, office space and machinery and equipment under cancelable and non-cancelable leases, most of which expire within 10 years and may be renewed by the Company. Rent expense under such arrangements totaled $3,726, $4,082 and $3,892 for the years ended September 30, 2016, 2017 and 2018, respectively. Rent expense does not include income from sub-lease rentals totaling $120, $153 and $156 for the years ended September 30, 2016, 2017 and 2018, respectively. Future minimum rental commitments under non-cancelable operating leases at September 30, 2018, are as follows:

	Operating
2019	$ 2,681
2020	1,401
2021	313
2022	115
2023	17
2024 and thereafter	—
	$ 4,527

Future minimum rental commitments under non-cancelable operating leases have not been reduced by minimum sub-lease rentals of $78 due in the future.

Note 10. Legal, Environmental and Other Contingencies

Legal

The Company is regularly involved in litigation, both as a plaintiff and as a defendant, relating to its business and operations, including environmental, commercial, employment and federal and/or state Equal Employment Opportunity Commission administrative actions. Future expenditures for environmental, employment, intellectual property and other legal matters cannot be determined with any degree of certainty; however, based on the facts presently known, management does not believe that such costs will have a material effect on the Company's financial position, results of operations or cash flows.

Environmental

The Company has received permits from the Indiana Department of Environmental Management and the North Carolina Department of Environment and Natural Resources to close and provide post-closure environmental monitoring and care for certain areas of its Kokomo, Indiana and Mountain Home, North Carolina facilities, respectively.

The Company is required to, among other things, monitor groundwater and to continue post-closure maintenance of the former disposal areas at each site. As a result, the Company is aware of elevated levels of certain contaminants in the groundwater, and additional testing and corrective action by the Company could be required. The Company is unable to estimate the costs of any further corrective action at these sites, if required. Accordingly, the Company cannot assure that the costs of any future corrective action at these or any other current or former sites would not have a material effect on the Company's financial condition, results of operations or liquidity.

As of September 30, 2018, the Company has accrued $504 for post-closure monitoring and maintenance activities, of which $449 is included in long-term obligations as it is not due within one year. Accruals for these costs are calculated by estimating the cost to monitor and maintain each post-closure site and multiplying that amount by the number of years remaining in the post-closure monitoring.

Expected maturities of post-closure monitoring and maintenance activities (discounted) included in long-term obligations are as follows at September 30, 2018.

2020	$ 52
2021	59
2022	49
2023	48
2024 and thereafter	241
	$ 449

On February 11, 2016, the Company voluntarily reported to the Louisiana Department of Environmental Quality a leak that it discovered in one of its chemical cleaning operations at its Arcadia, Louisiana facility. As a result of the discovery, the Company is working with that department to determine the extent of the issue and appropriate remediation.

Note 11. Stock-based Compensation

Restricted Stock Plan

On February 23, 2009, the Company adopted a restricted stock plan that reserved 400,000 shares of common stock for issuance. Additionally, on March 1, 2016, the Company adopted the 2016 Incentive Compensation Plan which provides for grants of restricted stock, restricted stock units and performance shares, among other awards. Up to 275,000 shares of restricted stock, restricted stock units and performance shares may be granted in the aggregate under this plan. Following the adoption of the 2016 Incentive Compensation Plan, the Company ceased granting awards from the 2009 restricted stock plan, although awards remain outstanding thereunder.

Grants of restricted stock are comprised of shares of the Company's common stock subject to transfer restrictions, which vest in accordance with the terms and conditions established by the Compensation Committee. The Compensation Committee may set vesting requirements based on the achievement of specific performance goals or the passage of time.

Restricted shares are subject to forfeiture if employment or service terminates prior to the vesting date or if any applicable performance goals are not met. The Company will assess, on an ongoing basis, the probability of whether the performance criteria will be achieved. The Company will recognize compensation expense over the performance period if it is deemed probable that the goals will be achieved. The fair value of the Company's restricted stock is determined based upon the closing price of the Company's common stock on the grant date, which is determined based upon the closing price of the Company's common stock on the trading date immediately preceding the grant date. The plan provides for the adjustment of the number of shares covered by an outstanding grant and the maximum number of shares for which restricted stock may be granted in the event of a stock split, extraordinary dividend or distribution or similar recapitalization event.

The shares of time-based restricted stock granted to employees vest on the third anniversary of their grant date if the recipient is still an employee of the Company on such date. The shares of restricted stock granted to non-employee directors will vest on the earlier of (a) the first anniversary of the date of grant or (b) the failure of such non-employee director to be re-elected at an annual meeting of the stockholders of the Company as a result of such non-employee director being excluded from the nominations for any reason other than cause.

The following table summarizes the activity under the 2009 restricted stock plan and the 2016 Incentive

Compensation Plan with respect to restricted stock for the year ended September 30, 2018:

	Number of Shares	Weighted Average Fair Value At Grant Date
Unvested at September 30, 2017	107,210	$ 41.36
Granted	37,750	$ 33.29
Forfeited / Canceled	(36,092)	$ 39.83
Vested	(26,875)	$ 44.51
Unvested at September 30, 2018	81,993	$ 37.28
Expected to vest	68,638	$ 37.19

Compensation expense related to restricted stock for the years ended September 30, 2016, 2017 and 2018 was $1,466, $1,340, and $836, respectively. The remaining unrecognized compensation expense related to restricted stock at September 30, 2018 was $890, to be recognized over a weighted average period of 0.69 years. During fiscal 2018, the Company repurchased 6,937 shares of stock from employees at an average purchase price of $32.23 to satisfy required withholding taxes upon vesting of restricted stock-based compensation.

Deferred Restricted Stock

On November 20, 2017, the Company adopted a deferred compensation plan that allows directors and officers the option to defer receipt of cash and stock compensation. On November 21, 2017, the Company granted shares of restricted stock from the 2016 Incentive Compensation Plan in which elections were made by certain individuals to defer receipt to a future period. Those shares will vest in accordance with the parameters of the 2016 Incentive Compensation Plan, however, receipt of the shares and any corresponding dividends are deferred until the end of the deferral period. In the event the deferred shares are forfeited prior to the vesting date, deferred dividends pertaining to those shares are also forfeited. During the deferral period, the participants who elected to defer shares will not have voting rights with respect to those shares.

The following table summarizes the activity under the 2016 Incentive Compensation Plan with respect to deferred restricted stock for the year ended September 30, 2018.

	Number of Shares	Weighted Average Fair Value At Grant Date
Unvested at September 30, 2017	—	$ —
Granted	16,550	$ 31.76
Unvested at September 30, 2018	16,550	$ 31.76
Expected to vest	16,550	$ 31.76

Compensation expense related to deferred restricted stock for the year ended September 30, 2017 and 2018 was $0 and $438, respectively. The remaining unrecognized compensation expense related to restricted stock at September 30, 2018 was $88, to be recognized over a weighted average period of 0.17 years.

Performance Shares

On November 22, 2016 and November 21, 2017, the Company granted a target of 19,000 and 24,800, respectively, performance share awards to certain key employees. The number of performance shares that will ultimately be earned, as well as the number of shares that will be distributed in settling those earned performance shares, if any, will not be determined until the end of the performance period. Performance shares earned will depend on the calculated total shareholder return of the Company at the end of the three-year period ending September 30, 2019 and September 30, 2020, respectively, as compared to the total shareholder return of the Company's peer group, as defined by the Compensation Committee for this purpose. During the third and fourth quarters of fiscal 2018, a target amount of 11,910 and 1,546 performance share awards were forfeited, respectively. The fair value of the performance shares

granted on November 22, 2016 and November 21, 2017 is $60.09 and $38.43, per share, respectively, which is estimated as of the date of the grant using a Monte Carlo simulation model. Compensation expense related to the performance shares for the years ended September 30, 2017 and 2018 was $336 and $500, respectively. The remaining unrecognized compensation expense related to performance shares at September 30, 2018 was $661, to be recognized over a weighted average period of 1.45 years.

Stock Option Plans

The Company's 2016 Incentive Compensation Plan and its two previous stock option plans authorize, or formerly authorized, the granting of non-qualified stock options to certain key employees and non-employee directors for the purchase of a maximum of 1,925,000 shares of the Company's common stock. The first option plan was adopted in August 2004 and provided for the grant of options to purchase up to 1,000,000 shares of the Company's common stock. In January 2007, the Company's Board of Directors adopted a second option plan that provides for the grant of options to purchase up to 500,000 shares of the Company's common stock. On March 1, 2016, the Company adopted the 2016 Incentive Compensation Plan which provides for grants of up to 425,000 stock options and stock appreciation rights. Following the adoption of the 2016 Incentive Compensation Plan, the Company ceased granting awards from its two previous stock option plans, although awards remain outstanding thereunder. Each plan provides for the adjustment of the maximum number of shares for which options may be granted in the event of a stock split, extraordinary dividend or distribution or similar recapitalization event. Unless the Compensation Committee determines otherwise, options are exercisable for a period of ten years from the date of grant and vest $33^{1}/_{3}$% per year over three years from the grant date. The amount of compensation cost recognized in the financial statements is measured based upon the grant date fair value.

The Company has elected to use the Black-Scholes option pricing model to estimate fair value, which incorporates various assumptions including volatility, expected life, risk-free interest rates and dividend yields. The volatility is based on historical volatility of the Company's common stock over the most recent period commensurate with the estimated expected term of the stock option granted. The Company uses historical volatility because management believes such volatility is representative of prospective trends. The expected term of an award is based on historical exercise data. The risk-free interest rate assumption is based upon observed interest rates appropriate for the expected term of the awards. The dividend yield assumption is based on the Company's history and expectations regarding dividend payouts at the time of the grant. The following assumptions were used for grants during fiscal years 2016, 2017 and 2018:

Grant Date	Fair Value	Dividend Yield	Risk-free Interest Rate	Expected Volatility	Expected Life
September 17, 2018	$ 11.03	2.55 %	2.89 %	40 %	5 years
June 1, 2018	$ 13.92	2.07 %	2.68 %	41 %	5 years
November 21, 2017	$ 9.74	2.77 %	2.06 %	42 %	5 years
November 22, 2016	$ 11.50	2.15 %	1.79 %	37 %	5 years
November 24, 2015	$ 8.37	2.33 %	1.70 %	30 %	5 years

The stock-based employee compensation expense for stock options for the years ended September 30, 2016, 2017 and 2018 was $514, $433 and $546, respectively. The remaining unrecognized compensation expense at September 30, 2018 was $666, to be recognized over a weighted average vesting period of 0.83 years.

The following table summarizes the activity under the stock option plans for the year ended September 30, 2018:

	Number of Shares	Aggregate Intrinsic Value (000s)	Weighted Average Exercise Prices	Weighted Average Remaining Contractual Life
Outstanding at September 30, 2017	425,326		$ 44.93	
Granted	77,550		$ 34.08	
Exercised	—		$ 0.00	
Canceled	(92,201)		$ 45.64	
Outstanding at September 30, 2018	410,675	$ 373	$ 42.72	5.72 yrs.
Vested or expected to vest	376,160	$ 366	$ 42.58	5.69 yrs.
Exercisable at September 30, 2018	316,775	$ 232	$ 44.51	4.82 yrs.

In March 2016, the FASB issued ASU 2016-09, *Compensation – Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting*. The objective of this update was to simplify the accounting for share-based payment transactions, including the income tax consequences of awards as either equity or liabilities, and classification on the statement of cash flows. As permitted, the Company early adopted this standard prospectively for the fiscal year beginning October 1, 2016. Prior periods were not retrospectively adjusted.

Note 12. Quarterly Data (unaudited)

The unaudited quarterly results of operations of the Company for the years ended September 30, 2017 and 2018 are as follows:

	2017			
	Quarter Ended			
	December 31	March 31	June 30	September 30
Net revenues	$ 93,355	$ 103,112	$ 97,977	$ 100,765
Gross profit	10,487	9,788	3,662	5,773
Net income (loss)	(672)	(1,890)	(3,967)	(3,661)
Net income (loss) per share:				
Basic	$ (0.06)	$ (0.15)	$ (0.32)	$ (0.30)
Diluted	$ (0.06)	$ (0.15)	$ (0.32)	$ (0.30)

	2018			
	Quarter Ended			
	December 31	March 31	June 30	September 30
Net revenues	$ 89,693	$ 110,206	$ 113,114	$ 122,313
Gross profit	7,010	11,452	13,270	15,946
Net income (loss)	(22,526)	(2,068)	713	2,130
Net income (loss) per share:				
Basic	$ (1.82)	$ (0.17)	$ 0.06	$ 0.17
Diluted	$ (1.82)	$ (0.17)	$ 0.06	$ 0.17

Note 13. Segment Reporting

The Company operates in one business segment: the design, manufacture, marketing and distribution of technologically advanced, high-performance alloys for use in the aerospace, industrial gas turbine, chemical processing and other industries. The Company has operations in the United States, Europe and Asia, which are summarized below.

Sales between geographic areas are made at negotiated selling prices. Revenues from external customers are attributed to the geographic areas presented based on the destination of product shipments.

	Year Ended September 30,		
	2016	2017	2018
Net Revenue by Geography:			
United States	$ 233,612	$ 235,500	$ 258,275
Europe	101,853	98,096	113,967
China	13,808	18,997	24,640
Other	57,086	42,616	38,444
Net Revenues	$ 406,359	$ 395,209	$ 435,326
Net Revenue by Product Group:			
High-temperature resistant alloys	$ 329,151	$ 320,119	$ 352,614
Corrosive-resistant alloys	77,208	75,090	82,712
Net revenues	$ 406,359	$ 395,209	$ 435,326

	September 30,	
	2017	2018
Long-lived Assets by Geography:		
United States	$ 185,413	$ 172,689
Europe	6,879	6,522
China	264	189
Total long-lived assets	$ 192,556	$ 179,400

Note 14. Valuation and Qualifying Accounts

	Balance at Beginning of Period	Charges (credits) to Expense	Deductions[1]	Balance at End of Period
Allowance for doubtful accounts receivables:				
September 30, 2018	620	688	(178)	1,130
September 30, 2017	402	228	(10)	620
September 30, 2016	869	(156)	(311)	402

(1) Uncollectible accounts written off net of recoveries.

Note 15. Deferred Revenue

On November 17, 2006, the Company entered into a twenty-year agreement to provide conversion services to Titanium Metals Corporation (TIMET) for up to ten million pounds of titanium metal annually. TIMET paid the Company a $50,000 up-front fee and will also pay the Company for its processing services during the term of the agreement (20 years) at prices established by the terms of the agreement. TIMET may exercise an option to have ten million additional pounds of titanium converted annually, provided that it offers to loan up to $12,000 to the Company for certain capital expenditures which may be required to expand capacity. In addition to the volume commitment, the Company has granted TIMET a first priority security interest in its four-high Steckel rolling mill, along with rights of access if the Company enters into bankruptcy or defaults on any financing arrangements. The Company has agreed not to manufacture titanium products (other than cold reduced titanium tubing). The Company has also agreed not to provide titanium hot-rolling conversion services to any entity other than TIMET for the term of the Conversion Services Agreement. The agreement contains certain default provisions which could result in contract termination and damages, including liquidated damages of $25.0 million and the Company being required to return the unearned portion of the up-front fee. The Company considered each provision and the likelihood of the occurrence of a default that would result in liquidated damages. Based on the nature of the events that could trigger the liquidated damages clause, and the availability of the cure periods set forth in the agreement, the Company determined and continues to believe that none of these circumstances are reasonably likely to occur. Therefore, events resulting in liquidated damages have not been factored in as a reduction to the amount

of revenue recognized over the life of the contract. The cash received of $50,000 is recognized in income on a straight-line basis over the 20-year term of the agreement. If an event of default occurred and was not cured within any applicable grace period, the Company would recognize the impact of the liquidated damages in the period of default and re-evaluate revenue recognition under the contract for future periods. The portion of the up-front fee not recognized in income is shown as deferred revenue on the consolidated balance sheet.

Note 16. Fair Value Measurements

The fair value hierarchy has three levels based on the inputs used to determine fair value:

- Level 1—Quoted prices in active markets that are unadjusted and accessible at the measurement date for identical, unrestricted assets or liabilities;
- Level 2—Quoted prices for identical assets and liabilities in markets that are not active, quoted prices for similar assets and liabilities in active markets or financial instruments for which significant inputs are observable, either directly or indirectly; and
- Level 3—Prices or valuations that require inputs that are both significant to the fair value measurement and unobservable.

When available, the Company uses unadjusted quoted market prices to measure fair value. If quoted market prices are not available, fair value is based upon internally-developed models that use, where possible, current market-based or independently-sourced market parameters such as interest rates and currency rates. Items valued using internally-generated models are classified according to the lowest level input or value driver that is significant to the valuation. The valuation model used depends on the specific asset or liability being valued.

U.S and International equities, Fixed Income, and Other Investments held in the Company's pension plan are held in mutual funds and common / collective funds which are valued using net asset value (NAV) provided by the administrator of the fund. The NAV is based on the value of the underlying assets owned by the fund, minus its liabilities, and then divided by the number of shares outstanding. These investments are not classified in the fair value hierarchy in accordance with guidance included in ASU 2015-07, *Fair Value Measurement (Topic 820): Disclosures for Investments in Certain Entities That Calculate Net Asset Value per Share (or Its Equivalent)*.

The fair value of Cash and Cash Equivalents is determined using Level 1 information.

The following table represents the Company's fair value hierarchy for its financial assets and liabilities measured at fair value on a recurring basis as of September 30, 2017 and 2018:

	September 30, 2017 Fair Value Measurements at Reporting Date Using:				
	Level 1	Level 2	Level 3	NAV	Total
Assets:					
Pension plan assets	$ —	$ —	$ —	$ 224,094	$ 224,094
Total fair value	$ —	$ —	$ —	$ 224,094	$ 224,094

	September 30, 2018 Fair Value Measurements at Reporting Date Using:				
	Level 1	Level 2	Level 3	NAV	Total
Assets:					
Pension plan assets	$ —	$ —	$ —	$ 222,273	$ 222,273
Total fair value	$ —	$ —	$ —	$ 222,273	$ 222,273

The Company had no other financial assets or liabilities as of September 30, 2017 or 2018.

Note 17. Comprehensive Income (Loss) and Changes in Accumulated Other Comprehensive Income (Loss) by Component

Comprehensive income (loss) includes changes in equity that result from transactions and economic events from non-owner sources. Comprehensive income (loss) consists of net income (loss) and other comprehensive income (loss) items, including pension and foreign currency translation adjustments, net of tax when applicable.

Comprehensive Income (Loss)

	Year Ended September 30,								
	2016			2017			2018		
	Pre-tax	Tax	Net	Pre-tax	Tax	Net	Pre-tax	Tax	Net
Net income (loss)			$ 5,020			$ (10,190)			$ (21,751)
Other comprehensive income (loss):									
Pension and postretirement:									
Net gain (loss) arising during period	$ (18,299)	$ 6,609	(11,690)	$ 46,401	$ (17,095)	29,306	$ 33,518	$ (7,576)	25,942
Amortization of prior service cost	(808)	299	(509)	808	(298)	510	374	(99)	275
Amortization of (gain) loss	(11,663)	4,293	(7,370)	15,517	(5,709)	9,808	7,887	(2,075)	5,812
Foreign currency translation adjustment	(7,001)	—	(7,001)	2,205	—	2,205	(1,900)	—	(1,900)
Other comprehensive income (loss)	$ (37,771)	$ 11,201	(26,570)	$ 64,931	$ (23,102)	41,829	$ 39,879	$ (9,750)	30,129
Total comprehensive income (loss)			$ (21,550)			$ 31,639			$ 8,378

Accumulated Other Comprehensive Income (Loss)

	Year Ended September 30, 2017			
	Pension Plan	Postretirement Plan	Foreign Exchange	Total
Accumulated other comprehensive income (loss) as of September 30, 2016	$ (74,742)	$ (29,585)	$ (10,196)	$ (114,523)
Other comprehensive income (loss) before reclassifications	24,109	5,197	2,205	31,511
Amounts reclassified from accumulated other comprehensive income (loss)				
Amortization of Pension and Postretirement Plan items [(1)]	808	—	—	808
Actuarial losses [(1)]	11,239	4,278	—	15,517
Tax benefit	(4,426)	(1,581)	—	(6,007)
Net current-period other comprehensive income (loss)	31,730	7,894	2,205	41,829
Accumulated other comprehensive income (loss) as of September 30, 2017	$ (43,012)	$ (21,691)	$ (7,991)	$ (72,694)

	Year Ended September 30, 2018			
	Pension Plan	Postretirement Plan	Foreign Exchange	Total
Accumulated other comprehensive income (loss) as of September 30, 2017	$ (43,012)	$ (21,691)	$ (7,991)	$ (72,694)
Other comprehensive income (loss) before reclassifications	17,658	8,284	(1,900)	24,042
Amounts reclassified from accumulated other comprehensive income (loss)				
Amortization of Pension and Postretirement Plan items [a]	374	—	—	374
Actuarial losses [a]	4,888	2,999	—	7,887
Tax benefit	(1,381)	(793)	—	(2,174)
Net current-period other comprehensive income (loss)	21,539	10,490	(1,900)	30,129
Accumulated other comprehensive loss as of September 30, 2018	$ (21,473)	$ (11,201)	$ (9,891)	$ (42,565)

[1] These accumulated other comprehensive income components are included in the computation of net periodic pension cost.

Note 18. Long-term Obligation

On January 1, 2015, the Company entered into a capital lease agreement for the building that houses the assets and operations of LaPorte Custom Metal Processing (LCMP). The capital asset and obligation are recorded at the present value of the minimum lease payments. The asset is included in Property, plant and equipment, net on the Consolidated Balance Sheet and is depreciated over the 20 year lease term. The long term component of the capital lease obligation is included in Long term obligations.

The Company entered into a twenty-year "build-to-suit" lease for a building that houses the assets and operations of the service center located in LaPorte, Indiana that was relocated from Lebanon, Indiana. During the first quarter of fiscal 2017, the Company took occupancy of the building. The Company retained substantially all of the construction risk and was deemed to be the owner of the facility for accounting purposes, even though it is not the legal owner. Construction costs incurred relative to the buildout of the facility of approximately $4,100 are included in Property, plant and equipment, net on the Consolidated Balance Sheet and depreciated over the 20-year lease term. The Company accounts for the related build-to-suit liability as a financing obligation.

As of September 30, 2018, future minimum lease rental payments applicable to the lease obligations were as follows.

2019	$ 989
2020	994
2021	1,001
2022	1,012
2023	1,024
Thereafter	12,572
Total minimum lease payments	17,592
Less amounts representing interest	(9,466)
Present value of net minimum lease payments	8,126
Less current obligation	(147)
Total long-term lease obligation	$ 7,979

The lease obligations is included in Long-term obligations (less current portion) on the Consolidated Balance Sheet.

	September 30, 2017	September 30, 2018
Capital lease rental payments	$ 4,275	$ 4,207
Finance lease rental payments	4,017	3,920
Environmental post-closure monitoring and maintenance activities	633	504
Deferred dividends	—	14
Less amounts due within one year	(1,029)	(202)
Long-term obligations (less current portion)	$ 7,896	$ 8,443

Note 19. Foreign Currency Forward Contracts

Beginning in the third quarter of fiscal 2018, the Company entered into foreign currency forward contracts. The purpose of these forward contracts is to reduce income statement volatility resulting from foreign currency denominated transactions. The Company has not designated the contacts as hedges; therefore, changes in fair value are recognized in earnings. All of these contracts are designed to be settled within the same fiscal quarter they are entered into and, accordingly, as of September 30, 2018, there are no contracts that remain unsettled. As a result, there is no impact to the balance sheet as of September 30, 2018. Foreign exchange hedging gains and losses are recorded within Selling, General and Administrative expenses on the Consolidated Statements of Operations along with foreign currency transactional gains and losses as follows.

	Year Ended September 30, 2018
Foreign Currency Transactional Gain (Loss)	$ 411
Foreign Exchange Forward Contract Gain (Loss)	(918)
Net gain (loss) included in Selling, General and administrative expense	$ (507)

The net loss from foreign currency transactions during fiscal 2018 includes $643 of loss incurred prior to third quarter of fiscal 2018 when the Company began to enter into foreign currency forward contracts. The Company began using forward currency forward contracts as a mechanism to reduce income statement volatility from foreign currency denominated transactions at the beginning of the third quarter of fiscal 2018.

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

None.

Item 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

The Company maintains disclosure controls and procedures designed to ensure that information required to be disclosed by the Company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the U.S. Securities and Exchange Commission, including to ensure that information required to be disclosed by the Company that it files or submits under the Exchange Act is accumulated and communicated to the Company's management, including its principal executive and financial officers, as appropriate to allow timely decisions regarding required disclosure. Pursuant to Rule 13a-15(b) of the Exchange Act the Company has performed, under the supervision and with the participation of the Company's management, including the Company's Chief Executive Officer and Chief Financial Officer, an evaluation of the effectiveness of the Company's disclosure controls and procedures as of the end of the period covered by this report. Based upon that evaluation, the Chief Executive Officer and the Chief Financial Officer concluded that the Company's disclosure controls and procedures were effective as of September 30, 2018.

Changes in Internal Control Over Financial Reporting

During the quarter ended September 30, 2018, the Company has not had any material changes to its internal control over Financial Reporting.

Management's Annual Report on Internal Control Over Financial Reporting

The management of the Company is responsible for establishing and maintaining adequate internal control over financial reporting (as defined by Exchange Act rules 13a-15(f) and 15d-15(f)) for the Company. With the participation of the Chief Executive Officer and Chief Financial Officer, management conducted an evaluation of the effectiveness of the Company's internal control over financial reporting based on the framework and criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations (COSO) of The Treadway Commission (2013). Based on the Company's assessment, management has concluded that, as of September 30, 2018, the Company's internal control over financial reporting is effective based on those criteria.

All internal control systems, no matter how well designed, have inherent limitations. Therefore, even those systems determined to be effective may not prevent or detect misstatements and can provide only reasonable assurance with respect to financial statement preparation and presentation. 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.

The Company's effectiveness of internal control over financial reporting as of September 30, 2018 has been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in its attestation report which is included herein.

Michael L. Shor
President & Chief Executive Officer
November 15, 2018

Daniel W. Maudlin
Vice President of Finance and Chief Financial Officer
November 15, 2018

Item 9B. Other Information

None.

Part III

Item 10. Directors, Executive Officers and Corporate Governance

The information included under the caption "Business—Executive Officers of the Company" in this Annual Report on Form 10-K, and under the captions "Election of Directors", "Section 16(a) Beneficial Ownership Reporting Compliance", "Corporate Governance—Code of Ethics", "Corporate Governance—Corporate Governance Committee and Director Nominations", "Corporate Governance—Board Committee Structure", "Corporate Governance—Family Relationships" and "Corporate Governance—Independence of the Board of Directors and Committee Members" in the Proxy Statement to be issued in connection with the meeting of the Company's stockholders on February 27, 2019 is incorporated herein by reference.

Item 11. Executive Compensation

The information included under the captions "Executive Compensation", "Corporate Governance—Compensation Committee Interlocks and Insider Participation" and "Corporate Governance—Director Compensation Program" in the Proxy Statement to be issued in connection with the meeting of the Company's stockholders on February 27, 2019 is incorporated herein by reference in response to this item.

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

The information contained under the captions "Security Ownership of Certain Beneficial Owners" and "Security Ownership of Management" in the Proxy Statement to be issued in connection with the meeting of the Company's stockholders on February 27, 2019 is incorporated herein by reference in response to this item. For additional information regarding the Company's stock option plans, please see Note 11 in the Notes to Consolidated Financial Statements in this report.

Equity Compensation Plan Information

The following table provides information as of September 30, 2018 regarding shares of the Company's common stock issuable pursuant to its stock option and restricted stock plans:

Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted-average exercise price of outstanding options, warrants and rights	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in the second column)
Equity compensation plans approved by security holders[1]	410,675	$ 42.72	540,687 [2]

(1) For a description of the Company's equity compensation plans, see Note 11 to the Consolidated Financial Statements in Item 8.

(2) Includes (i) 341,726 shares of stock options or stock appreciation rights and (ii) 198,961 shares of restricted stock, restricted stock units, performance shares or performance units.

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

The information contained under the caption "Corporate Governance—Independence of Board of Directors and Committee Members" and under "Conflict of Interest and Related Party Transactions" in the Proxy Statement to be issued

in connection with the meeting of the Company's stockholders on February 27, 2019 is incorporated herein by reference in response to this item.

Item 14. Principal Accountant Fees and Services

The information included under the caption "Ratification of the Appointment of Independent Registered Public Accounting Firm" in the Proxy Statement to be issued in connection with the meeting of the Company's stockholders on February 27, 2019 is incorporated herein by reference in response to this item.

Part IV

Item 15. Exhibits, Financial Statement Schedules

(a) *Documents filed as part of this Report.*

1. *Financial Statements:*

   The Financial Statements are set forth under Item 8 in this Annual Report on Form 10-K.

2. *Financial Statement Schedules:*

   Financial Statement Schedules are omitted as they are not required, are not applicable or the information is shown in the Notes to the Consolidated Financial Statements.

(b) *Exhibits*. See Index to Exhibits, which is incorporated herein by reference.

(c) *Financial Statement Schedules:* None

INDEX TO EXHIBITS

Exhibit Number	Description
3.1	Second Restated Certificate of Incorporation of Haynes International, Inc. (incorporated by reference to Exhibit 3.1 to the Haynes International, Inc. Registration Statement on Form S-1, Registration No. 333-140194).
3.2	Amended and Restated By-laws of Haynes International, Inc. (incorporated by reference to Exhibit 3.2 to the Haynes International, Inc. Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2018).
4.1	Specimen Common Stock Certificate (incorporated by reference to Exhibit 4.01 to the Haynes International, Inc. Quarterly Report on Form 10-Q for the fiscal quarter ended December 31, 2009).
10.1	Form of Termination Benefits Agreements by and between Haynes International, Inc. and certain of its employees, conformed to give effect to all amendments thereto (incorporated by reference to Exhibit 10.1 to the Company's Annual Report on Form 10-K for the year ended September 30, 2011).
10.2	Third Amended and Restated Loan and Security Agreement by and among Haynes International, Inc., Haynes Wire Company, the Lenders (as defined therein), Wells Fargo Capital Finance, LLC, as agent for the Lenders, and JPMorgan Chase Bank, N.A., as documentation agent (incorporated by reference to Exhibit 10.1 to Haynes International, Inc. Current Report on Form 8-K filed July 20, 2011).
10.3	Form of Director Indemnification Agreement between Haynes International, Inc. and certain of its directors named in the schedule to the Exhibit (incorporated by reference to Exhibit 10.21 to the Haynes International, Inc. Registration Statement on Form S-1, Registration No. 333-140194).
10.4	Conversion Services Agreement by and between the Company and Titanium Metals Corporation, dated November 17, 2006 (incorporated by reference to Exhibit 10.22 to the Haynes International, Inc. Registration Statement on Form S-1, Registration No. 333-140194). Portions of this exhibit have been omitted pursuant to a request for confidential treatment and filed separately with the Securities and Exchange Commission.
10.5	Access and Security Agreement by and between the Company and Titanium Metals Corporation, dated November 17, 2006 (incorporated by reference to Exhibit 10.23 to the Haynes International, Inc. Registration Statement on Form S-1, Registration No. 333-140194).
10.6	Haynes International, Inc. 2007 Stock Option Plan as adopted by the Board of Directors on January 18, 2007 (incorporated by reference to Exhibit 10.25 to the Haynes International, Inc. Registration Statement on Form S-1, Registration No. 333-140194).
10.7	Form of Non-Qualified Stock Option Agreement used in conjunction with grants made pursuant to the Haynes International, Inc. 2007 Stock Option Plan (incorporated by reference to Exhibit 10.26 to the Haynes International, Inc. Registration Statement on Form S-1, Registration No. 333-140194).
10.8	Second Amended and Restated Haynes International, Inc. Stock Option Plan as adopted by the Board of Directors on January 22, 2007 (incorporated by reference to Exhibit 10.27 to the Haynes International, Inc. Registration Statement on Form S-1, Registration No. 333-140194).
10.9	Form of Non-Qualified Stock Option Agreements between Haynes International, Inc. and certain of its executive officers and directors named in the schedule to the Exhibit pursuant to the Haynes International, Inc. Second Amended and Restated Stock Option Plan (incorporated by reference to Exhibit 10.28 to the Haynes International, Inc. Registration Statement on Form S-1, Registration No. 333-140194).
10.10	Non-Qualified Stock Option Agreement by and between Haynes International, Inc. and Mark Comerford, dated October 1, 2008 (incorporated by reference to Exhibit 10.2 to Haynes International, Inc. Form 8-K filed October 7, 2008).
10.11	Haynes International, Inc. 2009 Restricted Stock Plan (incorporated by reference to Exhibit 10.02 to the Haynes International, Inc. Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2009).
10.12	Summary of 2018 Management Incentive Plan and Deferred Compensation Plan (incorporated by reference to Item 5.02 of the Haynes International, Inc. Form 8-K filed November 27, 2017).

Exhibit Number	Description
10.13	Amendment No.1 to the Haynes International, Inc. 2009 Restricted Stock Plan (incorporated by reference to Exhibit 10.02 to the Haynes International, Inc. Form 10-Q for the fiscal quarter ended December 31, 2011).
10.14	Amendment No. 2 to the Haynes International, Inc. 2009 Restricted Stock Plan (incorporated by reference to Exhibit 10.01 to the Haynes International, Inc. Form 10-Q for the fiscal quarter ended March 31, 2013).
10.15	Amendment No. 3 to the Haynes International, Inc. 2009 Restricted Stock Plan (incorporated by reference to Exhibit 10.01 to the Haynes International, Inc. Form 10-Q for the fiscal quarter ended December 31, 2014).
10.16	Amendment No. 4 to the Haynes International, Inc. 2009 Restricted Stock Plan (incorporated by reference to Exhibit 10.02 to the Haynes International, Inc. Form 10-Q for the fiscal quarter ended December 31, 2014).
10.17	Amendment No. 1 to Third Amended and Restated Loan and Security Agreement by and among Haynes International, Inc., Haynes Wire Company, the Lenders (as defined therein), Wells Fargo Capital Finance, LLC, as agent for the Lenders, and JPMorgan Chase Bank, N.A., as documentation agent (incorporated by reference to Exhibit 10.1 to the Haynes International, Inc. Current Report on Form 8-K filed September 20, 2013).
10.18	Amendment No. 2 to Third Amended and Restated Loan and Security Agreement by and among Haynes International, Inc., the Lenders (as defined therein), Wells Fargo Capital Finance, LLC, as agent for the Lenders, and JPMorgan Chase Bank, N.A., as documentation agent (incorporated by reference to Exhibit 10.1 to the Haynes International, Inc. Current Report on Form 8-K filed July 13, 2016).
10.19	Haynes International, Inc. 2016 Incentive Compensation Plan (incorporated by reference to Exhibit 10.1 to the Haynes International, Inc. Current Report on Form 8-K filed March 7, 2016).
10.20	Form of Restricted Stock Award Agreement between Haynes International, Inc. and certain of its directors, issued pursuant to the Haynes International, Inc. 2016 Incentive Compensation Plan (incorporated by reference to Exhibit 10.22 to the Haynes International, Inc. Form 10-K for the fiscal year ended September 30, 2017).
10.21	Form of Performance Share Award Agreement between Haynes International, Inc. of certain of its officers, issued pursuant to the Haynes International, Inc. 2016 Incentive Compensation Plan (incorporated by reference to Exhibit 10.23 to the Haynes International, Inc. Form 10-K for the fiscal year ended September 30, 2017).
10.22	Form of Non-Qualified Stock Option Agreement between Haynes International, Inc. and certain of its officers, issued pursuant to the Haynes International, Inc. 2016 Incentive Compensation Plan (incorporated by reference to Exhibit 10.24 to the Haynes International, Inc. Form 10-K for the fiscal year ended September 30, 2017).
10.23	Form of Restricted Stock Award Agreement between Haynes International, Inc. and certain of its officers and other employees, issued pursuant to the Haynes International, Inc. 2016 Incentive Compensation Plan (incorporated by reference to Exhibit 10.25 to the Haynes International, Inc. Form 10-K for the fiscal year ended September 30, 2017).
10.24**	Form of Indemnification Agreement between the Company and certain of its officers.
10.25**	Executive Employment Agreement, effective as of September 1, 2018, by and between the Company and Michael L. Shor.
10.26	Interim Executive Employment Agreement, dated as of June 1, 2018 by and between the Company and Michael L. Shor (incorporated by reference to Exhibit 10.1 to the Haynes International, Inc. Form 10-Q for the fiscal quarter ended June 30, 2018).
10.27	Resignation and General Release Agreement, effective as of May 29, 2018, by and between the Company and Mark M. Comerford (incorporated by reference to Exhibit 10.2 to the Haynes International, Inc. Form 10-Q for the fiscal quarter ended June 30, 2018).
21.1**	Subsidiaries of the Registrant.
23.1**	Consent of Deloitte & Touche LLP.
31.1**	Rule 13a-14(a)/15d-4(a) Certification of Chief Executive Officer
31.2**	Rule 13a-14(a)/15d-14(a) Certification of Chief Financial Officer
32.1**	Section 1350 Certifications

Exhibit Number	Description
101**	The following materials from the Company's Annual Report on Form 10-K for the fiscal year ended September 30, 2018 formatted in Extensible Business Reporting Language (XBRL): (i) the Consolidated Balance Sheets; (11) the Consolidated Statements of Operations; (iii) the Consolidated Statements of Comprehensive Income (Loss); (iv) the Consolidated Statements of Stockholders Equity; (v) the Consolidated Statements of Cash Flows; and (vi) related notes.

** Filed herewith

SIGNATURES

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

HAYNES INTERNATIONAL, INC.

By: /s/ MICHAEL L. SHOR
Michael L. Shor
President and Chief Executive Officer
Date: November 15, 2018

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 registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/s/ MICHAEL L. SHOR Michael L. Shor	President and Chief Executive Officer; Director (Principal Executive Officer)	November 15, 2018
/s/ DANIEL W. MAUDLIN Daniel W. Maudlin	Vice President of Finance and Chief Financial Officer (Principal Financial Officer)	November 15, 2018
/s/ DAVID S. VAN BIBBER David S. Van Bibber	Controller and Chief Accounting Officer (Principal Accounting Officer)	November 15, 2018
/s/ ROBERT H. GETZ Robert H. Getz	Chairman of the Board, Director	November 15, 2018
/s/ DONALD C. CAMPION Donald C. Campion	Director	November 15, 2018
/s/ JOHN C. COREY John C. Corey	Director	November 15, 2018
/s/ DAWNE S. HICKTON Dawne S. Hickton	Director	November 15, 2018
/s/ WILLIAM P. WALL William P. Wall	Director	November 15, 2018

Exhibit 10.24

OFFICER INDEMNIFICATION AGREEMENT

This Officer Indemnification Agreement (this "Agreement"), dated as of this day of________, 201_ is made by and between Haynes International, Inc., a Delaware corporation (the "Company"), and ______________("Indemnitee").

RECITALS:

WHEREAS, officers of a corporation act as fiduciaries of the corporation and its stockholders;

WHEREAS, it is critically important to the Company and its stockholders that the Company be able to attract and retain the most capable persons reasonably available to serve as officers of the Company;

WHEREAS, in recognition of the need for corporations to be able to induce capable and responsible persons to accept positions in corporate management, Delaware law authorizes (and in some instances requires) corporations to indemnify their directors and officers, and further authorizes corporations to purchase and maintain insurance for the benefit of their directors and officers;

WHEREAS, the number of lawsuits challenging the judgment and actions of officers of corporations, the costs of defending those lawsuits and the threat to officers' personal assets have all materially increased over the past several years, chilling the willingness of capable persons to undertake the responsibilities imposed on corporate officers;

WHEREAS, recent federal legislation and rules adopted by the Securities and Exchange Commission have imposed additional disclosure and corporate governance obligations on officers of public companies and have exposed such officers to new and substantially broadened liabilities;

WHEREAS, Indemnitee is an officer of the Company and his or her willingness to serve in such capacity is predicated, in substantial part, upon the Company's willingness to indemnify him or her in accordance with the principles reflected above, to the fullest extent permitted by the laws of the state of Delaware, and upon the other undertakings set forth in this Agreement; and

WHEREAS, in recognition of the need to provide Indemnitee with substantial protection against personal liability, in order to procure Indemnitee's continued service as an officer of the Company and to enhance Indemnitee's ability to serve the Company in an effective manner, and in order to provide such protection pursuant to express contract rights (intended to be enforceable irrespective of, among other things, any amendment to the Company's certificate of incorporation or bylaws (collectively, the "Governance Documents"), any change in the composition of the Company's Board of Directors (the "Board") or any change-in-control or business combination transaction relating to the Company), the Company desires to provide in this Agreement for the indemnification of and the advancement of Expenses (as defined in Section 1.01(f)) to Indemnitee as set forth in this Agreement and for the continued coverage of Indemnitee under the Company's directors' and officers' liability insurance policies;

NOW, THEREFORE, in consideration of the promises and the covenants contained herein, the Company and Indemnitee do hereby covenant and agree as follows:

AGREEMENT:

ARTICLE I

Section 1.01. **Definitions**. In addition to terms defined elsewhere herein, the terms hereinafter set forth when used herein shall have the following meanings and the following definitions shall be equally applicable to both the singular and plural forms of any of the terms herein defined:

(a) "Change in Control" means the occurrence of any of the following events:

(i) any "person," as such term is used in Sections 13(d) and 14(d) of the Exchange Act (other than the Company, any trustee or other fiduciary holding securities under an employee benefit plan of the Company or any Subsidiary of the Company, or any company owned, directly or indirectly, by the stockholders of the Company in substantially the same proportions as their ownership of stock of the Company), is or becomes the "beneficial owner" (as defined in Rule 13d-3 under the Exchange Act), directly or indirectly, of securities of the Company representing more than thirty percent (30%) of either the then-outstanding shares of common stock of the Company ("Outstanding Common Stock") or the combined voting power of the Company's then outstanding securities ("Outstanding Company Voting Securities");

(ii) at any time during any period of two (2) consecutive years, individuals who at the beginning of such period constitute the Board and any new director (other than a director designated by a person who has entered into an agreement with the Company to effect a transaction described in clauses (i), (iii), or (iv) of this subsection (a) or whose initial assumption of office occurred as a result of an actual or threatened election contest (as described in Rule 14a-12(c) of the Exchange Act) 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 Company) whose election to the Board or nomination for election by the Company's stockholders was approved by a vote of at least two-thirds (2/3) of the directors at the beginning of the period or whose election or nomination for election was previously so approved, cease for any reason to constitute at least a majority of the Board;

(iii) consummation of a reorganization, merger, statutory share exchange or consolidation or similar corporate transaction involving the Company or any of its Subsidiaries, a sale or other disposition of all or substantially all of the assets of the Company or an acquisition of assets or stock of another entity by the Company or any of its Subsidiaries (each a “Business Combination”) unless, in each case, following such Business Combination (i) all or substantially all of the individuals

and entities that were the beneficial owners of the Outstanding Common Stock and Outstanding Company Voting Securities immediately prior to such Business Combination beneficially own, directly or indirectly, more than fifty percent (50%) of 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 a corporation that, as a result of such Business Combination, owns the Company or all or substantially all of the Company's assets either directly or through one or more Subsidiaries) in substantially the same proportions as their ownership immediately prior to such Business Combination of the Outstanding Company Common Stock and the Outstanding Company Voting Securities, as the case may be, (ii) no person or entity (excluding (A) any entity resulting from such Business Combination or (B) any employee benefit plan (or related trust) of the Company or corporation resulting from such Business Combination) beneficially owns, directly or indirectly fifteen (15%) or more of either the then- outstanding shares of common stock 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 such Business Combination, and (iii) at least a majority of the members of the board of directors of the corporation resulting from such Business Combination were Incumbent Directors at the time of the execution of the initial agreement, or of the action of the Board, providing for such Business Combination; or

(iv) the stockholders of the Company approve a plan of complete liquidation or dissolution of the Company.

(b) "Claim" means: (i) any threatened, asserted, pending or completed claim, demand, action, suit or proceeding, arbitration, alternate dispute resolution mechanism, investigation, inquiry, administrative hearing or proceeding, including any and all appeals, whether civil, criminal, administrative, arbitrative, investigative or other, whether formal or informal, and whether made pursuant to federal, state or other law; and (ii) any threatened, pending or completed inquiry or investigation, whether made, instituted or conducted by the Company or any other person, including any federal, state or other governmental entity, that Indemnitee determines might lead to the institution of any such claim, demand, action, suit or proceeding. For purposes of this definition, the term "threatened" will be deemed to include Indemnitee's good faith belief that a claim or other assertion may lead to a Claim.

(c) "Controlled Affiliate" means any corporation, limited liability company, partnership, joint venture, trust or other entity or enterprise, whether or not for profit, that is directly or indirectly controlled by the Company. For purposes of this definition, "control" means the possession, directly or indirectly, of the power to direct or cause the direction of the management or policies of an entity or enterprise, whether through the ownership of voting securities, through other voting rights, by contract or otherwise; provided that direct or indirect beneficial ownership of capital stock or other interests in an entity or enterprise entitling the holder to cast twenty percent (20%) or more of the total number of votes generally entitled to be cast in the election of directors (or persons

performing comparable functions) of such entity or enterprise shall be deemed to constitute control for purposes of this definition.

(d) "Disinterested Director" means a director of the Company who is not and was not a party to the Claim in respect of which indemnification is sought by Indemnitee.

(e) "Exchange Act" shall mean the Securities Exchange Act of 1934, as amended.

(f) "Expenses" means all attorney's fees, disbursements and retainers, court costs, transcript costs, fees of experts, witness fees, travel expenses, duplicating costs, printing and binding costs, telephone charges, postage, fax transmission charges, secretarial services, delivery service fees and all other disbursements or expenses paid or incurred in connection with prosecuting, defending, preparing to prosecute or defend, investigating, being or preparing to be a witness in, or otherwise participating in, an Indemnifiable Claim, or in connection with seeking indemnification under this Agreement. Expenses will also include Expenses paid or incurred in connection with any appeal resulting from any Indemnifiable Claim, including the premium, security for and other costs relating to any appeal bond or its equivalent. Expenses, however, will not include amounts paid in settlement by Indemnitee, the amount of judgments or fines against Indemnitee or any amounts payable by Indemnitee in connection with a disgorgement of profits pursuant to Section 16 of the Exchange Act or any amounts required to be disgorged pursuant to the Company's clawback policy with respect to incentive compensation as in place from time to time.

(g) "Incumbent Directors" means the individuals who, as of the date hereof, are directors of the Company and any individual becoming a director subsequent to the date hereof whose election, nomination for election by the Company's stockholders, or appointment, was approved by a vote of at least two-thirds (2/3) of the then Incumbent Directors (either by a specific vote or by approval of the proxy statement of the Company in which such person is named as a nominee for director, without objection to such nomination); provided, however, that an individual shall not be an Incumbent Director if such individual's election or appointment to the Board occurs as a result of an actual or threatened election contest (as described in Rule 14a-12(c) of the Exchange Act) 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.

(h) "Indemnifiable Claim" means any Claim based upon, arising out of or resulting from: (i) any actual, alleged or suspected act or failure to act by Indemnitee in his or her capacity as a director, officer, employee or agent of the Company or as a director, officer, employee, member, manager, trustee or agent of any other corporation, limited liability company, partnership, joint venture, trust or other entity or enterprise, whether or not for profit, as to which Indemnitee is or was serving at the request of the Company as a director, officer, employee, member, manager, trustee or agent, including any formal or informal actions related thereto; (ii) any actual, alleged or suspected act or failure to act by Indemnitee in respect of any business, transaction, communication, filing, disclosure or other activity of the Company or any other entity or enterprise referred to in clause (i) of

this sentence, including any formal or informal actions related thereto; or (iii) Indemnitee's status as a current or former director, officer, employee or agent of the Company or as a current or former director, officer, employee, member, manager, trustee or agent of the Company or any other entity or enterprise referred to in clause (i) of this sentence or any actual, alleged or suspected act or failure to act by Indemnitee in connection with any obligation or restriction imposed upon Indemnitee by reason of such status, including formal or informal investigations related thereto. In addition to any service at the actual request of the Company, for purposes of this Agreement, Indemnitee shall be deemed to be serving or to have served at the request of the Company as a director, officer, employee, member, manager, trustee or agent of another entity or enterprise if Indemnitee is or was serving as a director, officer, employee, member, manager, trustee or agent of such entity or enterprise and (a) such entity or enterprise is or at the time of such service was a Controlled Affiliate, (b) such entity or enterprise is or at the time of such service was an employee benefit plan (or related trust) sponsored or maintained by the Company or a Controlled Affiliate or (c) the Company or a Controlled Affiliate directly or indirectly caused or authorized Indemnitee to be nominated, elected, appointed, designated, employed, engaged or selected to serve in such capacity.

(i) "Indemnifiable Losses" means any and all Losses relating to, arising out of or resulting from any Indemnifiable Claim.

(j) "Independent Counsel" means a law firm, or a member of a law firm, that is experienced in matters of corporation law and neither presently is, nor in the past five (5) years has been, retained to represent: (i) the Company (or any Subsidiary), the Board (or any committee) or Indemnitee in any matter material to either such party (other than with respect to matters concerning the Indemnitee under this Agreement, or of other indemnitees under similar indemnification agreements); or (ii) any other named (or, as to a threatened matter, reasonably likely to be named) party to the Indemnifiable Claim giving rise to a claim for indemnification hereunder. Notwithstanding the foregoing, the term "Independent Counsel" shall not include any person who, under the applicable standards of professional conduct then prevailing, would have a conflict of interest in representing either the Company or Indemnitee in an action to determine Indemnitee's rights under this Agreement.

(k) "Losses" means any and all Expenses, damages, losses, liabilities, judgments, fines, penalties (whether civil, criminal or other) and amounts paid in settlements, including all interest, assessments and other charges paid or payable in connection with or in respect of any of the foregoing.

(l) "Subsidiary" means an entity in which the Company directly or indirectly beneficially owns fifty percent (50%) or more of the outstanding voting securities.

Section 1.02. Indemnification Obligation. Subject to Section 1.07, the Company shall indemnify, defend and hold harmless Indemnitee, to the fullest extent permitted or required by the Company's Governance Documents and the laws of the State of Delaware in effect on the date hereof or as the same may from time to time hereafter be amended, interpreted or replaced to increase the scope of such permitted indemnification, against any and all Indemnifiable Claims

and Indemnifiable Losses; provided, however, that, except as provided in Sections 1.04 and 1.23, Indemnitee shall not be entitled to indemnification pursuant to this Agreement in connection with any Claim initiated by Indemnitee against the Company or any director or officer of the Company unless the Company has joined in or consented to the initiation of such Claim.

Section 1.03. Advancement of Expenses. Indemnitee shall have the right to advancement by the Company to the fullest extent permitted by the laws of the State of Delaware prior to the final disposition of any Indemnifiable Claim of any and all Expenses relating to, arising out of or resulting from any Indemnifiable Claim paid or incurred by Indemnitee. Indemnitee's right to such advancement is not subject to the satisfaction of any standard of conduct, and the Company shall not seek a “bar order” or similar order from any court of competent jurisdiction seeking to avoid advancement of expenses. Without limiting the generality or effect of the foregoing, within five (5) business days after any request by Indemnitee, the Company shall, in accordance with such request (but without duplication): (a) pay such Expenses on behalf of Indemnitee; (b) advance to Indemnitee funds in an amount sufficient to pay such Expenses; or (c) reimburse Indemnitee for such Expenses; provided that Indemnitee shall repay, without interest any amounts actually advanced to Indemnitee that, at the final disposition of the Indemnifiable Claim to which the advance related, were in excess of amounts paid or payable by Indemnitee in respect of Expenses relating to, arising out of or resulting from such Indemnifiable Claim. In connection with any such payment, advancement or reimbursement, Indemnitee shall execute and deliver to the Company an undertaking, which need not be secured and shall be accepted without reference to Indemnitee's ability to repay the Expenses, by or on behalf of the Indemnitee, to repay any amounts paid, advanced or reimbursed by the Company of Expenses relating to, arising out of or resulting from any Indemnifiable Claim of which it shall have been determined, following the final disposition of such Indemnifiable Claim and in accordance with Section 1.07, that Indemnitee is not entitled to indemnification hereunder.

Section 1.04. Indemnification for Additional Expenses. Without limiting the generality or effect of the foregoing, the Company shall indemnify and hold harmless Indemnitee against and, if requested by Indemnitee, shall reimburse Indemnitee for, or advance to Indemnitee, within five (5) business days of such request, any and all Expenses paid or incurred by Indemnitee or which Indemnitee determines are reasonably likely to be paid or incurred by Indemnitee in connection with any Claim made, instituted or conducted by Indemnitee for: (a) indemnification or reimbursement or advance payment of Expenses by the Company under any provision of this Agreement, or under any other agreement or provision of the Governance Documents now or hereafter in effect relating to Indemnifiable Claims; and/or (b) recovery under any directors' and officers' liability insurance policies maintained by the Company, regardless in each case of whether Indemnitee ultimately is determined to be entitled to such indemnification, reimbursement, advance or insurance recovery, as the case may be; provided, however, that Indemnitee shall return, without interest, any such advance of Expenses (or portion thereof) that remains unspent at the final disposition of the Claim to which the advance related.

Section 1.05. Partial Indemnity. If Indemnitee is entitled under any provision of this Agreement to indemnification by the Company for some or a portion of any Indemnifiable Loss, but not for all of the total amount thereof, the Company shall nevertheless indemnify Indemnitee for the portion thereof to which Indemnitee is entitled.

Section 1.06. Procedure for Notification. To obtain indemnification under this Agreement in respect of an Indemnifiable Claim or Indemnifiable Loss, Indemnitee shall submit to the Company a written request therefor, including a brief description (based upon information then available to Indemnitee) of such Indemnifiable Claim or Indemnifiable Loss. If, at the time of the receipt of such request, the Company has directors' and officers' liability insurance in effect under which coverage for such Indemnifiable Claim or Indemnifiable Loss is potentially available, the Company shall give prompt written notice of such Indemnifiable Claim or Indemnifiable Loss to the applicable insurers in accordance with the procedures set forth in the applicable policies. The Company shall provide to Indemnitee a copy of such notice delivered to the applicable insurers, and copies of all subsequent correspondence between the Company and such insurers regarding the Indemnifiable Claim or Indemnifiable Loss, in each case substantially concurrently with the delivery or receipt thereof by the Company. The failure by Indemnitee to timely notify the Company of any Indemnifiable Claim or Indemnifiable Loss shall not relieve the Company from any liability hereunder unless, and only to the extent that, the Company did not otherwise learn of such Indemnifiable Claim or Indemnifiable Loss and such failure results in forfeiture by the Company of substantial defenses, rights or insurance coverage.

Section 1.07. Determination of Right to Indemnification.

(a) To the extent that Indemnitee shall have been successful on the merits or otherwise in defense of any Indemnifiable Claim or any portion thereof or in defense of any issue or matter therein, including dismissal without prejudice, Indemnitee shall be indemnified against all Indemnifiable Losses relating to, arising out of or resulting from such Indemnifiable Claim in accordance with Section 1.02 and no Standard of Conduct Determination (as defined in Section 1.07(b)) shall be required.

(b) To the extent that the provisions of Section 1.07(a) are inapplicable to an Indemnifiable Claim that shall have been finally disposed of, any determination of whether Indemnitee has satisfied any applicable standard of conduct under Delaware law that is a legally required condition precedent to indemnification of Indemnitee hereunder against Indemnifiable Losses relating to, arising out of or resulting from such Indemnifiable Claim (a "Standard of Conduct Determination") shall be made as follows: (i) if a Change in Control shall not have occurred, or if a Change in Control shall have occurred but Indemnitee shall have requested that the Standard of Conduct Determination be made pursuant to this clause (i), (A) by a majority vote of the Disinterested Directors, even if less than a quorum of the Board, (B) if such Disinterested Directors so direct, by a majority vote of a committee of Disinterested Directors designated by a majority vote of all Disinterested Directors, or (C) if there are no such Disinterested Directors, by Independent Counsel in a written opinion addressed to the Board, a copy of which shall be delivered to Indemnitee; and (ii) if a Change in Control shall have occurred and Indemnitee shall not have requested that the Standard of Conduct Determination be made pursuant to clause (i), by Independent Counsel in a written opinion addressed to the Board, a copy of which shall be delivered to Indemnitee. Indemnitee will cooperate with the person or persons making such Standard of Conduct Determination, including providing to such person or persons, upon reasonable advance request, any documentation or information which is not privileged or otherwise protected from disclosure and which is reasonably available to Indemnitee and reasonably necessary to such determination. The Company shall indemnify

and hold harmless Indemnitee against and, if requested by Indemnitee, shall reimburse Indemnitee for, or advance to Indemnitee, within five (5) business days of such request, any and all costs and expenses (including attorneys' and experts' fees and expenses) incurred by Indemnitee in so cooperating with the person or persons making such Standard of Conduct Determination. The person, persons or entity chosen to make the Standard of Conduct Determination will act reasonably and in good faith in making such determination.

(c) The Company shall use its reasonable best efforts to cause any Standard of Conduct Determination required under Section 1.07(b) to be made as promptly as practicable. If (i) the person or persons empowered or selected under Section 1.07 to make the Standard of Conduct Determination shall not have made a determination within thirty (30) days after the later of (A) receipt by the Company of written notice from Indemnitee advising the Company of the final disposition of the applicable Indemnifiable Claim (the date of such receipt being the "Notification Date") and (B) the selection of an Independent Counsel, if such determination is to be made by Independent Counsel, that is permitted under the provisions of Section 1.07(e) to make such determination and (ii) Indemnitee shall have fulfilled his or her obligations set forth in the second sentence of Section 1.07(b), then Indemnitee shall be deemed to have satisfied the applicable standard of conduct; provided that such 30-day period may be extended for a reasonable time, not to exceed an additional thirty (30) days, if the person or persons making such determination in good faith requires such additional time for the obtaining or evaluation or documentation and/or information relating thereto.

(d) If (i) Indemnitee shall be entitled to indemnification hereunder against any Indemnifiable Losses pursuant to Section 1.07(a), (ii) no determination of whether Indemnitee has satisfied any applicable standard of conduct under Delaware law is a legally required condition precedent to indemnification of Indemnitee hereunder against any Indemnifiable Losses, or (iii) Indemnitee has been determined or deemed pursuant to Section 1.07(b) or (c) to have satisfied any applicable standard of conduct under Delaware law which is a legally required condition precedent to indemnification of Indemnitee hereunder against any Indemnifiable Losses, then the Company shall pay to Indemnitee, within five (5) business days after the later of (x) the Notification Date in respect of the Indemnifiable Claim or portion thereof to which such Indemnifiable Losses are related, out of which such Indemnifiable Losses arose or from which such Indemnifiable Losses resulted and (y) the earliest date on which the applicable criterion specified in clause (i), (ii) or (iii) above shall have been satisfied, an amount equal to the amount of such Indemnifiable Losses.

(e) If a Standard of Conduct Determination is to be made by Independent Counsel pursuant to Section 1.07(b)(i), the Independent Counsel shall be selected by the Board, and the Company shall give written notice to Indemnitee advising him or her of the identity of the Independent Counsel so selected. If a Standard of Conduct Determination is to be made by Independent Counsel pursuant to Section 1.07(b)(ii), the Independent Counsel shall be selected by Indemnitee, and Indemnitee shall give written notice to the Company advising it of the identity of the Independent Counsel so selected. In either case, Indemnitee or the Company, as applicable, may, within ten (10) business days after receiving written notice of selection from the other, deliver to the other a written objection

to such selection; provided, however, that such objection may be asserted only on the ground that the Independent Counsel so selected does not satisfy the criteria set forth in the definition of "Independent Counsel" in Section 1.01(j), and the objection shall set forth with particularity the factual basis of such assertion. Absent a proper and timely objection, the person or firm so selected shall act as Independent Counsel. If such written objection is properly and timely made and substantiated, (i) the Independent Counsel so selected may not serve as Independent Counsel unless and until such objection is withdrawn or a court has determined that such objection is without merit and (ii) the non-objecting party may, at its option, select an alternative Independent Counsel and give written notice to the other party advising such other party of the identity of the alternative Independent Counsel so selected, in which case the provisions of the two immediately preceding sentences and clause (i) of this sentence shall apply to such subsequent selection and notice. If applicable, the provisions of clause (ii) of the immediately preceding sentence shall apply to successive alternative selections. If no Independent Counsel that is permitted under the foregoing provisions of this Section 1.07(e) to make the Standard of Conduct Determination shall have been selected within thirty (30) days after the Company gives its initial notice pursuant to the first sentence of this Section 1.07(e) or Indemnitee gives its initial notice pursuant to the second sentence of this Section 1.07(e), as the case may be, either the Company or Indemnitee may petition the Court of Chancery of the State of Delaware or other court of competent jurisdiction for resolution of any objection which shall have been made by the Company or Indemnitee to the other's selection of Independent Counsel and/or for the appointment as Independent Counsel of a person or firm selected by the Court or by such other person as the Court shall designate, and the person or firm with respect to whom all objections are so resolved or the person or firm so appointed will act as Independent Counsel. In all events, the Company shall pay all of the reasonable fees and expenses of the Independent Counsel incurred in connection with the Independent Counsel's determination pursuant to Section 1.07(b).

Section 1.08. **Presumption of Entitlement**. In making any Standard of Conduct Determination, the person or persons making such determination shall presume that Indemnitee has satisfied the applicable standard of conduct, and the Company may overcome such presumption only by its obtaining clear and convincing evidence to the contrary. Any Standard of Conduct Determination that is adverse to Indemnitee may be challenged by the Indemnitee in the Court of Chancery of the State of Delaware or other court of competent jurisdiction. Neither the failure of any person, persons or entity chosen to make a determination as to whether Indemnitee has met any particular standard of conduct or had any particular belief to make such determination, nor an actual determination by such person, persons or entity that Indemnitee has not met such standard of conduct or did not have such belief, prior to or after the commencement of legal proceedings by Indemnitee to secure a judicial determination that Indemnitee should be indemnified under this Agreement under applicable law, will be a defense to Indemnitee's claim or create a presumption that Indemnitee has not met any particular standard of conduct or did not have any particular belief.

Section 1.09. **No Other Presumption**. For purposes of this Agreement, the termination of any Claim by judgment, order, settlement (whether with or without court approval) or conviction, or upon a plea of nolo contendere or its equivalent, will not create a presumption that Indemnitee did not meet any applicable standard of conduct or that indemnification hereunder

is otherwise not permitted. In the event that any Indemnifiable Claim to which Indemnitee is a party is resolved in any manner other than by final adverse judgment (as to which all rights of appeal therefrom have been exhausted or lapsed) against Indemnitee (including, without limitation, settlement of such Indemnifiable Claim with or without payment of money or other consideration) it will be presumed that Indemnitee has been successful on the merits or otherwise in such Indemnifiable Claim. Anyone seeking to overcome this presumption will have the burden of proof and the burden of persuasion, by clear and convincing evidence.

Section 1.10. Non-Exclusivity. The rights of Indemnitee hereunder will be in addition to any other rights Indemnitee may have under the Governance Documents, or the substantive laws of the Company's jurisdiction of incorporation, any other contract or otherwise (collectively, "Other Indemnity Provisions"); provided, however, that (a) to the extent that Indemnitee otherwise would have any greater right to indemnification under any Other Indemnity Provision, Indemnitee will be deemed to have such greater right hereunder and (b) to the extent that any change is made to any Other Indemnity Provision which permits any greater right to indemnification than that provided under this Agreement as of the date hereof, Indemnitee will be deemed to have such greater right hereunder. The Company will not adopt any amendment to any of the Governance Documents the effect of which would be to deny, diminish or encumber Indemnitee's right to indemnification under this Agreement or any Other Indemnity Provision.

Section 1.11. Liability Insurance and Funding. For the duration of Indemnitee's service as a director and/or officer of the Company, and thereafter for so long as Indemnitee shall be subject to any pending or possible Indemnifiable Claim, the Company shall use commercially reasonable efforts (taking into account the scope and amount of coverage available relative to the cost thereof) to cause to be maintained in effect policies of directors' and officers' liability insurance providing coverage for directors and/or officers of the Company that is at least substantially comparable in scope and amount to that provided by the Company's current policies of directors' and officers' liability insurance. The Company shall provide Indemnitee with a copy of all directors' and officers' liability insurance applications, binders, policies, declarations, endorsements and other related materials, and shall provide Indemnitee with a reasonable opportunity to review and comment on the same. Without limiting the generality or effect of the two immediately preceding sentences, the Company shall not discontinue or significantly reduce the scope or amount of coverage from one policy period to the next: (i) without the prior approval thereof by a majority vote of the Incumbent Directors, even if less than a quorum; or (ii) if at the time that any such discontinuation or significant reduction in the scope or amount of coverage is proposed there are no Incumbent Directors, without the prior written consent of Indemnitee (which consent shall not be unreasonably withheld or delayed). In all policies of directors' and officers' liability insurance obtained by the Company, Indemnitee shall be named as an insured in such a manner as to provide Indemnitee the same rights and benefits, subject to the same limitations, as are accorded to the Company's directors and officers most favorably insured by such policy. Such policy shall require the Company to obtain a six-year "tail" policy in the event of a Change in Control described in subsection (iii) of the definition thereof. The Company may, but shall not be required to, create a trust fund, grant a security interest or use other means, including without limitation a letter of credit, to ensure the payment of such amounts as may be necessary to satisfy its obligations to indemnify and advance expenses pursuant to this Agreement.

Section 1.12. **Subrogation**. In the event of payment under this Agreement, the Company shall be subrogated to the extent of such payment to all of the related rights of recovery of Indemnitee against other persons or entities (other than Indemnitee's successors), including any entity or enterprise referred to in clause (i) of the definition of "Indemnifiable Claim" in Section 1.01(h). Indemnitee shall execute all papers reasonably required to evidence such rights (all of Indemnitee's reasonable Expenses, including attorneys' fees and charges, related thereto to be reimbursed by or, at the option of Indemnitee, advanced by the Company).

Section 1.13. **No Duplication of Payments**. The Company shall not be liable under this Agreement to make any payment to Indemnitee in respect of any Indemnifiable Losses to the extent Indemnitee has otherwise actually received payment (net of any unreimbursed Expenses of the Indemnitee incurred in connection therewith) under any insurance policy, the Governance Documents and Other Indemnity Provisions or otherwise (including from any entity or enterprise referred to in clause (i) of the definition of "Indemnifiable Claim" in Section 1.01(h)) in respect of such Indemnifiable Losses otherwise indemnifiable hereunder. This Section shall not apply to any individual policies that may be maintained by Indemnitee.

Section 1.14. **Defense of Claims**. The Company shall be entitled to participate in the defense of any Indemnifiable Claim or to assume the defense thereof, with counsel reasonably satisfactory to the Indemnitee; provided that if Indemnitee believes, after consultation with counsel selected by Indemnitee, that: (a) the use of counsel chosen by the Company to represent Indemnitee would present such counsel with an actual or potential conflict; (b) the named parties in any such Indemnifiable Claim (including any impleaded parties) include both the Company and Indemnitee and Indemnitee shall conclude that there may be one or more legal defenses available to him or her that are different from or in addition to those available to the Company; or (c) any such representation by such counsel would be precluded under the applicable standards of professional conduct then prevailing, then Indemnitee shall be entitled to retain separate counsel (but not more than one law firm plus, if applicable, local counsel in respect of any particular Indemnifiable Claim) at the Company's expense. The Company shall not be liable to Indemnitee under this Agreement for any amounts paid in settlement of any threatened or pending Indemnifiable Claim effected without the Company's prior written consent. The Company shall not, without the prior written consent of the Indemnitee, effect any settlement of any threatened or pending Indemnifiable Claim to which the Indemnitee is, or could have been, a party unless such settlement solely involves the payment of money and includes a complete and unconditional release of the Indemnitee from all liability on any claims that are the subject matter of such Indemnifiable Claim. Neither the Company nor Indemnitee shall unreasonably withhold its consent to any proposed settlement; provided that Indemnitee may withhold consent to any settlement that does not provide a complete and unconditional release of Indemnitee. Notwithstanding the foregoing, the Company will not be entitled to assume the defense of any Indemnifiable Claim as to which Indemnitee has reasonably made the conclusion provided for in Section 1.14(b).

Section 1.15. **Action by Indemnitee**. In the event that (i) a determination is made pursuant to this Agreement that Indemnitee is not entitled to indemnification under this Agreement, (ii) an advancement of Expenses is not timely made pursuant to this Agreement, (iii) no determination of entitlement to indemnification is made within the applicable time periods specified in this Agreement or (iv) payment of indemnified amounts is not made within the applicable time periods specified herein, Indemnitee will be entitled to an adjudication in an

appropriate court of the State of Delaware, or in any other court of competent jurisdiction, of his or her entitlement to such indemnification or payment of the advancement of Expenses. Alternatively, Indemnitee, at Indemnitee's option, may seek an award in arbitration to be conducted by a single arbitrator pursuant to the Commercial Arbitration Rules of the American Arbitration Association. The provisions of Delaware law (without regard to its conflict of laws rules) will apply to any such arbitration. The Company will not oppose Indemnitee's right to seek any such adjudication or award in arbitration.

Section 1.16. Company Bears Expenses if Indemnitee Seeks Adjudication. In the event that Indemnitee, pursuant to Section 1.15, seeks a judicial adjudication or arbitration of his or her rights to indemnification under, or to recover damages for breach of, this Agreement, any other agreement for indemnification, the indemnification or advancement of expenses provisions in the Governance Documents, payment of Expenses in advance or contribution hereunder or to recover under any director and officer liability insurance policies maintained by the Company, the Company will, if Indemnitee ultimately is determined to be entitled to such indemnification, payment of Expenses in advance or contribution or insurance recovery to the fullest extent permitted by law, indemnify and hold harmless Indemnitee against any and all Expenses that are paid or incurred by Indemnitee in connection with such judicial adjudication or arbitration.

Section 1.17. Company Bound by Provisions of this Agreement. The Company will be precluded from asserting in any judicial or arbitration proceeding commenced pursuant to Section 1.15 that the procedures and presumptions of this Agreement are not valid, binding and enforceable and will stipulate in any such judicial or arbitration proceeding that the Company is bound by all the provisions of this Agreement.

Section 1.18. Successors and Binding Agreement.

(a) The Company shall require any successor (whether direct or indirect, by purchase, merger, consolidation, reorganization or otherwise) to all or substantially all of the business or assets of the Company, by agreement in form and substance satisfactory to Indemnitee and his or her counsel, expressly to assume and agree to perform this Agreement in the same manner and to the same extent the Company would be required to perform if no such succession had taken place. This Agreement shall be binding upon and inure to the benefit of the Company and any successor to the Company, including without limitation any person acquiring directly or indirectly all or substantially all of the business or assets of the Company whether by purchase, merger, consolidation, reorganization or otherwise (and such successor will thereafter be deemed the "Company" for purposes of this Agreement), but shall not otherwise be assignable or delegatable by the Company.

(b) This Agreement shall inure to the benefit of and be enforceable by the Indemnitee's personal or legal representatives, executors, administrators, heirs, distributees, legatees and other successors.

(c) This Agreement is personal in nature and neither of the parties hereto shall, without the consent of the other, assign or delegate this Agreement or any rights or obligations hereunder except as expressly provided in Sections 1.18(a) and (b). Without limiting the generality or effect of the foregoing, Indemnitee's right to receive payments

hereunder shall not be assignable, whether by pledge, creation of a security interest or otherwise, other than by a transfer by the Indemnitee's will or by the laws of descent and distribution, and, in the event of any attempted assignment or transfer contrary to this Section 1.18(c), the Company shall have no liability to pay any amount so attempted to be assigned or transferred.

Section 1.19. **Notices**. For all purposes of this Agreement, all communications, including without limitation notices, consents, requests or approvals, required or permitted to be given hereunder shall be in writing and shall be deemed to have been duly given when hand delivered or dispatched by electronic facsimile transmission (with receipt thereof orally confirmed), or five (5) business days after having been mailed by United States registered or certified mail, return receipt requested, postage prepaid or one (1) business day after having been sent for next-day delivery by a nationally recognized overnight courier service, addressed to the Company (to the attention of the Secretary of the Company) and to Indemnitee at the applicable address shown below, or to such other address as any party may have furnished to the other in writing and in accordance herewith, except that notices of changes of address will be effective only upon receipt.

If to the Company: Haynes International, Inc.
1020 West Park Avenue
P.O. Box 9013
Kokomo, Indiana 46904-9015
Attn: V.P.-General Counsel/Corporate Secretary
Tel.: (765) 456-6012
Fax: (765) 456-6905

If to Indemnitee: Tel.:_________________

Section 1.20. **Governing Law**. The validity, interpretation, construction and performance of this Agreement shall be governed by and construed in accordance with the substantive laws of the State of Delaware, without giving effect to the principles of conflict of laws of such State. The Company and Indemnitee each hereby irrevocably consent to the jurisdiction of the Chancery Court of the State of Delaware for all purposes in connection with any action or proceeding which arises out of or relates to this Agreement and agree that any action instituted under this Agreement shall be brought only in the Chancery Court of the State of Delaware.

Section 1.21. **Validity**. If any provision of this Agreement or the application of any provision hereof to any person or circumstance is held invalid, unenforceable or otherwise illegal, the remainder of this Agreement and the application of such provision to any other person or circumstance shall not be affected, and the provision so held to be invalid, unenforceable or otherwise illegal shall be reformed to the extent, and only to the extent, necessary to make it enforceable, valid or legal. In the event that any court or other adjudicative body shall decline to reform any provision of this Agreement held to be invalid, unenforceable or otherwise illegal as contemplated by the immediately preceding sentence, the parties hereto shall take all such action as may be necessary or appropriate to replace the provision so held to be invalid, unenforceable or otherwise illegal with one or more alternative provisions that effectuate the purpose and intent of

the original provisions of this Agreement as fully as possible without being invalid, unenforceable or otherwise illegal.

Section 1.22. **Miscellaneous**. No provision of this Agreement may be waived, modified, amended or discharged unless such waiver, modification, amendment or discharge is agreed to in writing signed by Indemnitee and the Company. No waiver by either party hereto at any time of any breach by the other party hereto or compliance with any condition or provision of this Agreement to be performed by such other party shall be deemed a waiver of similar or dissimilar provisions or conditions at the same or at any prior or subsequent time. No agreements or representations, oral or otherwise, expressed or implied with respect to the subject matter hereof have been made by either party that are not set forth expressly in this Agreement.

Section 1.23. **Legal Fees and Expenses**. It is the intent of the Company that Indemnitee not be required to incur legal fees and or other Expenses associated with the interpretation, exercise, enforcement or defense of Indemnitee's rights under this Agreement by litigation or otherwise because the cost and expense thereof would substantially detract from the benefits intended to be extended to Indemnitee hereunder. Accordingly, without limiting the generality or effect of any other provision hereof, the Company irrevocably authorizes the Indemnitee from time to time to retain counsel of Indemnitee's choice, at the expense of the Company as hereafter provided, to advise and represent Indemnitee in connection with any such interpretation, exercise, enforcement or defense, including without limitation the initiation or defense of any litigation or other legal action, whether by or against the Company or any director, officer, stockholder or other person affiliated with the Company. Notwithstanding any existing or prior attorney-client relationship between the Company and such counsel, the Company irrevocably consents to Indemnitee's entering into an attorney-client relationship with such counsel, and in that connection the Company and Indemnitee agree that a confidential relationship shall exist between Indemnitee and such counsel. Without respect to whether Indemnitee prevails, in whole or in part, in connection with any of the foregoing, the Company will pay and be solely financially responsible for any and all attorneys' and related fees and expenses incurred by Indemnitee in connection with any of the foregoing.

Section 1.24. **Construction**. The parties have participated jointly in the negotiation and drafting of this Agreement. In the event an ambiguity or question on intent or interpretation arises, this Agreement must be construed as if drafted jointly by the parties and no presumption or burden of proof must arise favoring or disfavoring any party by virtue of the authorship of any of the provisions of this Agreement. The word "including" shall mean including without limitation. Any reference to the singular in this Agreement shall also include the plural and vice versa. The word "knowledge" shall mean knowledge obtained or obtainable after due inquiry and reasonable investigation.

Section 1.25. **Headings**. The headings of the sections of this Agreement are inserted solely for convenience of reference and shall not be deemed to affect the meaning or interpretation of this Agreement.

Section 1.26. **Counterparts**. This Agreement may be executed in two counterparts, each of which will be deemed to be an original but both of which together shall constitute one and the same agreement.

[SIGNATURES APPEAR ON FOLLOWING PAGE]

IN WITNESS WHEREOF, Indemnitee has executed and the Company has caused its duly authorized representative to execute this Agreement as of the date first above written.

HAYNES INTERNATIONAL, INC.

By: ______________________________
Name: Michael L. Shor
Title: President and Chief Executive Officer

"**INDEMNITEE**"

____
INDEMNITEE

Exhibit 10.25

EXECUTIVE EMPLOYMENT AGREEMENT

THIS EXECUTIVE EMPLOYMENT AGREEMENT (this "Agreement") is entered into as of September 1, 2018 (the "Effective Date"), by and between Haynes International, Inc. (the "Company"), a Delaware corporation, and Michael L. Shor (the "Executive").

PRELIMINARY STATEMENTS

WHEREAS, the Executive has been serving as interim President and Chief Executive Officer of the Company pursuant to an Interim Executive Employment Agreement between the Company and the Executive dated June 1, 2018 (the "Interim Agreement"); and

WHEREAS, the Board of Directors of the Company (the "Board") has determined that it is in the best interests of the Company to appoint the Executive as the President and Chief Executive Officer of the Company and so appointed him, pursuant to and in accordance with the Amended and Restated Bylaws of the Company, as of the Effective Date; and

WHEREAS, the Company and the Executive desire to terminate the Interim Agreement as of the Effective Date and to have the terms and conditions of the Executive's employment governed by this Agreement thereafter;

NOW, THEREFORE, in consideration of the mutual promises, covenants and agreements contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto hereby agree as follows:

AGREEMENT

Section 1. Employment.

(a) Offer and Acceptance. During the Employment Term (as defined in Section 1(c) below), the Company agrees to employ the Executive in the position of President and Chief Executive Officer of the Company upon the terms and subject to the conditions set forth herein, and the Executive accepts employment with the Company on such terms and conditions.

(b) Duties. The Executive's duties shall include those duties that are consistent with his position as President and Chief Executive Officer of the Company as well as those reasonably assigned to him from time to time, in good faith, by the Board. The Executive shall (i) devote his working hours, on a full-time basis, to his duties under this Agreement; (ii) faithfully, industriously and loyally serve the Company; (iii) comply in all material respects with the lawful and reasonable directions and instructions given to him by the Board; (iv) use his reasonable best efforts to promote and serve the interests of the Company; and (v) assist the Board with succession planning. The Executive shall comply in all material respects with all applicable laws, rules and regulations relating to the performance of the Executive's duties and responsibilities hereunder. The Executive agrees to serve, if elected, as (i) a member of the Board and on any of the boards of directors or similar governing bodies of any subsidiary or affiliate of the Company, and (ii) as an officer of any subsidiary or affiliate of the Company, without any additional compensation while he is employed by the Company. Upon termination

of the Executive's employment by the Company for any reason, the Executive agrees to resign, co-terminously with the termination of his employment with the Company, from the Board and any other position as a member of the board of directors or other governing body or as an officer of any such subsidiary or affiliate of the Company. Termination of employment shall constitute immediate notice of resignation to the Board without any further action required by the Executive, and such notice and resignation may not be altered, delayed or revoked without the approval of the Board.

(c) Employment Term. The Executive's employment by the Company under this Agreement shall commence on the Effective Date and shall continue thereafter and shall terminate as of the close of business on September 30, 2020 (the "Initial Employment Term"); provided, however, commencing on October 1, 2020 and on each anniversary thereafter, the Initial Employment Term shall automatically be extended for an additional one-year period unless either the Board or the Executive gives written notice to the other at least 90 days prior to such anniversary that the term of the Agreement shall not be extended. The Executive's employment by the Company shall be subject to termination at any time during the Employment Term as provided in subsection (e) of this Section 1. As used herein, the term "Employment Term" shall mean the actual period of time during which the Executive is employed by the Company under the terms and conditions of this Agreement.

(d) Compensation and Benefits. During the Employment Term, the Company shall pay and provide the following compensation and other benefits to the Executive as full compensation for all services rendered by the Executive as an employee of the Company under the terms and conditions of this Agreement. All payments made to the Executive hereunder shall be subject to appropriate payroll deductions and other withholdings required by law.

(i) Annual Salary. During the Employment Term, the Company shall pay to the Executive, in accordance with the then prevailing payroll practices of the Company, a base salary at the annual rate of $560,000 per year, such salary, together with any subsequent increases or decreases as directed by the Board from time to time, being hereinafter referred to as the "Annual Salary".

(ii) Bonuses/Incentives.

(A) Interim Agreement Bonus: To the extent earned in accordance with the terms and conditions of the Company's 2018 Management Incentive Plan as modified by Section 3.b of the Interim Agreement, the Executive shall be entitled to be paid the bonus set forth in Section 3.b of the Interim Agreement in accordance with the terms thereof.

(B) Annual Bonus. During the Employment Term beginning with the first fiscal year of the Company commencing on or after the Effective Date, the Executive shall be eligible to receive an annual bonus based upon the achievement by the Company of specific performance requirements measured over the Company's fiscal year (currently the twelve-month period ending September 30) which shall be determined by the Compensation Committee of the Board (the "Committee") in its sole

and absolute discretion (the "Bonus"). The target amount for the Bonus shall be 80% of the Annual Salary, as in effect as of the last day of the Company's fiscal year to which the Bonus relates (the "Target Bonus"); provided, however, the Executive shall be eligible to receive a minimum Bonus in an amount equal to 40% of such Annual Salary if applicable threshold performance requirements are achieved and a maximum Bonus in an amount equal to 120% of such Annual Salary if maximum performance requirements are achieved or exceeded. The Bonus, if any, for each year during the Employment Term shall be paid to the Executive by the Company in a single sum payment on the first regular payroll date following the filing of the Company's Annual Report on Form 10-K for such fiscal year, to the extent the Company is obligated to file such report, . but in no event later than the 15th day of the third month following the end of the Company's fiscal year.

(C) Equity Incentive. The equity awards granted to the Executive pursuant to the Interim Agreement shall continue to be outstanding pursuant to the award agreements applicable thereto and shall not be affected by this Agreement, it being understood and agreed that no acceleration of such awards shall be precipitated by the entry into this Agreement by the Executive and the Company. The Board will review and consider additional equity incentive awards annually during the Employment Term, beginning with the first fiscal year of the Company commencing on or after the Effective Date, and the Executive may be granted equity awards under the Company's equity incentive plans in the sole and absolute discretion of the Board. Each such grant of equity awards under this Section l(d)(ii)(C) shall vest at the rate determined by the Board or the Committee and shall be subject to the terms and conditions of the equity incentive plan and such other terms and conditions as shall be determined by the Board or the Committee and set forth in the related award agreements.

(D) Clawback Policy. The Executive acknowledges and agrees that he is a "Covered Executive" as defined in the Company's Clawback Policy and that all of the incentive compensation payable pursuant to this Agreement shall be subject to recoupment in the circumstances and pursuant to the provisions set forth in the Clawback Policy, as the same may be amended, supplemented, restated, replaced or otherwise modified from time to time, or in any similar policy hereafter adopted by the Board. The Executive agrees to abide by the terms of the Clawback Policy and any similar policy hereafter adopted by the Board. The Executive further agrees that any right of recoupment under the Clawback Policy is in addition to, and not in lieu of, any other remedies or rights of recoupment that may be available to the Company pursuant to the terms of any similar policy or provision in any employment agreement, equity award agreement or similar agreement and any other legal remedies available to the Company.

(iii) Benefits. During the Employment Term, the Executive shall be eligible to participate in all employee health and welfare benefit plans in which senior executives of the Company are entitled to participate, but participation shall be subject to all of the terms and conditions of such plans applicable to all such senior executives, including all waiting periods, eligibility requirements, contributions, exclusions and other similar conditions or limitations. The Company shall use reasonable efforts to secure term life insurance coverage for the Executive in an amount not less than four times Annual Salary, subject to the Executive's submission to and satisfaction of any required medical exams or disclosures required by the applicable insurer and the terms and conditions of the applicable insurance policy.

(iv) Expenses. During the Employment Term, the Company shall reimburse the Executive, in accordance with the then prevailing reimbursement practices of the Company, for all reasonable and customary business expenses incurred by the Executive in connection with his employment by the Company, provided, that the Executive complies with the standard reporting and reimbursement policies as may be established by the Company from time to time. On an annual basis, the Audit Committee of the Board will receive a summary of such expenses incurred during the prior fiscal year from the Company's chief financial officer.

(v) Vacation. During the Employment Term, the Executive shall be entitled to four weeks of vacation, measured on a calendar year basis. The weeks of vacation entitlement in the preceding sentence shall be pro-rated for any partial calendar years during the Employment Term. The Executive shall schedule vacation periods at reasonable times in accordance with the Company's vacation policy for senior executives and shall notify the Board of such vacations. The Executive shall accrue and receive full compensation and benefits during his vacation periods. Unused vacation leave time shall be forfeited and shall not entitle the Executive to any additional compensation and may not be carried over to a subsequent calendar year.

(vi) Travel and Relocation Expenses. The Company shall reimburse Executive for reasonable travel-related expenses incurred by Executive up to and including December 31, 2018 in commuting to and from Kokomo, Indiana and for expenses incurred by Executive through December 31, 2018 for housing while in Kokomo, Indiana. In addition, the Company shall reimburse the Executive for the following costs, to the extent incurred by the Executive, resulting from his relocation to the Kokomo, Indiana area: (i) actual and reasonable costs incurred in moving personal belongings, and (ii) reasonable and customary real estate commissions incurred in the sale of his property in New Jersey.

(e) Termination of Employment. Subject to the terms of Section l(f) below, the Executive's employment by the Company may be terminated as follows:

(i) Termination upon the Expiration of the Employment Term. Provided that the written notice of non-renewal is timely provided pursuant to Section l(c), the

Executive's employment shall terminate upon the expiration of the Employment Term unless terminated earlier pursuant to this Section I(e). In the event that the Executive's employment terminates upon the expiration of the Employment Term, then the Executive shall be entitled to receive the compensation and benefits set forth in Section 1(f)(i).

(ii) Termination for Cause. The Company may immediately terminate, at any time, the Executive's employment by the Company for "Cause". A termination for "Cause" means a termination by reason of the Board's good faith determination that the Executive (i) continually failed to substantially perform his duties with the Company (other than a failure resulting from the Executive's medically documented incapacity due to physical or mental illness) including, without limitation, repeated refusal to follow the reasonable directions of the Board, knowing violation of the law in the course of performance of the Executive's duties with the Company, repeated absences from work without a reasonable excuse, or intoxication with alcohol or illegal drugs while on the Company's premises during regular business hours, (ii) engaged in conduct which constituted a material breach of Section 2 or Section 3 of this Agreement, (iii) was indicted (or equivalent under applicable law), convicted of, or entered a plea of nolo contendere to the commission of a felony or a crime involving dishonesty or moral turpitude, (iv) engaged in conduct which is demonstrably and materially injurious to the financial condition, business reputation, or otherwise of the Company or its subsidiaries or affiliates, or (v) perpetuated a fraud or embezzlement against the Company or its subsidiaries or affiliates, and in each case the particular act or omission was not cured, if curable, in all material respects by the Executive within 15 days after receipt of written notice from the Board, which notice shall set forth in reasonable detail the nature of the facts and circumstances which constitute Cause. Notwithstanding the foregoing, the Executive shall not be deemed to have been terminated for Cause unless there shall have been delivered to the Executive a copy of a resolution duly adopted by the Board. If the Company has reasonable belief that the Executive has committed any of the acts described above, it may suspend the Executive (with or without pay) while it investigates whether it has or could have Cause to terminate the Executive. The Company may terminate the Executive for Cause prior to the completion of its investigation; provided, that, if it is ultimately determined that the Executive has not committed an act which would constitute Cause, the Executive shall be treated as if he were terminated without Cause.

(iii) Termination Without Cause. The Company, may, at any time, terminate the Executive's employment without Cause by providing prior written notice thereof to the Executive.

(iv) Resignation for Good Reason. The Executive may terminate his employment by the Company for Good Reason (as defined below) by providing written notice thereof to the Company (the "Resignation Notice") at least 45 days prior to the effective date of the resignation, which notice shall set forth in reasonable detail the nature of the facts and circumstances which constitute Good

Reason, and the Company shall have 30 days after receipt of the Resignation Notice to cure in all material respects the facts and circumstances which constitute Good Reason. For purposes of this Agreement, "Good Reason" shall mean the occurrence, during the Employment Term, of any of the following actions or failures to act, but in each case only if it is not consented to by the Executive in writing: (a) a material adverse change in the Executive's duties, reporting responsibilities, titles or elected or appointed offices as in effect immediately prior to the effective date of such change; (b) a material reduction by the Company in the Executive's Annual Salary or annual bonus opportunity in effect immediately prior to the effective date of such reduction, not including any reduction resulting from changes in the market value of securities or other instruments paid or payable to the Executive; or (c) any change of more than 50 miles in the location of the principal place of employment of the Executive immediately prior to the effective date of such change. For purposes of this definition, (x) none of the actions described in clauses (a) and (b) above shall constitute Good Reason with respect to the Executive if it was an isolated and inadvertent action not taken in bad faith by the Company and if it is remedied by the Company within 30 days after receipt of written notice thereof given by the Executive (or, if the matter is not capable of remedy within 30 days, then within a reasonable period of time following such 30-day period, provided that the Company has commenced such remedy within said 30-day period) and (y) Good Reason shall cease to exist for any action described in clauses (a) and (b) above on the 60th day following the later of the occurrence of such action or the Executive's knowledge thereof, unless the Executive has given the Company written notice thereof prior to such date.

(v) Resignation Without Good Reason. The Executive may, at any time, terminate the Executive's employment by the Company without Good Reason by providing 30 days' prior written notice thereof to the Company.

(vi) Death or Disability. The Executive's employment shall terminate immediately upon the Executive's death or Disability (as defined below). For purposes of this Agreement, "Disability" means the Executive is totally and permanently disabled within the meaning of the Company's long-term disability plan or policy under which the Executive is a participant or, if no such plan or policy is in existence, based on a determination in good faith by the Board upon consultation with a medical expert.

(vii) Notwithstanding any provision herein to the contrary, no termination of employment with the Company shall be deemed to occur unless and until the Executive has incurred separation from service from the Company within the meaning of Code Section 409A(a)(2)(A)(i).

(f) Effect of Termination. The following provisions shall apply in the event of the Executive's termination of employment.

(i) Termination upon the Expiration of the Employment Term. Upon the termination of the Executive's employment pursuant to Section l(e)(i), the Executive will be entitled to (A) payment of that portion of the Executive's then effective Annual Salary which has been earned but not yet paid through and including the last day of the Executive's employment (which coincides with his "separation from service" within the meaning of Code Section 409A) (the "Termination Date"); (B) payment of any Bonus earned by the Executive under the terms and conditions of this Agreement prior to the Termination Date that remains unpaid; (C) reimbursement of any reimbursable business expenses under Section l(d)(iv), which were incurred by the Executive through and including the Termination Date; and (D) continuation of benefits to which the Executive is entitled under Section l(d)(iii) through and including the Termination Date (collectively, the "Accrued Benefits").

(ii) Termination for Cause or Resignation Without Good Reason. Upon the Company's termination of the Executive's employment for Cause pursuant to Section l(e)(ii) or the Executive's resignation without Good Reason pursuant to Section l(e)(v), Executive will be entitled solely to the Accrued Benefits as of such termination date.

(iii) Termination Without Cause or Resignation for Good Reason Prior to or More Than 24 Months After a Change in Control.

(A) Except as provided in Section l(O(iv), below, upon the termination of the Executive's employment prior to or more than 24 months after a Change in Control (as defined below) (i) by the Company without Cause pursuant to Section l(e)(iii) or (ii) resulting from the Executive's resignation for Good Reason pursuant to Section l(e)(iv), the Executive shall be entitled to receive (x) the Accrued Benefits, (y) the continuation of the Executive's Annual Salary as in effect immediately prior to such Termination Date through the end of the then current Employment Term (without any further extensions) ("Severance Benefit"), payable in accordance with the then prevailing payroll practices of the Company; provided, however, that (I) any amounts of the Severance Benefit otherwise payable after the Termination Date and prior to the Release Effective Date shall be made as soon as administratively feasible after the Release Effective Date, and (II) if the Executive's Termination Date occurs during the last fifty-nine (59) days of a calendar year, payments of such Severance Benefit shall be made during the calendar year following the year in which the Executive's Termination Date occurs, and (z) provided that the Executive is not entitled to a Bonus for the same period or fiscal year as part of his Accrued Benefits, a pro-rated portion (equal to a fraction, the numerator of which being the number of whole months in which the Executive actually performed services for the Company during such fiscal year, and the denominator being twelve months) of the Executive's Target Bonus that would have otherwise been payable for the Company's fiscal year in which the effective date of Executive's

termination of employment occurs. Payment of any pro-rated Bonus ("Severance Bonus") shall be payable within five business days following the Release Effective Date; provided, however, if the Executive's Termination Date occurs during the last fifty-nine (59) days of a calendar year, payments pursuant of any such Severance Bonus shall be made during the calendar year following the year in which the Executive's Termination Date occurs. For example, and provided that he otherwise satisfies the terms and conditions of this Agreement, upon the termination of the Executive's employment by the Company without Cause twelve months prior to the expiration of the Initial Employment Term, the Executive shall be entitled to (I) the Accrued Benefits, (II) a Severance Benefit equal to twelve months of Annual Salary continuation through the last day of the Initial Employment Term and (III) a Severance Bonus (to the extent that his is not otherwise entitled to a Bonus for the same period as of the effective date of his termination).

(8) All outstanding Company stock options as of the effective date of such termination of employment, to the extent then vested and exercisable, shall remain exercisable after such termination for a period equal to the lesser of (i) six months following the Release Effective Date, or (ii) the expiration of the original exercise period of such options (not to exceed ten years from the date the option was granted). All restricted stock, performance shares, phantom equity plans, and any other form of equity compensation previously awarded to the Executive and in effect as of the effective date of termination shall vest, if at all, as of such effective date in accordance with the terms and conditions of each respective award agreement and applicable plans, and nothing herein shall entitle Executive to acceleration or other change to such agreements and plans.

(iv) Termination Without Cause or Resignation for Good Reason Within 24 Months After a Change in Control.

(A) Upon the termination of the Executive's employment within the 24-month period following a Change in Control either by the Company without Cause pursuant to Section l(e)(iii) or resulting from the Executive's resignation for Good Reason pursuant to Section l(e)(iv), the Executive shall be entitled to receive the Accrued Benefits and a cash payment equal to two times the Executive's Annual Salary as in effect immediately prior to such Termination Date ("CIC Severance Benefit"), payable in equal monthly installments of one-twenty-fourth (1/24) of the CIC Severance Benefit, commencing following the Termination Date; provided, however, that (I) any amounts of the CIC Severance Benefit otherwise payable following the Termination Date and prior to the Release Effective Date shall be made as soon as administratively feasible after the Release Effective Date, and (II) if the Executive's Termination Date occurs during the last fifty-nine (59) days of a calendar year, payments of

such CIC Severance Benefit shall commence in January of the calendar year following the year in which the Executive's Termination Date occurs.

(B) All outstanding Company stock options as of the effective date of such termination of employment, to the extent not previously vested and exercisable, shall become vested and exercisable upon the Executive's Release Effective Date and shall remain exercisable after such termination for a period equal to the lesser of (i) six months following the Release Effective Date, or (ii) the expiration of the original exercise period of such options (not to exceed ten years). All restricted stock, performance shares, phantom equity plans, and any other form of equity compensation previously awarded to the Executive and in effect as of the effective date of termination shall vest, if at all, as of such effective date in accordance with the terms and conditions of each respective award agreement and applicable plans, and nothing herein shall entitle Executive to acceleration or other change to such agreements and plans.

(v) Definition of Change in Control. "Change in Control" shall mean the first to occur of the following: (A) any Person becomes the beneficial owner (as defined in Rule 13d-3 under the Securities Exchange Act of 1934, as amended), directly or indirectly, of securities of the Company representing a majority of the combined voting power of the Company's then outstanding securities (assuming conversion of all outstanding non-voting securities into voting securities and the exercise of all outstanding options or other convertible securities); (B) the following individuals cease for any reason to constitute a majority of the number of directors then serving: individuals who, on the Effective Date, constitute the Board and any new director (other than a director whose initial assumption of office is in connection with an actual or threatened election contest, including but not limited to a consent solicitation, relating to the election of directors of the Company) whose appointment or election by the Board or nomination for election by the Company's stockholders was approved or recommended by a vote of at least two-thirds (2/3) of the directors then still in office who either were directors on the Effective Date or whose appointment, election or nomination for election was previously so approved or recommended; (C) there is consummated a merger or consolidation of the Company or any direct or indirect subsidiary of the Company with any other corporation other than (x) a merger or consolidation which would result in the voting securities of the Company outstanding immediately prior to such merger or consolidation continuing to represent, either by remaining outstanding or by being converted into voting securities of the surviving entity or any parent thereof, a majority of the combined voting power of the securities of the Company or such surviving entity or any parent thereof outstanding immediately after such merger or consolidation, or (y) a merger or consolidation effected to implement a recapitalization of the Company (or similar transaction) in which no Person, is or becomes the beneficial owner, directly or indirectly, of securities of the Company representing a majority of the combined voting power of the Company's then outstanding securities; or (as defined in Rule 13d-3 under the Securities Exchange Act of 1934, as amended); or (D) the

stockholders of the Company approve a plan of complete liquidation or dissolution of the Company or there is consummated an agreement for the sale or disposition by the Company of all or substantially all of the Company's assets, or to an entity a majority of the combined voting power of the voting securities of which is owned by substantially all of the stockholders of the Company immediately prior to such sale in substantially the same proportions as their ownership of the Company immediately prior to such sale. For purposes of this definition, "Person" shall have the meaning given in Section 3(a)(9) of the Securities Exchange Act of 1934, as modified and used in Sections 13(d) and 14(d) thereof, except that such term shall not include (1) the Company or any subsidiary of the Company, (2) a trustee or other fiduciary holding securities under an employee benefit plan of the Company or any of its affiliates, (3) an underwriter temporarily holding securities pursuant to an offering of such securities or (4) a corporation owned, directly or indirectly, by substantially all of the stockholders of the Company in substantially the same proportions as their ownership of stock of the Company.

(vi) Limitation. Notwithstanding any provision of this Section to the contrary, the Company shall not be obligated to make a payment pursuant to Section I(f)(iv) hereof to the extent that such payment, when combined with other payments made by the Employer with respect to the Executive on account of a Change in Control, would result in the imposition of an excise tax under Code Section 4999. To the extent required by the preceding sentence, the Company shall reduce the amount payable hereunder to the maximum amount, as determined by the Board in its reasonable judgment, that can be paid without resulting in the imposition of an excise tax under Code Section 4999.

(vii) Death or Disability. Upon termination of the Executive's employment pursuant to Section l(e)(vi), the Executive or the Executive's heirs, estate, personal representative or legal guardian, as appropriate, will be entitled to receive the Accrued Benefits.

(viii) Timing of Payment and Release. As a condition of receiving from the Company the payments and benefits provided for under this Section 1(f) which the Executive otherwise would not be entitled to receive, the Executive understands and agrees that, within the 60-day period following his Termination Date, he will be required to execute (and not revoke) a release of all claims against the Company in substantially the form attached hereto as Exhibit A (the "Release") as may be modified by the Company in good faith to reflect changes in law or its employment practices. The Executive acknowledges that he has been advised in writing to consult with an attorney prior to executing the Release. The Executive agrees that he will consult with his attorney prior to executing the Release. The Executive and the Company agree that the Executive has a period of seven days following the execution of the Release within which to revoke the Release. The parties also acknowledge and agree that the Release shall not be effective or enforceable until the seven-day revocation period expires. The date on which this seven-day period expires shall be the effective date of the Release

(the "Release Effective Date"). Except as otherwise provided in this Agreement, the Company shall make all payments required under this Agreement, except to the extent that such payments are to be made over time, within five business days following the Release Effective Date. In the event of a termination for Cause or by reason of the Executive's death, the Company shall make any payments under this Section l(f) within five (5) business days of the Termination Date, except to the extent that such payments are to be made over time or as otherwise provided in this Agreement. The Executive understands that as used in this Section l(f)(iv), the "Company" includes its past, present and future officers, directors, trustees, shareholders, employees, agents, subsidiaries, affiliates, distributors, successors, and assigns, any and all employee benefit plans (and any fiduciary of such plans) sponsored by the Company, and any other person related to the Company. Notwithstanding the preceding provisions, if the Executive exercises his revocation rights under Release or if he does not sign the Release (or such agreement does not become effective) during such 60-day period following his Termination Date, no portion of the payments and benefits provided for under this Section l(f) shall be payable or provided hereunder.

Except as specifically provided in this Section l(f) or required under applicable law, the Executive will not be eligible to receive any salary, bonus or other compensation or benefits described in Section l(d) with respect to any periods after the Termination Date; provided, however, the Executive shall have the right to receive all compensation and benefits to which he is entitled under any benefit plans of the Company to the extent he is fully vested as of the effective date of the termination of the Executive's employment by the Company pursuant to the terms and conditions of such employee benefit plans.

Section 2. Confidentiality.

For purposes of this Section 2, the term "Company" shall include, in addition to the Company, its affiliates, subsidiaries and any of their respective predecessors, successors and assigns. The term "Company's Business" shall mean the business of the Company as described in the Company's filings with the Securities and Exchange Commission.

(a) Confidential Information. As used in this Agreement, "Confidential Information" means any and all confidential, proprietary or other information, whether or not originated by the Executive or the Company, which is in any way related to the past or present Company's Business and is either designated as confidential or not generally known by or available to the public. Confidential Information includes, but is not limited to (whether or not reduced to writing or designated as confidential) (i) information regarding the Company's existing and potential customers and vendors; (ii) any contracts (including the existence and contents thereof and parties thereto) to which the Company is a party or is otherwise bound; (iii) information regarding products and services being purchased or leased by or provided to the Company;
(iv) information received by the Company from third parties under an obligation of confidentiality, restricted disclosure or restricted use; (v) personnel and financial information of the Company; (vi) information with respect to the Company's products, services, facilities, business methods, systems, trade secrets, technical know-how, and other intellectual property;
(vii) marketing and developmental plans and techniques, price and cost data, forecasts and

forecast assumptions, and potential strategies of the Company; (viii) information about the Company's customers, such as contacts, criteria, requirements, specifications, pricing, or other similar information; and (ix) any other information relating to the Company which was obtained by the Executive in connection with his employment by the Company, whether before, on or after the Effective Date.

(b) Non-Disclosure and Non-Use of Confidential Information. The Executive acknowledges that the Confidential Information of the Company is a valuable, unique asset of the Company and the Executive's unauthorized use or disclosure thereof would cause irreparable harm to the Company for which no remedy at law could be adequate. Accordingly, the Executive agrees that he shall hold all Confidential Information of the Company in strict confidence and solely for the benefit of the Company, and that he shall not, directly or indirectly, disclose or use or authorize any third party to disclose or use any Confidential Information except (i) as required for the performance of the Executive's duties hereunder, (ii) with the express written consent of the Company, (iii) to the extent that any such information is in or becomes in the public domain other than as a result of the Executive's breach of any of his obligations hereunder, or (iv) where required to be disclosed by court order, subpoena or other government process and in such event, the Executive shall cooperate with the Company in attempting to keep such information confidential. The Executive shall follow all Company policies and procedures to protect all Confidential Information and take any additional precautions necessary to preserve and protect the use or disclosure of any Confidential Information at all times.

(c) Ownership of Confidential Information. The Executive acknowledges and agrees that all Confidential Information is and shall remain the exclusive property of the Company, whether or not prepared in whole or in part by the Executive and whether or not disclosed to or entrusted to the custody of the Executive. Upon the termination or resignation of his employment for any reason, or at any other time at the request of the Company, the Executive shall promptly deliver to the Company all documents, tapes, disks, or other storage media and any other materials, and all copies thereof in whatever form, in the possession or control of the Executive pertaining to the Company's Business, including, but not limited to, any containing Confidential Information.

(d) Defending Trade Secrets Act Disclosure. Notwithstanding the foregoing, pursuant to the Federal Defending Trade Secrets Act (18 USC§ 1833), an individual may not be held criminally or civilly liable under any federal or state trade secret law for the disclosure of a trade secret that is made in confidence to a federal, state or local government official or to an attorney solely for the purpose of reporting or investigating a suspected violation of law. An individual may not be held criminally or civilly liable under any federal or state trade secret law for the disclosure of a trade secret that is made in a complaint or other document filed in a lawsuit or other proceeding, if such filing is made under seal. An individual who files a lawsuit for retaliation by an employer for reporting a suspected violation of law may disclose the trade secret to the attorney of the individual and use the trade secret information in the court proceeding, if the individual files any document containing the trade secret under seal; and does disclose the trade secret, except pursuant to court order.

(e) Survival. The Executive's obligations set forth in this Section 2, and the Company's rights and remedies with respect hereto, shall indefinitely survive the termination of this Agreement and the Executive's employment by the Company, regardless of the reason therefor.

Section 3. Restrictive Covenants.

For purposes of this Section 3, the term "Company" shall include, in addition to the Company, its affiliates, subsidiaries and any of their respective predecessors, successors and assigns. The term "Company's Business" shall mean the business of the Company as described in the Company's filings with the Securities and Exchange Commission.

(a) Non-Competition. During the Restricted Period and within the Restricted Area (each as defined in subsection (c) below), the Executive shall not, directly or indirectly, perform on behalf of any Competitor (as defined in subsection (c) below) the same or similar services as those that the Executive performed for the Company during the Executive's employment by the Company or otherwise. In addition, the Executive shall not, during the Restricted Period and within the Restricted Area, directly or indirectly engage in, own, manage, operate, join, control, lend money or other assistance to, or participate in or be connected with (as an officer, director, member, manager, partner, shareholder, consultant, employee, agent, or otherwise), any Competitor.

(b) Non-Solicitation. During the Restricted Period, the Executive shall not, directly or indirectly, for himself or on behalf of any Person (as defined in subsection (c) below),

(i) solicit or attempt to solicit any Customers or Prospective Customers (as those terms are defined in subsection (c) below) (a) with whom the Executive had contact or supervisory duties, for or on behalf of the Company, (b) for whom the Executive provided any services for or on behalf of the Company, or (c) about whom the Executive had access to Confidential Information during the Executive's employment as President and Chief Executive Officer or otherwise by the Company;

(ii) divert or attempt to divert any business of the Company to any other Person (including to any Competitor);

(iii) contact, solicit, communicate with or provide services or products for any Customers of the Company for the purpose of (a) diverting or influencing or attempting to divert or influence any business of the Company to a Competitor or
(b) marketing, selling, promoting, distributing or providing products in competition with the Company;

(iv) solicit or attempt to solicit for employment, endeavor to entice away from the Company, recruit, hire, or otherwise interfere with the Company's relationship with, any Person who is employed by or otherwise engaged to perform services for the Company (or was employed or otherwise engaged to perform services for

the Company, as of any given time, within the immediately preceding 24-month period);

(v) cause or assist, or attempt to cause or assist, any employee or other service provider to leave the Company;

(vi) cause or assist, or attempt to cause or assist, any supplier to stop doing business (or reduce its business) with the Company; or

(vii) otherwise interfere in any manner with the employment or business relationships of the Company or the business or operations then being conducted by the Company.

(c) Definitions. For purposes of this Section 3, the following definitions have the following meanings:

(i) "Competitor" means any Person that engages in a business that is the same as, or similar to, the Company's Business.

(ii) "Customer" means any Person which, as of any given date, used or purchased or contracted to use or purchase any services or products from the Company within the immediately preceding 24-month period.

(iii) "Person" means any individual, or entity, including any corporation, partnership, joint venture, association, limited liability company, limited liability partnership, joint-stock company, trust or unincorporated organization, or any governmental agency, officer, department, commission, board, bureau, or instrumentality thereof.

(iv) "Prospective Customer" means any individual or entity to whom or with whom the Company has made any proposal or engaged in any communications regarding the sale of any products or services offered in the Company's Business at any point within the twenty-four (24) month period prior to the termination of the Executive's employment relationship with the Company.

(v) Because the market for the Company's Business is global, and is not dependent upon the physical location or presence of the Company, the Executive, or any individual or entity that may be in violation of this Agreement, because the Company does business with Customers and markets for potential customers globally, and because the Company actively markets through its presence on the Worldwide Web, the Executive acknowledges and agrees that the following definition of "Restricted Area" is both reasonable and necessary to protect the Company's legitimate business interests:

(A) Within a 100-mile radius of the Company's headquarters;

(8) within a 100-mile radius of each of Company's manufacturing facilities, including those located in Kokomo, Indiana; Arcadia, Louisiana; and Mountain Home, North Carolina;

(C) within a 100-mile radius of each of Company's service centers and offices, including those located in Kokomo, Indiana; Laporte, Indiana; Houston, Texas; Arcadia, Louisiana; Windsor, Connecticut; La Mirada, California; Mountain Home, North Carolina; Openshaw, Manchester, United Kingdom; Cergy Pontoise Cedex, France; Singapore; Rescalda (MI), Italy; Lenzburg, Switzerland; Zurich, Switzerland; Shanghai, China; Teynampet, Chennai, India; and Tokyo, Japan.

(D) within each county or parish in which the Executive has performed services for the Company;

(E) within each state, commonwealth, territory or province in which the Executive has performed services for the Company;

(F) within the State(s) of Indiana, Louisiana, North Carolina, Texas, California, and Connecticut;

(G) within each country in which the Executive has performed services for the Company;

(H) within each county or parish in which a Customer is located;

(I) within each state, commonwealth, territory or province in which a Customer is located;

CJ) within each country in which a Customer is located, including the United States;

(K) the Worldwide Web;

(L) within a one-mile radius of each Customer;

(M) within each county or parish in which a Competitor is located;

(N) within each state, commonwealth, territory or province in which a Competitor is located;

(0) within each country in which a Competitor is located; and/or

(P) within a one-mile radius of each Competitor.

Both the Company and the Executive consent to the application of the blue pencil doctrine, if necessary, to conform these restrictions to render this Section enforceable.

(vi) "Restricted Period" means the period of time during the Executive's employment by the Company plus a period of 24 months from the Termination Date. In the event of a breach of this Agreement by the Executive, the Restricted Period will be extended automatically by the period of the breach.

(d) Survival. The Executive's obligations set forth in this Section 3, and the Company's rights and remedies with respect thereto, will remain in full force and effect during the Restricted Period and until full resolution of any dispute related to the performance of the Executive's obligations during the Restricted Period.

(e) Public Company Exception. The prohibitions contained in this Section 3 do not prohibit the Executive's ownership of stock which is publicly traded provided that (i) the investment is passive, (ii) the Executive has no other involvement with the publicly traded company, (iii) the Executive's interest is less than 5% of the shares of the publicly traded company, and (iv) the Executive makes full disclosure to the Company of the purchase of the publicly traded stock at the time that the Executive acquires the shares of stock.

Section 4. Assignment of Inventions.

Any and all inventions, improvements, discoveries, designs, works of authorship, concepts or ideas, or expressions thereof; whether or not subject to patents, copyrights, trademarks or service mark protections, and whether or not reduced to practice, that are conceived or developed by the Executive while employed with the Company (whether before or after the date hereof) and which relate to or result from the actual or anticipated business, work, research or investigation of the Company (collectively, "Inventions"), shall be the sole and exclusive property of the Company. The Executive shall do all things reasonably requested by the Company to assign to and vest in the Company the entire right, title and interest to any such Inventions and to obtain full protection therefor. Notwithstanding the foregoing, the provisions of this Agreement do not apply to an Invention for which no equipment, supplies, facility, or Confidential Information of the Company was used and which was developed entirely on the Executive's own time, unless (a) the Invention relates (i) to the Company's Business, or (ii) or the Company's actual or demonstrably anticipated research or development, or (b) the Invention results from any work performed by the Executive for the Company.

Section 5. General.

(a) Reasonableness. The Executive has carefully considered the nature, extent and duration of the restrictions and obligations contained in this Agreement, including, without limitation, the geographical coverage contained in Section 3, and the time periods contained in Section 2 and Section 3, and acknowledges and agrees that such restrictions are fair and reasonable in all respects to protect the legitimate interests of the Company and that these restrictions are designed for the reasonable protection of the Company's Business.

(b) Remedies. The Executive recognizes that any breach of this Agreement shall cause irreparable injury to the Company, inadequately compensable in monetary damages. Accordingly, in addition to any other legal or equitable remedies that may be available to the Company, the Executive agrees that the Company shall be able to seek and obtain injunctive

relief in the form of a temporary restraining order, preliminary injunction, or permanent injunction, against the Executive to enforce this Agreement. The Company shall not be required to demonstrate actual injury or damage to obtain injunctive relief from the courts. To the extent that any damages are calculable resulting from the breach of this Agreement, the Company shall also be entitled to recover damages, including, but not limited to, any lost profits of the Company and/or its affiliates or subsidiaries. For purposes of this Agreement, lost profits of the Company shall be deemed to include all gross revenues resulting from any activity of the Executive in violation of this Agreement and all such revenues shall be held in trust for the benefit of the Company. Any recovery of damages by the Company shall be in addition to and not in lieu of the injunctive relief to which the Company is entitled. In no event will a damage recovery be considered a penalty in liquidated damages. In addition, the Company shall be entitled to recover from Executive all costs, expenses and reasonable attorneys' fees incurred by the company in seeking enforcement of this Agreement or damages for its breach, or in defending any action brought by Executive to challenge or construe the terms of the Agreement. Without limiting the Company's rights under this Section 5(b) or any other remedies of the Company, if a court of competent jurisdiction determines at any stage of the proceedings, including in a temporary restraining order or preliminary injunction, that the Executive breached any of the provisions of Section 2 or Section 3, Company will have the right to cease making any payments or providing any benefits otherwise due to the Executive under the terms and conditions of this Agreement.

(c) Claims by Executive. The Executive acknowledges and agrees that any claim or cause of action by the Executive against the Company shall not constitute a defense to the enforcement of the restrictions and covenants set forth in this Agreement and shall not be used to prohibit injunctive relief.

(d) Amendments. This Agreement may not be modified, amended, or waived in any manner except by an instrument in writing signed by both parties to this Agreement.

(e) Waiver. The waiver by either party of compliance by the other party with any provision of this Agreement shall not operate or be construed as a waiver of any other provision of this Agreement (whether or not similar), or a continuing waiver, or a waiver of any subsequent breach by a party of any provision of this Agreement.

(t) Governing Law; Jurisdiction. The laws of the State of Indiana shall govern the validity, performance, enforcement, interpretation, and other aspects of this Agreement, notwithstanding any state's choice of law provisions to the contrary. The parties intend the provisions of this Agreement to supplement, but not displace, their respective obligations and responsibilities under the Indiana Uniform Trade Secrets Act. Any proceeding to enforce, interpret, challenge the validity of, or recover for the breach of any provision of, this Agreement may be filed in the courts of the State of Indiana or the United States District Court sitting in Indianapolis, Indiana, and the parties hereto expressly waive any and all objections to personal jurisdiction, service of process or venue in connection therewith.

(g) Complete Agreement; Release. This Agreement constitutes a complete and total integration of the understanding of the parties with respect to the subject matter hereof and thereof and supersedes all prior or contemporaneous negotiations, commitments, agreements,

writings, and discussions with respect to the subject matter of this Agreement. The parties agree that the Interim Agreement is terminated and shall be of no further force or effect as of the Effective Date, except as otherwise expressly provided herein.

(h) Severability. If a court having proper jurisdiction holds a particular provision of this Agreement unenforceable or invalid for any reason, that provision shall be modified only to the extent necessary in the opinion of such court to make it enforceable and valid and the remainder of this Agreement shall be deemed valid and enforceable and shall be enforced to the greatest extent possible under the then existing law. In the event the court determines such modification is not possible, the provision shall be deemed severable and deleted, and all other provisions of this Agreement shall remain unchanged and in full force and effect.

(i) Enforceability in Jurisdictions. The parties hereto intend to and herby confer jurisdiction to enforce the covenants contained in Section 2 and Section 3 above upon the courts of any state within the geographical scope of such covenants. If the courts of any one or more of such states shall hold any of the previous covenants unenforceable by reason of the breadth of such scope or otherwise, it is the intention of the parties hereto that such determination not bar or in any way affect the Company's rights to the relief provided above in the courts of any other states within the geographical scope of such covenants, as to breaches of such covenants in such other respective jurisdictions, the above covenants as they relate to each state being, for this purpose, severable into diverse and independent covenants.

(j) Fair Dealing. The Executive acknowledges that the Company has negotiated this Agreement in good faith and has been fair in its dealing with the Executive. The Executive shall not raise any defense and expressly waives any defense against the Company based upon any alleged breach of good faith or fair dealing by the Company in connection with this Agreement.

(k) Counterparts. This Agreement may be executed in two counterparts, each of which shall be deemed an original but both of which together shall constitute one and the same Agreement. Facsimile transmission of the executed version of this Agreement or any counterpart hereof shall have the same force and effect as the original.

(I) Executive Warranties. The Executive warrants and represents to the Company that the execution and performance of this Agreement does not and shall not violate any express or implied obligations of the Executive to any other person and that all Executive shall inform any prospective employer about the existence of this Agreement before accepting employment by such employer.

(m) Headings. The heads of the Sections of this Agreement are inserted for convenience only and shall not be deemed to constitute part of this Agreement or to affect the construction of this Agreement.

(n) Third Party Beneficiaries. The Company's affiliates and subsidiaries are expressly made third party beneficiaries of this Agreement.

(o) Notices. All notices and other communications required or permitted hereunder shall be in writing (which may include facsimile and email) and shall be deemed to have been

duly given when delivered (if by hand delivery, facsimile or email) or when mailed, certified or registered mail, return receipt requested and postage prepaid: if to the Company, at the e-mail or physical address set forth for the Company on the signature page hereof and, if to the Executive, at the Executive's Company email address or such physical address as shall be used by the Company for payroll records purposes as on file with the Company, or at such other email or physical address as may be expressly specified by the Company or the Executive to be used for purposes of this Agreement by way of notice provided in accordance with this Section 5(o).

(p) Successors and Assigns. The Executive shall not assign or transfer any of his rights or obligations under this Agreement to any individual or entity. The Company may assign its rights hereunder to any of its affiliates or to any individual or entity who or that shall acquire or succeed to, by operation of law, or otherwise, all or substantially all of the assets of the Company or the Company's Business. All provisions of this Agreement are binding upon, shall inure to the benefit of, and are enforceable by or against, the parties and their respective heirs, executors, administrators or other legal representatives and permitted successors and assigns.

(q) Code Section 409A.

(i) The parties hereto intend that all benefits and payments to be made to the Executive hereunder will be provided or paid to him in compliance with all applicable provisions of Code Section 409A and the regulations issued thereunder, and the rulings, notices and other guidance issued by the Internal Revenue Service interpreting the same, and this Agreement shall be construed and administered in accordance with such intent. The parties also agree that this Agreement may be modified, as reasonably requested by either party, to the extent necessary to comply with all applicable requirements of, and to avoid the imposition of any additional tax, interest and penalties under, Code Section 409A in connection with, the benefits and payments to be provided or paid to the Executive hereunder. Any such modification shall maintain the original intent and benefit to the Company and the Executive of the applicable provision of this Agreement, to the maximum extent possible without violating Code Section 409A.

(ii) All payments to be made upon a termination of employment under this Agreement may only be made upon a "separation from service" under Code Section 409A. For purposes of Code Section 409A, the right to receive a series of installment payments under this Agreement shall be treated as a right to a series of separate payments. Further, for purposes of the limitations on nonqualified deferred compensation under Code Section 409A, each payment of compensation under this Agreement shall be treated as a separate payment. In no event may the Executive, directly or indirectly, designate the calendar year of a payment.

(iii) Severance benefits under this Agreement are intended to be exempt from Code Section 409A under the "separation pay exception," to the maximum extent applicable. Any payments hereunder that qualify for the "short-term deferral" exception or another exception under Code Section 409A shall be paid under the applicable exception.

(iv) Notwithstanding the foregoing or anything to the contrary contained in any other provision of this Agreement, if the Executive is a "specified employee at the time of his "separation from service" within the meaning of Code Section 409A, then any payment hereunder designated as being subject to this subsection shall not be made until the first business day after (i) the expiration of six (6) months from the date of his separation from service, or (ii) if earlier, the date of his death (the "Delayed Payment Date"). On the Delayed Payment Date, there shall be paid to the Executive or, if he has died, to his estate, in a single cash lump sum, an amount equal to aggregate amount of the payments delayed pursuant to the preceding sentence. The term "specified employee" shall mean any individual who, at any time during the twelve (12) month period ending on the identification date (as determined by the Company or its delegate), is a specified employee under Code Section 409A, as determined by the Company (or its delegate). The determination of "specified employees," including the number and identity of persons considered "specified employees" and identification date, shall be made by the Company (or its delegate) in accordance with the provisions of sections 416(i) and 409A of the Code.

(v) All reimbursements provided under this Agreement shall be made or provided in accordance with the requirements of Code Section 409A, including, where applicable, the requirement that (i) any reimbursement is for expenses incurred during the Executive's lifetime (or during a shorter period of time specified in this Agreement), (ii) the amount of expenses eligible for reimbursement during a calendar year may not affect the expenses eligible for reimbursement in any other calendar year, (iii) the reimbursement of an eligible expense will be made on or before the last day of the taxable year following the year in which the expense is incurred, and (iv) the right to reimbursement is not subject to liquidation or exchange for another benefit.

(r) OPPORTUNITY TO CONSULT COUNSEL. THE EXECUTIVE ACKNOWLEDGES THAT HE HAS CAREFULLY READ THIS AGREEMENT AND HAS BEEN GIVEN ADEQUATE OPPORTUNITY, AND HAS BEEN ENCOURAGED BY THE COMPANY, TO CONSULT WITH LEGAL COUNSEL OF HIS CHOICE CONCERNING THE TERMS HEREOF BEFORE EXECUTING THIS AGREEMENT.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the parties have entered into this Agreement as of the date first written above.

HAYNES INTERNATIONAL, INC.

/s/ Daniel W. Maudlin

Daniel W. Maudlin
Vice President - Finance, CFO

Address for notices: Haynes International, Inc. 1020 West Park
Avenue Kokomo, IN 46904
Attn: General Counsel Fax: (765) 456-6985
Email: jgunst@haynesintl.com

/s/ Michael L. Shor

Michael L. Shor

EXHIBIT A

FORM OF RELEASE OF ALL CLAIMS

FOR VALUABLE CONSIDERATION, including the payment to the Executive of certain severance benefits, the undersigned Executive hereby makes this Release of All Claims ("Release") in favor of Haynes International, Inc. (the "Company") and its agents as set forth herein.

Section 1. In consideration of the release and all of the promises and representations made by the Executive in this Release, the Company will pay and provide such severance and related benefits as set forth in that certain Executive Employment Agreement by and between the Company and the Executive dated September 1, 2018 (the "Employment Agreement"). It is understood and agreed that the severance benefits and other consideration which will be provided to the Executive by the Company pursuant to the Employment Agreement (the "Separation Payment") are consideration provided to him in addition to anything of value to which he is already entitled.

Section 2. In consideration of the Company's agreement to the payment of the Separation Payment and the other good and valuable consideration indicated herein, the Executive (for himself/ and his/ personal representatives, heirs and assigns) RELEASES AND FOREVER DISCHARGES the Released Parties (as defined below) from any and all claims (including, but not limited to, claims for attorneys' fees), demands, losses, grievances, damages, injuries (whether personal, emotional or other), agreements, actions, promises or causes of action (known or unknown) which he now has or may later discover or which may hereafter exist against the Released Parties, in connection with or arising directly or indirectly out of or in any way related to any and all matters, transactions, events or other things occurring prior to the date hereof, including all those arising out of or in connection with his employment or former employment with the Company, or arising out of any events, facts or circumstances which either preceded, flowed from or followed the termination of his employment, or which occurred during the course of the Executive's employment with the Company or incidental thereto or arising out of any other matter or claim of any kind whatsoever and whether pursuant to common law, statute, ordinance, regulation or otherwise. Claims or actions released herein include, but are not limited to, those based on allegations of wrongful discharge, failure to represent, fraud, defamation, promissory estoppel, and/or breach of contract; those alleging discrimination on the basis of race, color, sex, religion, national origin, age, disability or handicap under Title VII of the Civil Rights Act of 1964, the Age Discrimination in Employment Act of 1967 ("ADEA"), the Older Workers Benefit Protection Act ("OWBPA"), the Rehabilitation Act of 1973, the Equal Pay Act of 1963, the Americans with Disabilities Act of 1990, the Civil Rights Act of 1991, the Family and Medical Leave Act of 1993, the Fair Labor Standards Act (all as amended) or any other federal, state or local law, ordinance, rule or regulation; and those arising under the Employee Retirement Income Security Act of 1974, all as amended (except for qualified retirement or other benefit plans from which the Executive is entitled under the terms of such plans to receive future benefits). The Executive agrees and understands that any claims he may have under the aforementioned statutes or any other federal, state or local law, ordinance, rule, regulation or common law are effectively waived by this Release. No claims under the ADEA arising after the execution of this Release are waived hereby.

Section 3. The parties understand that, as used in this Release, "Released Parties" means and includes Haynes International, Inc. and its subsidiaries and all of their respective past and present officers, directors, shareholders, employees, trustees, agents, parent companies, subsidiaries, partners, members, affiliates, principals, insurers, any and all employee benefit plans (and any fiduciary of such plans) sponsored by the aforesaid entities, and each of them, and each entity's subsidiaries, affiliates, predecessors, successors, and assigns, and all other entities, persons, firms, or corporations liable or who might be claimed to be liable, none of whom admit any liability to the Executive, but all of whom expressly deny any such liability.

Section 4. The Executive agrees that he will be solely and individually responsible for compensating any attorney(s) for any services they have rendered to or for him in connection with the review of this Release or any other matters whatsoever.

Section 5. In further consideration of the Company's agreement to the provisions and payment of the Separation Payment and other consideration described in Section 1 above, the Executive agrees that he will never assert a legal or equitable action in any state or federal court or in any state or federal agency against the Released Parties or any of them with respect to the matters herein resolved and settled. The Executive further agrees that, if he hereafter institutes an action against any of the Released Parties concerning any of the claims he has released in this Release, except as provided in Section 13, below, he will repay to the Company the full amount of any Separation Payment received and the value of all other benefits received, with legal interest, and will pay the Released Parties for all costs and expenses, including attorneys' fees, incurred by them in defending against such claims.

Section 6. It is understood and agreed that the Released Parties and each of them has denied and continues to deny that it is liable to the Executive on any theory, and that nothing in this Release, including, but not limited to, the payment of the Separation Payment and other valuable consideration described in Section 1 hereof, constitutes an admission by the Released Parties or any of them of any fact, damage or liability to the Executive on any theory.

Section 7. The Executive hereby certifies that he has returned to the Company all of the Company's property in his possession or control, including but not limited to, any equipment, books, computer software, Blackberry, cellular telephone or similar device, iPad, computer hardware, documents, drawings, memoranda, manuals, and other records. The Executive further agrees that, as a condition of the payment of the Separation Payment and other valuable consideration described in Section 1 hereof, the fact of and terms and provisions of this Release are to remain strictly confidential and shall not be disclosed to any person except the Executive's spouse and legal and/or tax advisor(s), or as required by law or lawfully-issued subpoena. It is further agreed that the Executive will not make any negative or disparaging remarks or comments to any other person and/or entity about the Released Parties. The Executive agrees that, except as provided in Section 13, below, in the event that he or any attorney, agent or representative of his discloses any information to anyone in breach or violation of this Section 7, he will repay to the Company, with legal interest, any Separation Payment paid by it and the value of all other severance benefits provided by it to the Executive. The Executive agrees that he will direct all inquiries from prospective employers or other persons directly to the Chair of the Board of Directors of the Company.

Section 8. The Executive represents and warrants that in the making, negotiation and execution of this Release, he is not relying upon any representation, statement or assertion of fact or opinion made by any agent, attorney, executive or representative of the persons, parties or corporations being released herein, and he hereby waives any right to rely upon all prior agreements and/or oral representations made by any agent, attorney, employee or representative of such persons, parties or corporations. The Executive is advised hereby that he has the legal right to consult with an attorney of his choosing prior to executing this Release.

Section 9. The parties stipulate and agree that all clauses and provisions of this Release are distinct and severable, and the Executive understands, and it is his intent, that in the event this Release is ever held to be invalid or unenforceable (in whole or in part) as to any particular type of claim or as to any particular circumstances, it shall remain fully valid and enforceable as to all other claims and circumstances. As to any actions or claims that would not be released because of the invalidity or unenforceability of this Release, the Executive understands and agrees that, except as provided in Section 13, below, if he asserts or brings any such actions or claims against the Released Parties, or any of them, he must repay to the Company the Separation Payment paid to him, with legal interest, along with the value of the other benefits provided, and that the repayment of the Separation Payment paid and the value of the other severance benefits and consideration given pursuant to the Employment Agreement and Section 1 above, with legal interest, is a prerequisite to asserting or bringing any such actions or claims.

Section 10. This Release contains the entire agreement of the parties and supersedes all previous negotiations, whether written or oral. This Release may be changed only by an instrument in writing signed by the party against whom the charge, waiver, modification, extension or discharge is sought.

Section 11. This Release shall inure to the benefit of, may be enforced by, and shall be binding on the parties and their heirs, executors, administrators, personal representatives, assigns and successors in interest. It is understood and agreed that no breach of this Release shall be cause to set it aside or to revive any of the claims being released herein.

Section 12. In the event of any dispute about this Release, the laws of the State of Indiana shall govern the validity, performance, enforcement, and all other aspects of this Release.

Section 13. The Executive and the Company agree that by executing this Agreement, and pursuant to Section 2 hereof, the Executive has waived any claim (administrative or otherwise) he may have under, among other things, the ADEA and OWBPA. If the Executive files a charge alleging a violation of the ADEA and/or OWPBA with any administrative agency or challenges the validity of this waiver and release of any claim he/ might have had under the ADEA and/or OWBPA, he will not be required to repay to the Company the Separation Payment or other benefits and consideration provided by it pursuant to the Employment Agreement and Section 1 of this Agreement, or pay to the Company any other monetary amounts (such as attorneys' fees and/or damages), as a condition precedent to filing such a claim. This Release is not to be interpreted by either party or by any third party as an effort to interfere with the

protected right to file a charge or participate in an investigation or proceeding under state or federal law.

Section 14. The Executive represents that he: has read this Release; has been advised in writing to consult with, and review this Release with, an attorney of his choosing before executing it; fully understands each and every provision of this Release; and has voluntarily, on his own accord, signed this Release. The Executive acknowledges that, in entering into this Release in return for the Separation Payment and the other good and valuable consideration described in Section 1 above, he is giving up current and possible future administrative and/or legal claims.

Section 15. The parties hereby acknowledge and agree that the Executive will have 21 calendar days to review this Release and that this Release may be revoked by the Executive within 7 calendar days after he signs it. This Release shall not be effective or enforceable until the 7 calendar-day revocation period has expired. Furthermore, the offer to make the Separation Payment to the Executive and provide the other benefits and consideration described in Section 1, shall expire and be deemed automatically withdrawn by the Company if not accepted and this Release signed within 21 calendar days.

IN WITNESS WHEREOF, the parties have executed this Release as of the date(s) set forth below.

MICHAEL L. SHOR	**HAYNES INTERNATIONAL, INC.**
______________________	By: ______________________
Signature	Signature
______________________	______________________
Printed	Printed
______________________	______________________
Date	Date

Exhibit 21.1

HAYNES INTERNATIONAL, INC. SUBSIDIARIES

Subsidiary	Jurisdiction of Organization
LaPorte Custom Metal Processing, LLC (Wholly owned subsidiary in LaPorte, Indiana)	Delaware
Haynes International, Ltd. (Wholly owned subsidiary in Openshaw, England)	United Kingdom
Haynes International, S.A.R.L. (Wholly owned subsidiary in Paris, France)	France
Haynes International, AG (Wholly owned subsidiary in Zurich, Switzerland)	Switzerland
Haynes International, S.r.l. (Wholly owned subsidiary of Haynes International, AG in Italy)	Italy
Haynes Pacific Pte. Ltd. (Wholly owned subsidiary in Singapore)	Singapore
Haynes International (China) Ltd. (Wholly owned subsidiary of Haynes Pacific Pte. Ltd.)	People’s Republic of China
Haynes International (China) Trading Co., Ltd. (Wholly owned subsidiary of Haynes Pacific Pte. Ltd.)	People’s Republic of China
Haynes International K. K. (Wholly owned subsidiary of Haynes Pacific Pte. Ltd.)	Japan

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement Nos. 333-215172, 333-145499 and 333-134989 and on Forms S-8 of our report dated November 15, 2018, relating to the consolidated financial statements of Haynes International, Inc. and the effectiveness of Haynes International, Inc.'s internal control over financial reporting, appearing in this Annual Report on Form 10-K of Haynes International, Inc. for the year ended September 30, 2018.

/s/ Deloitte & Touche LLP

Indianapolis, Indiana
November 15, 2018

Exhibit 31.1

CERTIFICATIONS

I, Michael L. Shor, certify that:

1. I have reviewed this Annual Report on Form 10-K of Haynes International, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statement 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 period presented in this report;

4. The registrant's other certifying officer(s) 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 controls over financial reporting (as defined in Exchange Act Rules 13a-159f) and 15(d)-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 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(s) 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 the 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.

Date: November 15, 2018

/s/ MICHAEL L. SHOR

Michael L. Shor

President and Chief Executive Officer

Exhibit 31.2

CERTIFICATIONS

I, Daniel W. Maudlin, certify that:

1. I have reviewed this Annual Report on Form 10-K of Haynes International, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statement 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 period presented in this report;

4. The registrant's other certifying officer(s) 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 controls over financial reporting (as defined in Exchange Act Rules 13a-159f) and 15(d)-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 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(s) 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 the 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.

Date: November 15, 2018

/s/ DANIEL W. MAUDLIN

Daniel W. Maudlin
Vice President of Finance and
Chief Financial Officer

Exhibit 32.1

Certifications Pursuant to 18 U.S.C. Section 1350
As Adopted Pursuant to Section 906 of the
Sarbanes—Oxley Act of 2002

I, Daniel W. Maudlin, the Vice President Finance and Chief Financial Officer of Haynes International, Inc., certify that (i) the Annual Report on Form 10-K for the fiscal year ended September 30, 2018 (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 Haynes International, Inc. as of the dates and for the periods set forth therein.

/s/ DANIEL W. MAUDLIN

Daniel W. Maudlin
Vice President Finance and
Chief Financial Officer

November 15, 2018

Date

I, Michael L. Shor, the President and Chief Executive Officer of Haynes International, Inc., certify that (i) the Annual Report on Form 10-K for the fiscal year ended September 30, 2018 (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 Haynes International, Inc. as of the dates and for the periods set forth therein.

/s/ MICHAEL L. SHOR

Michael L. Shor
President and Chief Executive Officer

November 15, 2018

Date