

**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 December 31, 2019

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 001-10716

TRIMAS CORPORATION

(Exact Name of Registrant as Specified in Its Charter)

Delaware

(State or Other Jurisdiction of Incorporation or Organization)

38-2687639

(IRS Employer Identification No.)

38505 Woodward Avenue, Suite 200
Bloomfield Hills, Michigan 48304
(Address of Principal Executive Offices, Including Zip Code)

(248) 631-5450

(Registrant's telephone number, including area code)

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

<u>Title of Each Class:</u>	<u>Trading symbol(s)</u>	<u>Name of Each Exchange on Which Registered:</u>
Common stock, \$0.01 par value	TRS	The NASDAQ Global Market LLC

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 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 definition 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

The aggregate market value of the voting common equity held by non-affiliates of the Registrant as of June 28, 2019 was approximately \$1.4 billion, based upon the closing sales price of the Registrant's common stock, \$0.01 par value, reported for such date on the NASDAQ Global Select Market. For purposes of this calculation only, directors, executive officers and the principal controlling shareholder or entities controlled by such controlling shareholder are deemed to be affiliates of the Registrant.

As of February 21, 2020, the number of outstanding shares of the Registrant's common stock, \$0.01 par value, was 44,262,679 shares.

Portions of the Registrant's Proxy Statement for the 2020 Annual Meeting of Stockholders are incorporated herein by reference in Part III of this Annual Report on Form 10-K to the extent stated herein.

TRIMAS CORPORATION INDEX

	<u>Page No.</u>
Forward-Looking Statements	3
Trademarks and Service Marks	3
PART I.	
Item 1.	Business 4
Item 1A.	Risk Factors 14
Item 1B.	Unresolved Staff Comments 23
Item 2.	Properties 23
Item 3.	Legal Proceedings 24
Item 4.	Mine Safety Disclosures 24
Supplementary Item.	Information about our Executive Officers 24
PART II.	
Item 5.	Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities 25
Item 6.	Selected Financial Data 28
Item 7.	Management's Discussion and Analysis of Financial Condition and Results of Operations 29
Item 7A.	Quantitative and Qualitative Disclosures About Market Risk 46
Item 8.	Financial Statements and Supplementary Data 47
Item 9.	Changes in and Disagreements with Accountants on Accounting and Financial Disclosure 87
Item 9A.	Controls and Procedures 87
Item 9B.	Other Information 89
PART III.	
Item 10.	Directors, Executive Officers and Corporate Governance 90
Item 11.	Executive Compensation 90
Item 12.	Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters 90
Item 13.	Certain Relationships and Related Transactions, and Director Independence 90
Item 14.	Principal Accountant Fees and Services 90
PART IV.	
Item 15.	Exhibits and Financial Statement Schedules 91
Item 16.	Form 10-K Summary 94
Signatures	95

Forward-Looking Statements

This report may contain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934 about our financial condition, results of operations and business. These forward-looking statements can be identified by the use of forward-looking words, such as “may,” “could,” “should,” “estimate,” “project,” “forecast,” “intend,” “expect,” “anticipate,” “believe,” “target,” “plan” or other comparable words, or by discussions of strategy that may involve risks and uncertainties.

These forward-looking statements are subject to numerous assumptions, risks and uncertainties which could materially affect our business, financial condition or future results including, but not limited to: general economic and currency conditions; material and energy costs; risks and uncertainties associated with intangible assets, including goodwill or other intangible asset impairment charges; competitive factors; future trends; our ability to realize our business strategies; our ability to identify attractive acquisition candidates, successfully integrate acquired operations or realize the intended benefits of such acquisitions; information technology and other cyber-related risks; the performance of our subcontractors and suppliers; supply constraints; market demand; intellectual property factors; litigation; government and regulatory actions, including, without limitation, the impact of tariffs, quotas and surcharges; our leverage; liabilities imposed by our debt instruments; labor disputes; changes to fiscal and tax policies; contingent liabilities relating to acquisition activities; the disruption of operations from catastrophic or extraordinary events, including natural disasters and public health crises; the potential impact of Brexit; tax considerations relating to the Cequent spin-off; our future prospects; and other risks that are discussed in Part I, Item 1A, "*Risk Factors*." The risks described in this report are not the only risks facing our Company. Additional risks and uncertainties not currently known to us or that we currently deemed to be immaterial also may materially adversely affect our business, financial position and results of operations or cash flows.

The cautionary statements set forth above should be considered in connection with any subsequent written or oral forward-looking statements that we or persons acting on our behalf may issue. We caution readers not to place undue reliance on the statements, which speak only as of the date of this report. We do not undertake any obligation to review or confirm analysts' expectations or estimates or to release publicly any revisions to any forward-looking statement to reflect events or circumstances after the date of this report or to reflect the occurrence of unanticipated events, except as required by law.

We disclose important factors that could cause our actual results to differ materially from our expectations implied by our forward-looking statements under Part II, Item 7, "*Management's Discussion and Analysis of Financial Condition and Results of Operations*," and elsewhere in this report. These cautionary statements qualify all forward-looking statements attributed to us or persons acting on our behalf. When we indicate that an event, condition or circumstance could or would have an adverse effect on us, we mean to include effects upon our business, financial and other conditions, results of operations, prospects and ability to service our debt.

Trademarks and Service Marks

We own or have rights to trademarks, service marks or trade names that we use in connection with the operation of our business. Solely for convenience, some of the copyrights, trademarks, service marks and trade names referred to in this Annual Report on Form 10-K are listed without the ©, ® and ™ symbols, but we will assert, to the fullest extent under applicable law, our rights to our copyrights, trademarks, service marks, trade names and domain names. The trademarks, service marks and trade names of other companies appearing in this Annual Report on Form 10-K are, to our knowledge, the property of their respective owners.

PART I

Item 1. Business

Overview

TriMas is a diversified global manufacturer and provider of products for customers primarily in the consumer products, aerospace and industrial end markets. Our wide range of innovative product solutions are engineered and designed to solve application-specific challenges that our customers face. We believe our businesses share important and distinguishing characteristics, including: well-recognized and leading brand names in the focused markets we serve; innovative product technologies and features; customer approved processes and qualified products; established distribution networks; relatively low ongoing capital investment requirements; strong cash flow conversion and long-term growth opportunities. With approximately 3,500 employees in eleven countries, we manufacture and supply products globally to a wide range of companies, with approximately 75% of our 2019 revenue generated from sales into North America. In addition, we generated nearly 70% of our 2019 revenue from sales to the less cyclical consumer product and aerospace end markets.

During 2019, our net sales were \$723.5 million, operating profit was \$91.2 million, and net cash provided by operating activities was \$95.7 million.

On December 20, 2019, we completed the previously announced divestiture of our Lamons business ("Lamons"), a transaction entered into on November 1, 2019 with an investment fund sponsored by First Reserve. Lamons was sold for approximately \$135 million in cash, subject to customary post-closing adjustments. The financial results of Lamons were previously reported within our Specialty Products reportable segment, and are presented as discontinued operations for all periods presented in the financial statements attached hereto.

Our Competitive Strengths

Our operations are reported in three segments: Packaging, Aerospace and Specialty Products. We believe TriMas is uniquely positioned because of a number of competitive strengths, including:

- *Well-Recognized and Established Brands.* Our main brands include Rieke[®], Taplast[™] and Stolz (reported in Packaging); TriMas Aerospace[™], Monogram Aerospace Fasteners[™], Allfast Fastening Systems[®], and Mac Fasteners[™] (reported in Aerospace); and Norris Cylinder[™], Arrow[®] Engine Company and Martinic Engineering[™] (reported in Specialty Products). We believe each of our go-to-market brands are well-recognized and firmly established in the focused markets we serve. We believe our brands represent high standards and a commitment to quality and service that our customers rely on when they make their sourcing decisions.
- *Innovative and Proprietary Manufacturing and Product Technologies.* We believe each of our businesses is well-positioned through years of refined manufacturing know-how, innovative product development, application engineering and solutions design. We believe our manufacturing competencies and installed capital base would be difficult and costly to replicate, providing us an advantage. We continue to place a priority on investing in innovation to protect and enhance our product designs, brand names and manufacturing methods.
- *Customer-Focused Solutions and Long-Term Customer Relationships.* We work collaboratively with our customers to design new product applications that help satisfy rapidly changing preferences in the consumer product marketplace. As a recognized leader in many of our markets, customers partner with us during both the product development and production life cycle. These ongoing relationships, often developed over decades, coupled with our expertise in innovation and application engineering, position us to win new and replacement business with our customers when they launch new products or programs. Customers look to TriMas' businesses for these product innovations because of our long-standing, trusted relationships.
- *Well-Established, Extensive Distribution Channels.* Each of our businesses provides products through established distribution channels that cater to the specific needs of our customers' purchasing preferences. We developed many of these channels over decades, and believe they are a competitive differentiator for us across the markets we serve. In many cases, we provide products directly to our end markets through our locations, while in other cases, we supply to distribution companies that provide our customers with flexible purchasing solutions.

- *TriMas Business Model.* We implemented the TriMas Business Model ("TBM") in late 2016 to improve the management, performance and oversight of our businesses. The TBM provides a platform to set near- and long-term performance objectives and goals, including safety, financial, and talent development, measure these against defined objectives, and utilize a reliable communication and escalation process that provides for flexibility and adjustments if market expectations change. We believe the TBM connects our operations, and allows us to benefit from sharing best practices across each of our businesses. We believe that the TBM, through a culture of Kaizen and continuous improvement, helps drive long-term improvement in our performance. Since implementation, we have rationalized manufacturing, warehousing and office locations, streamlined fixed expenses and selling, general and administrative expenses in certain of our businesses, increased our focus on optimizing inventory levels and improved certain of our manufacturing processes. We believe actions driven by the TBM have provided a benefit to us and have augmented our cash conversion characteristics and performance overall. We will continue to rely on the TBM to drive continuous improvement and to unlock TriMas' value potential.

Our Growth Strategy

Guided by our experienced management team and our commitment to operational excellence, we are focused on the following components that form our core growth strategy:

- *Leverage Our TriMas Business Model to Drive Performance.* A key tenet of the TBM is our commitment to operational excellence and continuous improvement. We adopted the use of Kaizen methodology within our operations, which is predicated on engaging our employees to improve all aspects of our businesses. We believe our operating performance will continue to benefit from the use of Kaizen as a means to drive our decision-making processes. In addition to continuous improvement, the TBM is also focused on environmental, health and safety, annual goal setting and measurement, flawless launches and talent development.
- *Accelerate Organic Growth through Innovation.* We will invest in organic growth in our most compelling market segments with the highest return potential. We intend to leverage our brands, expand our product offerings to current and new customers, and introduce innovative products to meet our customers' needs and help solve their challenges. We believe our disciplined approach will allow us to defend and expand our product offerings, and grow our business over the longer term. In addition to product innovation, we also value process innovation and believe we can solidify our customer relationships as innovative new processes and manufacturing "know-how" allow us to improve our quality, speed to market and overall competitiveness, increasing customer satisfaction, as well as our performance.
- *Expand our Core Platforms through Strategic Acquisitions.* We believe that TriMas has opportunities to grow through strategic acquisitions that enhance the strengths of our core businesses. Our primary focus is on acquisition candidates to build out our Packaging and Aerospace platforms, as we believe the markets they serve offer the highest growth and performance profile. We typically seek "bolt-on" acquisitions, in which we acquire another industry participant or adjacent product lines that expand our existing product offerings, gain access to new customers, end markets and distribution channels, expand our geographic footprint and/or capitalize on scale and cost efficiencies.
- *Drive Enhanced Cash Conversion.* We use the TBM to drive management's decision-making processes to achieve our annual growth and profitability targets, as well as drive our businesses toward achieving market-leading returns and cash flow conversion. We believe our commitment to having well-defined strategies in place, setting and executing against annual goals and long-range targets, operating in a data-driven environment, and awarding our team on annual cash flow achievement will allow us to grow our businesses and enhance our cash flow and related cash conversion. We believe we have the ability to generate substantial free cash flow for reinvestment in our businesses, strategic acquisitions and other capital allocation actions consistent with our long-term financial goals.

Our Reportable Segments

We report the results of our operations in three segments, which had net sales and operating profit for the year ended December 31, 2019 as follows: Packaging (net sales: \$392.3 million; operating profit: \$80.8 million), Aerospace (net sales: \$164.8 million; operating profit: \$28.4 million) and Specialty Products (net sales: \$166.4 million; operating profit: \$16.6 million). For information pertaining to the net sales and operating profit attributed to our reportable segments, refer to Note 19, "Segment Information," included in Item 8, "Financial Statements and Supplementary Data," within this Form 10-K.

Effective with the first quarter of 2020, we will report our Martinic Engineering business, with operations in Stanton, California and Tolleson, Arizona, in the Aerospace segment. Prior to this change, it has been reported in the Specialty Products segment. In connection with the first quarter 2020 announcement of our acquisition of RSA Engineered Products ("RSA"), a manufacturer of complex, highly-engineered, metallic air ducting products for aerospace and defense environmental control system applications, we announced that RSA and Martinic Engineering would achieve enhanced long-term benefits under TriMas Aerospace's leadership. This modification facilitates a more rapid approach to achieving anticipated synergies from the RSA acquisition, allows us to better leverage machining competencies and resources across the businesses, and facilitates insourcing products and processes that RSA historically has outsourced.

Each of our reportable segments is described in more detail on the following pages.

Packaging (54% of 2019 net sales)

Our Packaging segment consists primarily of the Rieke, Taplast and Stolz brands. We believe Rieke is a leading designer and manufacturer of specialty, highly-engineered polymeric and steel closure and dispensing systems for a range of end markets, including consumer packaging and industrial markets. Rieke manufactures high-performance, value-added products that are designed to enhance its customers' ability to store, transport, process and dispense various products.

Rieke designs and manufactures specialty dispensing systems that include products such as foamers, lotion pumps, fine mist sprayers, airless dispensers and other packaging solutions for the cosmetic, personal care, pharmaceutical and household product markets. Rieke also provides specialty dispensers that serve the food and beverage and industrial markets. The specialty closure portion of Rieke's business includes products made from steel or polymeric materials for a variety of end markets. Rieke's specialty closure products include steel drum enclosures, plastic drum closures, plastic pail dispensers and plugs, and plastic enclosures for sub-20 liter-sized containers, commonly sold into the industrial end markets. Rieke's closure products also include specialty plastic closures for bottles and jars for the food and beverage markets.

During 2019, we acquired Plastic Srl and Taplast S.p.A. ("Taplast") to expand our packaging platform. Plastic Srl, with operations in Italy, is a manufacturer of single-bodied and assembled caps and closures for use in home care product applications. Taplast, with operations in Italy and Slovakia, is a designer and manufacturer of dispensers, closures and containers for the beauty and personal care, household, and food and beverage packaging end markets.

Rieke has the capability of manufacturing the majority of its products in North America, Europe or Asia, which allows Rieke to evaluate manufacturing location decisions based on customer needs, timing, cost and capacity.

Competitive Strengths

We believe Rieke benefits from the following competitive strengths in coordination with operating under TriMas' overarching strategy:

- ***Strong Product Innovation.*** Through its Global Innovation Centers located in India, the United Kingdom and the United States, Rieke is focused on driving innovation across a broad range of dispensing and closure solutions for its customers. Rieke has focused product development capabilities on consumer applications requiring special packaging forms, stylized containers and dispensing systems requiring a high degree of functionality and engineering, as well as evolving its industrial applications to include child resistant closures and other applications. Rieke has a consistent pipeline of new products ready for launch and continues to innovate to make products more environmentally friendly. Rieke's product development programs have provided innovative and proprietary product solutions, such as the all-plastic, environmentally safe, self-venting FlexSpout® flexible pouring spout. Rieke, partnering with Amazon, also developed a range of products designed to meet the requirements of the high-growth e-commerce retail channel, including a proprietary dispenser locking mechanism to protect the integrity of packages and prevent liquids from leaking during shipment, such as the E-Commerce Trigger Sprayer, that meets consumers' demands and meets ISTA 6 standards as required by Amazon. Other developments include a measured-dose dispenser that provides exact doses of highly-concentrated liquids for the health and beauty market. Rieke's emphasis on highly-engineered solutions and product development has yielded numerous issued and enforceable patents, with many other patent applications pending. For example, 59 patents were filed and 26 patents were issued in 2019.

- *Customized Solutions that Enhance Customer Loyalty and Relationships.* A significant portion of Rieke's products are customized designs that are developed and engineered to address specific customer technical, marketing and sustainability needs, helping to distinguish our customers' products from that of their competitors. For example, the customization of specialty plastic caps, closures and dispensers including branding, unique colors, collar sizes, lining and venting results in substantial customer loyalty. The substantial investment in flexible manufacturing cells allows Rieke to offer both short lead-times for high volume products and customization for more moderate volume orders, which provides significant advantages to our consumer packaged goods customer base. In addition, Rieke provides customized dispensing solutions including unique pump designs, precision metering, unique colors and special collar sizes to fit the customer's bottles. Rieke has also been successful in promoting the sale of complementary products in an effort to achieve preferred supplier status with several customers.
- *Global Sales and Manufacturing Footprint.* Rieke maintains a global network of sales, manufacturing and distribution sites, to serve our global customer base. Rieke's global customers often desire supply chain capability and a flexible manufacturing footprint close to their end markets which result in shorter supply chains, reduced carbon footprint and better sustainability. To serve our customers in Asia, we have design and manufacturing capacity and offer highly engineered dispensing solutions through locations in China, India and Vietnam, and increased our Asian market sales coverage. Additionally, Rieke opened a facility in San Miguel de Allende, Mexico during 2017, to replace an older, smaller facility in Mexico City, and provide additional manufacturing capacity to support growth. We have also increased our sales coverage in Europe and Asia, and in 2019, closed on the acquisitions of Plastic Srl and Taplast which provide us with additional sales, design and manufacturing capacity in Europe. We believe this flexible footprint provides Rieke with multiple alternatives for production to best meet customer requirements and helps mitigate the impacts of potential trade disruption. The majority of Rieke's manufacturing facilities around the world have advanced injection molding machines required to manufacture precision engineered dispensing and closure components, as well as automated, high-speed assembly equipment for multi-component products.

Marketing, Customers and Distribution

Rieke accesses its markets through direct sales to end-use customers, as well as through leading distributors, where it has enjoyed favorable, long-standing relationships. Rieke employs an internal sales force in North America, Europe and Asia, and has recently established a Global Strategic Account sales team. Rieke also uses third-party agents and distributors in key geographic markets, including Europe, South America and Asia. Rieke's agents and distributors primarily sell to container manufacturers and to users or fillers of containers.

Rieke's end customers include, but are not limited to, consumer packaged goods, cosmetic, personal care, pharmaceutical, food, beverage, warehouse clubs, retailers, e-retailers, fast food retailers, industrial chemical, paint, petroleum, agricultural chemical, and sanitary supply chemical companies. Rieke may provide its products directly to the end customer, but the end customers may also specify that our products be provided to fillers or packagers. We also supply major container manufacturers around the world. Rieke maintains a customer service center that provides technical support, as well as other technical assistance to customers.

Rieke has manufacturing and distribution facilities in the United States, Mexico, the United Kingdom, Germany, Italy, China, India and Vietnam.

Competition

Rieke has a broad range of products in both closures and dispensing systems, and therefore has various competitors in each of our product offerings. We do not believe that there is a single competitor that matches our entire product offering. Depending on the product and customers served, Rieke's competitors include Albea (pending acquisition by Silgan), Aptar, Bericap, Berry Global, Greif, Phoenix Closures, Silgan, Technocraft and TKPC.

Aerospace (23% of 2019 net sales)

Our Aerospace segment is comprised of TriMas Aerospace, which includes the Monogram Aerospace Fasteners, Allfast Fastening Systems, and Mac Fasteners brands. We believe TriMas Aerospace is a leading designer and manufacturer of a diverse range of products, including highly-engineered fasteners, collars, blind bolts, and rivets, for use in focused markets within the aerospace industry. In general, these products are customer-specific and are manufactured utilizing customer-qualified and proprietary processes. The products also satisfy rigorous customer approvals or meet unique aerospace industry standards, and as such, we believe there are a limited set of competitors.

We provide products to commercial, maintenance, repair and operations ("MRO"), and military aerospace applications and platforms with sales to original equipment manufacturers ("OEMs"), supply chain distributors, MRO/aftermarket providers and tier one suppliers. Our customer-specified and/or qualified products are used in production of significant long-term aircraft programs, including several Boeing and Airbus commercial jetliner programs. Based on Boeing and Airbus' future aircraft delivery projections, it is estimated that commercial production will remain at stable levels through the next several years.

We believe our brands are well established and recognized in their markets. The TriMas Aerospace product offering is as follows:

- *Monogram Aerospace Fasteners ("Monogram")*. The product offering includes permanent threaded blind bolts, including high-strength, rotary-actuated blind bolts that allow sections of aircraft to be joined together when access is limited to only one side of the airframe, providing cost efficiencies over conventional two piece fastening devices. Monogram also provides collars and temporary fasteners used in aircraft construction and assembly.
- *Allfast Fastening Systems ("Allfast")*. The product offering includes solid and blind rivets, blind bolts, temporary fasteners and installation tools for the aerospace industry.
- *Mac Fasteners*. The product offering consists of high-volume, standard aerospace screws and bolts, including NAS, MS, AN and AS standards.

Competitive Strengths

We believe TriMas Aerospace benefits from the following competitive strengths in coordination with operating under TriMas' overarching strategy:

- *Broad Product Portfolio of Established Brands*. We believe that TriMas Aerospace is a leading designer and manufacturer of engineered fasteners for the aerospace industry. The combination of the Monogram, Allfast and Mac Fasteners brands enables TriMas Aerospace to offer a wide range of fastener products which address a broad scope of customer requirements, providing scale to customers who continue to rationalize their supply base. In several of the product categories, including rotary-actuated blind bolts and blind and solid rivets, TriMas Aerospace has a meaningful market share with well-known and established brands. The combined product sets of the Monogram, Allfast and Mac Fasteners brands uniquely position us to benefit from platform-wide supply opportunities.
- *Product Innovation*. We believe that TriMas Aerospace's engineering, research and development capability and new product focus are competitive advantages. For many years, TriMas Aerospace's product development programs have provided innovative and proprietary product solutions. The close working relationship between our sales and engineering teams and our customers' engineering teams is key to developing future products desired and required by our customers. Our innovation team adds value by working directly with our customers to address assembly and manufacturing process challenges to increase productivity, quality, speed and efficiency, while reducing overall installed cost. TriMas Aerospace has developed new fastener products that offer a flush break upon installation and is developing and testing other fastener designs which offer improved clamping characteristics on composite structures, improved aerodynamics and enhanced installed aesthetics. An example of such would include the newer Compositi-Lok4[®] fastener evolution, affording installed weight savings in concert with fuel efficient aircraft designs. TriMas Aerospace has also designed the next generation temporary fastener with an 800% increase in clamping force called Fastack[®] SC (Super Clamp). TriMas Aerospace has also expanded its fastener offerings to include other fastening product applications on current aircraft, including the expansion of its suite of collar families used in traditional two-sided assembly. We believe our customer-focused approach to provide cost-effective technical solutions will drive the development of new products and create new opportunities for growth.

- *Leading Manufacturing Capabilities and Processes.* We believe that TriMas Aerospace is a leading manufacturer of precision engineered components for the aerospace industry. Given industry regulatory requirements, as well as customer requirements, it is required that these products need to be manufactured within tight tolerances and specifications, often out of hard-to-work-with and exotic materials including titanium, inconel and specialty steels. Many of TriMas Aerospace's products, facilities and manufacturing processes are required to be qualified and/or certified. Key certifications in TriMas Aerospace include: AS9100:2009 Revision D; ISO9001:2008; TSO; and NADCAP for non-destructive testing, heat treatment, wet processes and materials testing. While proprietary products and patents are important, having proprietary manufacturing processes and capabilities makes TriMas Aerospace's products difficult to replicate. In addition, TriMas Aerospace is focused on continuously improving its processes and manufacturing operations by using the tools of Kaizen and automation, as applicable. The aerospace industry has strict requirements for quality and delivery, making process innovation and continuous improvement vital to TriMas Aerospace's success. We believe TriMas Aerospace's manufacturing processes, capabilities and quality focus create a competitive strength for the business.

Marketing, Customers and Distribution

TriMas Aerospace serves both OEM and aftermarket customers on a wide variety of platforms. Given the focused nature of many of our products, TriMas Aerospace relies upon a global sales and technical team that is knowledgeable of both OEM customers and the established network of independent distributors. Although the markets for fasteners are highly competitive, we provide products and services primarily for specialized markets, and compete principally on technology, quality and service. TriMas Aerospace works directly with aircraft manufacturers to develop and test new products and improve existing products. TriMas Aerospace's primary customers include OEMs, supply chain distributors, tier one suppliers and the United States government.

TriMas Aerospace's manufacturing facilities are located in the United States, and it exports products to Europe, South America and Asia.

Competition

Depending on the product and customers served, our primary competitors include Ateliers de la Haute Garonne, Arconic, Inc., Cherry Aerospace - Precision Castparts Corp. and LISI Aerospace. We believe that we are a leader in the blind bolt market with significant market share in all blind fastener product categories in which we compete.

Specialty Products (23% of 2019 net sales)

Our Specialty Products segment is comprised of Norris Cylinder, Arrow Engine Company and Martinic Engineering. We believe these businesses are well established and recognized in their respective markets.

- *Norris Cylinder.* We believe Norris Cylinder is a leading designer, manufacturer and distributor of highly-engineered steel cylinders for use in industrial, heating, ventilation and air conditioning ("HVAC"), construction, health care and defense end markets. We believe that Norris Cylinder is a leading provider of a complete line of large, intermediate and small size, high and low-pressure steel cylinders for the transportation, storage and dispensing of compressed gases. Norris Cylinder's large high-pressure seamless gas cylinders are used principally for shipping, storing and dispensing oxygen, nitrogen, argon, helium and other compressed gases. In addition, Norris Cylinder offers a complete line of steel cylinders used to contain and dispense acetylene gas for the welding and cutting industries. Norris Cylinder's products meet the rigorous standards required by the Department of Transportation ("DOT") or International Standards Organization ("ISO"), which certifies a cylinder's adequacy to perform in specific applications. Norris Cylinder markets cylinders primarily to domestic and international industrial gas producers and distributors, welding equipment distributors and equipment manufacturers. Given this customer base, Norris Cylinder tends to grow in times of increased industrial and infrastructure investment.
- *Arrow Engine.* Arrow Engine is a provider of natural gas powered wellhead engines, compressors and replacement parts, all engineered for use in oil and natural gas production and other industrial and commercial markets. As Arrow's engines can operate from the natural gas produced at the wellhead, we believe Arrow is uniquely positioned to provide its products for remote pump jack installations. Arrow Engine distributes its products through a worldwide distribution network with a particularly strong presence in the United States and Canada. Arrow Engine manufactures its own engine line and also offers a wide variety of spare parts for various industrial engines not manufactured by Arrow Engine, including selected engines manufactured and sold under the Caterpillar®, Waukesha® and Ajax® brands. Arrow Engine has expanded its product line to include compressors and compressor packaging, as well as certain gas production equipment.

- *Martinic Engineering.* Martinic Engineering offers highly-engineered, precision machined, complex machine-to-print parts for aerospace applications, including auxiliary power units, as well as electrical, hydraulic and pneumatic systems. Martinic is capable of advanced precision CNC milling, high performance CNC turning and assembly. Martinic Engineering can work with a variety of metals including super alloys, stainless steel, aircraft steel alloys, carbon steel alloys and aluminum alloys.

Competitive Strengths

We believe Norris Cylinder, Arrow Engine and Martinic Engineering benefit from the following competitive strengths in coordination with operating under TriMas' overarching strategy:

- *Leading Market Positions and Strong Brand Names.* Norris Cylinder, with more than 70 years of experience, is one of the worlds' largest manufacturers of high- and low-pressure steel cylinders, and the only manufacturer in the United States. We believe that Norris has a reputation for high-quality cylinders used in a variety of applications, including industrial gas, welding and cutting, government, medical, laboratories, food and beverage technology, breathing air, fire protection and aviation. We believe that Arrow Engine has also built a reputation for quality equipment, parts and accessories used in oil and natural gas production, and has a leading market position in the niche it serves. Martinic Engineering has a reputation, with more than 40 years of experience, of specializing in the high complexity machining of castings, forgings and bar stock for leading tier-one commercial and defense aerospace original equipment manufacturers.
- *Comprehensive Product Offering.* Norris Cylinder offers a complete line of large, intermediate and small size, high and low-pressure steel cylinders to its customers across a variety of end markets. Arrow Engine also provides a comprehensive product offering, including engines, compressors, chemical pumps, generator sets, electronics and replacement parts to a variety of oilfield and industrial markets. Martinic Engineering has the capability of manufacturing and assembling a broad number of components as a result of state-of-the-art machinery that provides a high level of operational precision during the machining and assembly processes. As a result, Martinic Engineering can manufacture a wide range of products, including air inlets, auxiliary power units, cabin pressure control systems, fuel controls, manifolds, pneumatic systems, valve bodies and a variety of other components.
- *Established and Extensive Distribution Channels.* Norris Cylinder has long-standing customer relationships and distributes directly to major gas companies, as well as distributing to domestic buying groups, OEMs, medium and small independent gas companies, and independent gas and welding distributors. Arrow Engine sells through a combination of a direct sales team and an established network of independent distributors. Martinic Engineering has long-standing customer relationships with tier one aerospace suppliers.

Over the past several years, we realigned these businesses to better align with lower demand levels. We are now focused on continuous improvement opportunities that will positively impact these businesses. We believe there are additional opportunities to improve margins, while maintaining market leadership.

Marketing, Customers and Distribution

The primary customers of our Specialty Products businesses operate in the industrial, aerospace, commercial and upstream oil and gas end markets. Given the focused nature of many of our products, we rely upon a combination of a direct sales force and an established network of distributors with familiarity of the end-users. Norris Cylinder, for example, sells directly to customers and through distributors. Our primary customers include industrial gas producers and distributors, welding equipment distributors, equipment manufacturers, and tier one aerospace suppliers.

The Norris Cylinder, Arrow Engine and Martinic Engineering manufacturing facilities are located are in the United States.

Competition

Norris Cylinder competes against Worthington, Beijing Tianhai Industry Co., Faber and Vitkovice Cylinders, but is the only remaining steel cylinder manufacturer in the United States. In May 2012, the U.S. International Trade Commission made a unanimous final determination that Norris Cylinder had been materially injured by imports of DOT high-pressure steel cylinders that were being subsidized by the Government of China, as well as being dumped in the U.S. market by producers in China. As a result, trade duties were imposed on the subject imports for a five-year period to create a fairer competitive environment in the United States. The duty was extended and increased for an additional five-year period in 2017, and will be subject to renewal in 2022. Arrow Engine tends to compete against natural gas powered, lower horsepower, multi-cylinder engines from manufacturers such as Caterpillar, Chevy, Cummins and Ford industrial engines and electric motors. Martinic Engineering competes with a variety of aerospace and general industrial machined component manufacturers.

TriMas' Acquisition Strategy

TriMas' capital allocation priorities include reinvesting in organic growth initiatives, including production capability and capacity of our businesses, executing treasury actions, such as share buybacks, and accelerating product and geographic expansion through mergers and acquisitions, all while maintaining a disciplined approach to managing net leverage. We believe that TriMas has opportunities to grow through strategic acquisitions that enhance the strengths of our core businesses. Our primary focus is on acquisition candidates to build out our Packaging and Aerospace platforms, as we believe the markets they serve offer the highest growth and performance profile. We typically seek "bolt-on" acquisitions, in which we acquire another industry participant or adjacent product lines that expand our existing product offerings, gain access to new customers, end markets and distribution channels, expand our geographic footprint and/or capitalize on scale and cost efficiencies. While we would also consider opportunistic bolt-on acquisitions in our other segments, or even a new segment, such transactions are of secondary focus.

Materials and Supply Arrangements

Our largest raw material purchases are for steel, polypropylene, polyethylene and other resins, aluminum, titanium and copper. Raw materials and other supplies used in our operations are normally available from a variety of competing suppliers. In addition to raw materials, we purchase a variety of components and finished products from low-cost sources in China, India, Mexico, South Korea and Vietnam.

Steel is purchased primarily from steel mills and service centers with pricing contracts principally in the three-to-six month time frame. Changing global dynamics for steel production and supply will continue to present a challenge to our business. Polypropylene and polyethylene are generally commodity resins with multiple suppliers capable of providing product globally.

Historically, we have experienced volatility in costs of our raw material purchases and have worked with our suppliers to manage costs and disruptions in supply. We also utilize pricing programs to pass increased steel, resin and other raw material costs to customers. Although we may experience delays in our ability to implement price increases, we have been generally able to recover such increased costs.

Employees and Labor Relations

As of December 31, 2019, we employed approximately 3,500 people, of which approximately 50% were located outside the United States and 22% were unionized. We currently have collective bargaining agreements covering five facilities worldwide, one of which is in the United States. The four facilities outside the United States with collective bargaining agreements are associated with state-controlled or trade unions.

We believe employee relations are good and are not aware of any present active union organizing activities at any of our facilities. We cannot predict the impact of any further unionization of our workplace.

Seasonality and Backlog

TriMas does not experience significant seasonal fluctuation, other than our fourth quarter, which has tended to be the lowest net sales quarter of the year given holiday shutdowns by certain of our customers and other customers deferring capital spending to the new year. We do not consider sales order backlog to be a material factor in our businesses. Our TriMas Aerospace customers often provide a forward view of build rates and need for products, but firm orders do not extend for more than a few months, and are not guaranteed and subject to change.

Environmental Matters

We are subject to increasingly stringent environmental laws and regulations, including those relating to air emissions, wastewater discharges, and chemical and hazardous waste management and disposal. Some of these environmental laws hold owners or operators of land or businesses liable for their own and for previous owners' or operators' releases of hazardous or toxic substances or wastes. Other environmental laws and regulations require the obtainment and compliance with environmental permits. To date, costs of complying with environmental, health and safety requirements have not been material. However, the nature of our operations and our long history of industrial activities at certain of our current or former facilities, as well as those acquired, could potentially result in material environmental liabilities.

Current laws and regulations have not had a material impact on our business, capital expenditures or financial position. However, we must comply with existing and pending climate change legislation, regulation and international treaties or accords. Future events, including those relating to climate change or greenhouse gas regulation could require us to incur expenses related to the modification or curtailment of operations, installation of pollution control equipment or investigation and cleanup of contaminated sites.

Intangible Assets

Our identified intangible assets, consisting of customer relationships, trademarks and trade names, and technology, are recorded at approximately \$161.4 million at December 31, 2019, net of accumulated amortization. The valuation of each of the identified intangibles was performed using broadly accepted valuation methodologies and techniques.

Customer Relationships. We have developed and maintained stable, long-term selling relationships with customer groups for specific branded products and/or focused market product offerings within each of our businesses. Useful lives assigned to customer relationship intangibles range from five to 25 years and have been estimated using historic customer retention and turnover data. Other factors considered in evaluating estimated useful lives include the diverse nature of focused markets and products of which we have significant share, how customers in these markets make purchases and these customers' position in the supply chain. We also monitor and evaluate the impact of other evolving risks including the threat of lower cost competitors and evolving technology.

Trademarks and Trade Names. Each of our businesses designs and manufactures products for focused markets under various trade names and trademarks (see discussion above by reportable segment). Our trademark/trade name intangibles are well-established and considered long-lived assets that require maintenance through advertising and promotion expenditures. Because it is our practice and intent to maintain and to continue to support, develop and market these trademarks/trade names for the foreseeable future, we consider our rights in these trademarks/trade names to have an indefinite life, except as otherwise dictated by applicable law.

Technology. We hold a number of United States and foreign patents, patent applications, and proprietary product and process-oriented technologies within all three of our reportable segments. We have, and will continue to dedicate, technical resources toward the further development of our products and processes in order to maintain our competitive position in the industrial, commercial and consumer end markets that we serve. Estimated useful lives for our technology intangibles range from one to 30 years and are determined in part by any legal, regulatory or contractual provisions that limit useful life. For example, patent rights have a maximum limit of 20 years in the United States. Other factors considered include the expected use of the technology by the operating groups, the expected useful life of the product and/or product programs to which the technology relates, and the rate of technology adoption by the industry.

International Operations

Approximately 18.2% of our net sales for the year ended December 31, 2019 were derived from sales by our businesses located outside of the United States, and approximately 23.9% of our long-lived assets as of December 31, 2019 were located outside of the United States. We operate manufacturing facilities in China, Germany, India, Italy, Mexico, Slovakia, the United Kingdom and Vietnam, in addition to our U.S. operations. In addition to the net sales derived from sales by our businesses located outside of the United States, we also generated approximately \$74.1 million of export sales from the United States. For information pertaining to the net sales and long-lived assets attributed to our international operations, refer to Note 19, "Segment Information," included in Item 8, "Financial Statements and Supplementary Data," within this Form 10-K.

Website Access to Company Reports

We use our corporate website, www.trimascorp.com, as a channel for routine distribution of important information, including news releases, company presentation, links to our businesses' websites and financial information. We post filings as soon as reasonably practicable after they are electronically filed with, or furnished to, the Securities and Exchange Commission ("SEC"), including our annual, quarterly, and current reports on Forms 10-K, 10-Q and 8-K, our proxy statements and any amendments to those reports or statements. All such postings and filings are available under our Investors section of the website free of charge. The SEC also maintains a website, www.sec.gov, that contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC. The content on any website referred to in this Annual Report on Form 10-K is not incorporated by reference into this Annual Report on Form 10-K unless expressly noted.

Item 1A. Risk Factors

You should carefully consider each of the risks described below, together with information included elsewhere in this Annual Report on Form 10-K and other documents we file with the SEC. The risks and uncertainties described below are those that we have identified as material, but are not the only risks and uncertainties facing us. Additional risks and uncertainties not currently known to us or that we currently believe are immaterial may also impact our business operations, financial results and liquidity.

Risks Relating to our Business

Our businesses depend upon general economic conditions and we serve some customers in highly cyclical industries; as such, we may be subject to the loss of sales and margins due to an economic downturn or recession.

Our financial performance depends, in large part, on conditions in the markets that we serve in both the U.S. and global economies. Although with the sale of Lamons we have significantly reduced our future exposure to the oil and gas end market, we still are exposed to highly cyclical end markets for industrial goods (including our remaining exposure in oil and gas), and to a lesser extent, aerospace and consumer products. When combined with ongoing customer consolidation activity and periodic inventory reduction initiatives, an uncertain macro-economic and political climate could lead to reduced demand from our customers, variations in timing of sales to our customers, increased price competition for our products, increased risk of excess and obsolete inventories, uncollectible receivables, and higher overhead costs as a percentage of revenue, all of which could impact our operating margins. If our customers are adversely affected by these factors, we may experience lower product volume orders, which could have an unfavorable impact on our revenue and operating profit. Our inability to forecast precisely the level of our customers' orders can cause inefficiencies within our installed manufacturing capacity and result in sub-optimal business and financial results.

Many of the markets we serve are highly competitive, which could limit sales volumes and reduce our operating margins.

Many of our products are sold in competitive markets. We believe that the principal points of competition in our markets are price, product quality, delivery performance, design and engineering capabilities, product development, conformity to customer specifications, customer service and effectiveness of distribution. Maintaining and improving our competitive position will require continued investment by us in manufacturing, engineering, quality standards, marketing, customer service and support of our distribution networks. We may have insufficient resources in the future to continue to make such investments and, even if we make such investments, we may not be able to maintain or improve our competitive position. We also face the risk of lower-cost foreign manufacturers located in China, India and other regions competing in the markets for our products and we may be driven as a consequence of this competition to increase our investment overseas. Making overseas investments can be highly complicated and we may not always realize the advantages we anticipate from any such investments. Competitive pressure may limit the volume of products that we sell and reduce our operating margins.

We may be unable to successfully implement our business strategies and achieve our strategic and financial objectives.

We have a long history of acquisitions and divestitures, and we continuously evaluate strategic opportunities and other investment activities. From time to time, we may engage in one or more strategic transactions. If we do so, it may or may not meet the intended strategic or financial objective.

Strategic acquisitions may require integration expense and actions that may negatively affect our results of operations and that could not have been fully anticipated beforehand. In addition, attractive strategic transaction opportunities may not be identified or pursued in the future, financing for strategic transactions may be unavailable on satisfactory terms and we may be unable to accomplish our strategic objectives in effecting a particular strategic transaction. We may encounter various risks in pursuing such strategic transactions, including the possible inability to integrate an acquired business into our operations, increased expenses, increased debt obligations to finance such strategic transactions and unanticipated problems or liabilities.

In addition, we may dispose of assets or businesses at a price or on terms that are less favorable than we had anticipated, or with the exclusion of assets that must be divested or run off separately. As we seek to sell or separate certain assets, equity interests or businesses, we may also encounter difficulty in finding buyers, managing interdependencies across multiple transactions and other Company initiatives, implementing separation plans or executing alternative exit strategies on acceptable terms, which could delay or prevent the accomplishment of our strategic and financial objectives. Moreover, the effect of dispositions over time will reduce our cash flow and earnings capacity and result in a less diversified portfolio of businesses, and we will have a greater dependency on remaining businesses for our financial results.

Accordingly, risks related to strategic acquisitions or dispositions may result in the disruption of our ongoing business, diversion of management's attention, the failure of such transactions to be completed, or the failure to realize the financial and strategic benefits contemplated at the time of a transaction, some or all of which could materially and adversely affect our business strategy and financial condition and results of operations.

We are dependent on our manufacturing facilities for the production of our highly engineered products, which subjects us to risks associated with disruptions and changing technology and manufacturing techniques that could place us at a competitive disadvantage.

If our manufacturing facilities become unavailable either temporarily or permanently due to labor disruptions or circumstances beyond our control, such as geopolitical developments or logistical complications arising from acts of war, cyber-attacks, weather, global climate change, earthquakes or other natural disasters including public health crises, we may be unable to shift production to other facilities or to make up for lost production. For example, our Aerospace manufacturing facilities are predominately located in southern California, an area known for earthquakes, and are thus vulnerable to damage. Any new facility would need to comply with the necessary regulatory requirements, satisfy our specialized manufacturing requirements and require specialized equipment. Even though we carry business interruption insurance policies, any business interruption losses could exceed the coverage available or be excluded from our insurance policies. Any disruption of our ability to operate our business could result in a material decrease in our revenues or significant additional costs to replace, repair or insure our assets, which could have a material adverse impact on our financial condition and results of operations.

In addition, we believe that our customers rigorously evaluate their suppliers on the basis of price competitiveness, product quality, reliability and timeliness of delivery, technical expertise and development capability, new product innovation, product design capability, manufacturing expertise, operational flexibility, customer service and overall management. Our success depends on our ability to continue to meet our customers' changing expectations with respect to these criteria. We may be unable to install, maintain and certify equipment needed to produce products or upgrade or transition our manufacturing facilities without impacting production rates or requiring other operational efficiency measures at our facilities. We anticipate that we will remain committed to product research and development, advanced manufacturing techniques and service to remain competitive, which entails significant costs; however, we may be unable to address technological advances, implement new and more cost-effective manufacturing techniques, or introduce new or improved products, whether in existing or new markets, so as to maintain our businesses' competitive positions or to grow our businesses as desired.

Significant developments from the recent and potential changes in U.S. trade policies could have a material adverse effect on us and our financial condition and results of operations.

Free trade laws and regulations provide certain duties and tariffs on qualifying imports and exports, subject to compliance with the applicable classification and other requirements. The U.S. government has indicated its intent to alter its approach to international trade policy and in some cases to renegotiate, or potentially terminate, certain existing bilateral or multi-lateral trade agreements and treaties with foreign countries. For example, in the past two years, the U.S. government implemented additional tariffs on certain goods imported from China. These tariffs, and other governmental actions relating to international trade agreements or policies, the adoption and expansion of trade restrictions, or the occurrence of a trade war may adversely impact demand for our products, costs, customers, suppliers and/or the U.S. economy or certain sectors thereof and, as a result, adversely impact our business. These tariffs and actions may, directly or indirectly, lead to higher costs and cause us to increase prices to our customers which may reduce demand, or, if we are unable to increase prices, result in lowering our margin on products sold. For example, in the past two years, we experienced higher input costs as a direct result of recently imposed tariffs on certain raw materials and components imported from China. In certain cases, we have passed-through these incremental costs to the customer, while in some cases we have not changed pricing to retain or expand volume, and in other cases we are working to install capacity in facilities where there currently is no tariff. In addition, our U.S. suppliers raised prices for certain components in response to an overall increase in demand for domestic sources as a result of recently imposed tariffs. It remains unclear what the U.S. or foreign governments will or will not do with respect to tariffs, international trade agreements and policies on a short-term or long-term basis. Additional changes in laws or policies governing the terms of foreign trade, and in particular increased trade restrictions, tariffs or taxes on imports from countries where we manufacture or purchase products could have a material adverse effect on our business and financial results.

Increases in our raw material or energy costs or the loss of critical suppliers could adversely affect our profitability and other financial results.

We are sensitive to price movements in our raw materials supply base. Our largest material purchases are for steel, polypropylene, polyethylene and other resins, aluminum, titanium and copper. Prices for these products fluctuate with market conditions, and have generally increased over time. We may be unable to offset the impact with price increases on a timely basis due to outstanding commitments to our customers, competitive considerations or our customers' resistance to accepting such price increases and our financial performance could be adversely impacted. A failure by our suppliers to continue to supply us with certain raw materials or component parts on commercially reasonable terms, or at all, could have a material adverse effect on us. To the extent there are energy supply disruptions or material fluctuations in energy costs, our margins could be materially adversely impacted.

Our business may be exposed to risks associated with an increasingly concentrated customer base.

While no individual customer accounted for 10% or more of our consolidated net sales for 2019, 2018 or 2017, our customer base has become, and may further become, increasingly concentrated as a result of our smaller revenue base following the sale of Lamons, or due to customer consolidations and/or through our sales growth to existing customers. In 2019, our Packaging and Aerospace reportable segments each had customers that comprised more than 10% of its segment revenue. As a result of these factors, certain customers may expose our business and results of operations to greater volatility. For example, a large commercial aircraft manufacturer recently announced significant production delays and/or reductions on certain of its platforms for which we provide products, which we expect will at least temporarily impact our sales, profit and production efficiencies compared with 2019 levels until and if these delays and/or reductions are lifted.

The mix and type of customers, and sales to any single customer, may vary significantly from quarter to quarter and from year to year, and have a significant impact on our financial condition, results of operations and cash flows. If customers do not place orders, or they substantially reduce, delay or cancel orders, we may not be able to replace the business, which may have a significant adverse impact on our results of operations and financial condition. Major customers may also seek pricing, payment, intellectual property-related, localizing supply rather than sourcing from Asia, or other commercial terms that are less favorable to us, which may have a negative impact on our business. The concentration of our customer base also increases our risks related to the financial condition of our customers, and the deterioration in financial condition of customers or the failure of customers to perform their obligations could have a material adverse effect on our results of operations and cash flows.

A major failure of our information systems could harm our business; increased IT security threats and more sophisticated and targeted computer crime could pose a risk to our systems, networks, and products.

We depend on integrated information systems to conduct our business. While we maintain some of our critical information systems, we are also dependent on third parties to provide important services relating to, among other things, operational technology at our facilities, human resources, electronic communications and certain finance functions. We may experience operating problems with our information systems as a result of system failures, viruses, computer hackers or other causes. Any significant disruption or slowdown of our systems could cause customers to cancel orders or cause standard business processes to become inefficient or ineffective.

We have experienced cyber-attacks in the past and, while none of these cyber-attacks resulted in a material disruption to our business, we may experience additional cyber-attacks in the future. Increased global IT security threats and more sophisticated and targeted computer crime pose a risk to the security of our systems and networks and the confidentiality, availability and integrity of our data and communications. While we attempt to mitigate these risks by employing a number of measures, including employee training, comprehensive monitoring of our networks and systems, and maintenance of backup and protective systems, our networks and systems remain potentially vulnerable to advanced persistent threats. Furthermore, we may have little or no oversight with respect to security measures employed by third-party service providers, which may ultimately prove to be ineffective at countering threats. Depending on their nature and scope, such threats could potentially lead to the compromising of confidential information and communications, improper use of our systems and networks, manipulation and destruction of data, defective products, production downtimes and operational disruptions, which in turn could adversely affect our reputation, competitiveness and results of operations.

Our ability to deliver products that satisfy customer requirements is dependent on the performance of our subcontractors and suppliers, as well as on the availability of raw materials and other components.

We rely on other companies, including subcontractors and suppliers, to provide and produce raw materials, integrated components and sub-assemblies and production commodities included in, or used in the production of, our products. If one or more of our suppliers or subcontractors experiences delivery delays or other performance problems, we may be unable to meet commitments to our customers or incur additional costs and penalties. In some instances, we depend upon a single source of supply. Any service disruption from one of these suppliers, either due to circumstances beyond the supplier's control, such as geopolitical developments or logistical complications due to weather, global climate change, earthquakes or other natural disasters, or as a result of performance problems or financial difficulties, could have a material adverse effect on our ability to meet commitments to our customers or increase our operating costs.

We have significant goodwill and intangible assets, and future impairment of our goodwill and intangible assets could have a material negative impact on our financial results.

At December 31, 2019, our goodwill and intangible assets were approximately \$496.0 million and represented approximately 41.6% of our total assets. If we experience declines in sales and operating profit or do not meet our current and forecasted operating budget, we may be subject to goodwill and/or other intangible asset impairments in the future. While the fair value of our remaining goodwill exceeds its carrying value, significantly worse financial performance of our businesses, significantly different assumptions regarding future performance of our businesses or significant declines in our stock price could result in future impairment losses. Because of the significance of our goodwill and intangible assets, and based on the magnitude of historical impairment charges, any future impairment of these assets could have a material adverse effect on our financial results.

Compliance with and changes in tax laws, including tax reform legislation in the United States, could materially and adversely impact our financial condition, results of operations and cash flows.

We are subject to extensive tax liabilities, including federal, state and foreign income taxes and transactional taxes such as excise, sales and use, payroll, franchise, withholding and property taxes. Many tax liabilities are subject to periodic audits by taxing authorities, and such audits could subject us to additional tax as well as interest and penalties. New tax laws and regulations and changes in existing tax laws and regulations could result in increased expenditures by us for tax liabilities in the future and could materially and adversely impact our financial condition, results of operations and cash flows.

The 2017 Tax Cuts and Jobs Act included substantial changes to U.S. tax law, including a reduction in the corporate tax rate, a limitation on deductibility of interest expense, a limitation on the use of net operating losses to offset future taxable income, the allowance of immediate expensing of capital expenditures and deemed repatriation of foreign earnings. The Company recorded charges of approximately \$12.3 million, net, between 2017 and 2018 as a result of adopting the 2017 Tax Cuts and Jobs Act. Any future clarification of the tax law or required change in these charges could adversely affect the Company's business and financial condition.

We have debt principal and interest payment requirements that may restrict our future operations and impair our ability to meet our obligations.

As of December 31, 2019, we have approximately \$294.7 million of outstanding debt. We are subject to variable interest rates on our revolving credit facility. Such interest rates are based on the London Interbank Offered Rate ("LIBOR") plus 1.50%. We may experience increases in our interest expense as a result of general increases in interest rate levels, which could be affected by the replacement of LIBOR as the benchmark interest rate. We have no amounts outstanding under our revolving credit facility as of December 31, 2019.

Our degree of leverage and level of interest expense may have important consequences, including:

- should our leverage increase, it may place us at a competitive disadvantage as compared with our less leveraged competitors and make us more vulnerable in the event of a downturn in general economic conditions or in any of our businesses;
- our flexibility in planning for, or reacting to, changes in our businesses and the industries in which we operate may be limited;
- a substantial portion of our cash flow from operations will be dedicated to the payment of annual interest and future principal obligations on our indebtedness, thereby reducing the funds available to us for operations, capital expenditures, acquisitions, future business opportunities or obligations to pay rent in respect of our operating leases; and
- our operations are restricted by our debt instruments, which contain certain financial and operating covenants, and those restrictions may limit, among other things, our ability to borrow money in the future for working capital, capital expenditures, acquisitions, rent expense or other purposes.

Our ability to service our debt and other obligations will depend on our future operating performance, which will be affected by prevailing economic conditions and financial, business and other factors, many of which are beyond our control. Our business may not generate sufficient cash flow, and future financings may not be available to provide sufficient net proceeds, to meet these obligations or to successfully execute our business strategies. See "*Management's Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources.*"

Restrictions in our debt instruments limit our ability to take certain actions and breaches thereof could impair our liquidity.

Our revolving credit facility and the indenture governing our senior notes contain covenants that restrict our ability to:

- pay dividends or redeem or repurchase capital stock;
- incur additional indebtedness and grant liens;
- make acquisitions and joint venture investments; and
- sell assets.

Our debt instruments also require us to comply with financial covenants relating to, among other things, interest coverage and leverage. We may not be able to satisfy these covenants in the future or be able to pursue our strategies within the constraints of these covenants. Substantially all of the assets of our domestic subsidiaries are pledged as collateral. Borrowings under the foreign currency sub limit are secured by a pledge of the assets of the foreign subsidiary borrowers that are party to our revolving credit facility. A breach of a covenant contained in our debt instruments could result in an event of default under one or more of our debt instruments and our lease financing arrangements. Such breaches would permit the lenders to declare all amounts borrowed thereunder to be due and payable, and the commitments of such lenders to make further extensions of credit could be terminated. Each of these circumstances could materially and adversely impair our liquidity.

We may face liability associated with the use of products for which patent ownership or other intellectual property rights are claimed.

We may be subject to claims or inquiries regarding alleged unauthorized use of a third party's intellectual property. An adverse outcome in any intellectual property litigation could subject us to significant liabilities to third parties, require us to license technology or other intellectual property rights from others, require us to comply with injunctions to cease marketing or using certain products or brands, or require us to redesign, re-engineer, or re-brand certain products or packaging, any of which could affect our business, financial condition and operating results. If we are required to seek licenses under patents or other intellectual property rights of others, we may not be able to acquire these licenses on acceptable terms, if at all. In addition, the cost of responding to an intellectual property infringement claim, in terms of legal fees and expenses and the diversion of management resources, whether or not the claim is valid, could have a material adverse effect on our business, results of operations and financial condition.

We may be unable to adequately protect our intellectual property.

While we believe that our patents, trademarks, know how and other intellectual property have significant value, it is uncertain that this intellectual property or any intellectual property acquired or developed by us in the future, will provide a meaningful competitive advantage. Our patents or pending applications may be challenged, invalidated or circumvented by competitors or rights granted thereunder may not provide meaningful proprietary protection. Moreover, competitors may infringe on our patents or successfully avoid them through design innovation. Policing unauthorized use of our intellectual property is difficult and expensive, and we may not be able to, or have the resources to, prevent misappropriation of our proprietary rights, particularly in countries where the laws may not protect such rights as fully as in the U.S. The cost of protecting our intellectual property may be significant and have a material adverse effect on our financial condition and future results of operations.

We may incur material losses and costs as a result of product liability, recall and warranty claims brought against us.

We are subject to a variety of litigation incidental to our businesses, including claims for damages arising out of use of our products, claims relating to intellectual property matters and claims involving employment matters and commercial disputes. We currently carry insurance and maintain reserves for potential product liability claims. However, our insurance coverage may be inadequate if such claims do arise and any liability not covered by insurance could have a material adverse effect on our business. Although we have been able to obtain insurance in amounts we believe to be appropriate to cover such liability to date, our insurance premiums may increase in the future as a consequence of conditions in the insurance business generally or our situation in particular. Any such increase could result in lower operating profit or cause the need to reduce our insurance coverage. In addition, a future claim may be brought against us that could have a material adverse effect on us. Any product liability claim may also include the imposition of punitive damages, the award of which, pursuant to certain state laws, may not be covered by insurance. Our product liability insurance policies have limits that, if exceeded, may result in material costs that could have an adverse effect on our future profitability. In addition, warranty claims are generally not covered by our product liability insurance. Further, any product liability or warranty issues may adversely affect our reputation as a manufacturer of high-quality, safe products, divert management's attention, and could have a material adverse effect on our business.

In addition, our former Lamons business is a party to lawsuits related to asbestos contained in gaskets formerly manufactured by it or its predecessors. While we sold the Lamons business in December 2019, we retained the asbestos-related liability exposure. Some of this litigation includes claims for punitive and consequential as well as compensatory damages. We are not able to predict the outcome of these matters given that, among other things, claims may be initially made in jurisdictions without specifying the amount sought or by simply stating the minimum or maximum permissible monetary relief, and may be amended to alter the amount sought. Of the 4,759 claims pending at December 31, 2019, 56 set forth specific amounts of damages (other than those stating the statutory minimum or maximum). See Note 14, "*Commitments and Contingencies*," included in Item 8, "*Financial Statements and Supplementary Data*," within this Form 10-K for additional information.

Total settlement costs (exclusive of defense costs) for all such cases, some of which were filed over 25 years ago, have been approximately \$9.4 million. All relief sought in the asbestos cases is monetary in nature. To date, approximately 40% of our costs related to settlement and defense of asbestos litigation have been covered by our primary insurance. Effective February 14, 2006, we entered into a coverage-in-place agreement with our first level excess carriers regarding the coverage to be provided to us for asbestos-related claims when the primary insurance is exhausted. The coverage-in-place agreement makes asbestos defense costs and indemnity insurance coverage available to us that might otherwise be disputed by the carriers and provides a methodology for the administration of such expenses. The Company's primary insurance exhausted in November 2018, and the Company is solely responsible for defense costs and indemnity payments prior to the commencement of coverage under this agreement, the duration of which would be subject to the scope of damage awards and settlements paid. During this period, we may incur significant litigation costs in defending these matters. We also may be required to incur additional defense costs and pay damage awards or settlements or become subject to equitable remedies in the future that could adversely affect our businesses.

Our business may be materially and adversely affected by compliance obligations and liabilities under environmental laws and regulations.

We are subject to increasingly stringent environmental laws and regulations, including those relating to air emissions, wastewater discharges and chemical and hazardous waste management and disposal. Some of these environmental laws hold owners or operators of land or businesses liable for their own and for previous owners' or operators' releases of hazardous or toxic substances or wastes. Other environmental laws and regulations require the obtainment and compliance with environmental permits. To date, costs of complying with environmental, health and safety requirements have not been material. However, the nature of our operations and our long history of industrial activities at certain of our current or former facilities, as well as those acquired, could potentially result in material environmental liabilities.

While we must comply with existing and pending climate change legislation, regulation and international treaties or accords, current laws and regulations have not had a material impact on our business, capital expenditures or financial position. Future events, including those relating to climate change or greenhouse gas regulation, could require us to incur expenses related to the modification or curtailment of operations, installation of pollution control equipment or investigation and cleanup of contaminated sites.

Our borrowing costs may be impacted by our credit ratings developed by various rating agencies.

Two major ratings agencies, Standard & Poor's and Moody's, evaluate our credit profile on an ongoing basis and have each assigned ratings for our long-term debt. If our credit ratings were to decline, our ability to access certain financial markets may become limited, the perception of us in the view of our customers, suppliers and security holders may worsen and as a result, we may be adversely affected.

We have significant operating lease obligations and our failure to meet those obligations could adversely affect our financial condition.

We lease many of our manufacturing and distribution branch facilities, and certain capital equipment. Our rental expense in 2019 under these operating leases was approximately \$7.5 million. A failure to pay our rental obligations would constitute a default allowing the applicable landlord to pursue any remedy available to it under applicable law, which would include taking possession of our property and, in the case of real property, evicting us. These leases are categorized as operating leases and are not considered indebtedness for purposes of our debt instruments.

Trends in oil and natural gas prices may affect the demand for, and profitability of, our energy-related products and services, which could have an adverse effect on our business, consolidated results of operations, and consolidated financial condition.

The oil and gas industry historically has experienced periodic downturns. Demand for our energy-related products, such as pump jack engines and compressors, is sensitive to the level of production activity of, and the corresponding capital spending by, oil and natural gas companies. The level of production activity is directly affected by trends in oil (and related derivatives) and natural gas prices, which have been at lower levels over the past four years, and may continue to remain at depressed levels and be subject to future volatility.

Prices for oil and natural gas are subject to large fluctuations in response to changes in the supply of and demand for oil and natural gas, market uncertainty, geopolitical developments, alternative production methods and a variety of other factors that are beyond our control. Even the perception of longer-term lower oil and natural gas prices can reduce or defer major capital expenditures by our customers in the oil and gas industry.

We may be subject to further unionization and work stoppages at our facilities or our customers may be subject to work stoppages, which could seriously impact the profitability of our business.

As of December 31, 2019, approximately 22% of our work force was unionized under several different unions and bargaining agreements. We have collective bargaining agreements covering five facilities worldwide, one of which is in the United States. Our labor agreement with the United Automobile, Aerospace and Agricultural Implement Workers of America at our TriMas Aerospace facility in Commerce, California expires in 2021. We are not aware of any present active union organizing drives at any of our other facilities. We cannot predict the impact of any further unionization of our workplace.

Many of our direct or indirect customers have unionized work forces. Strikes, work stoppages or slowdowns experienced by these customers or their suppliers could result in slowdowns or closures of assembly plants where our products are included. In addition, organizations responsible for shipping our customers' products may be impacted by occasional strikes or other activity. Any interruption in delivery of our customers' products may reduce demand for our products and have a material adverse effect on us.

Healthcare costs for active employees may exceed projections and may negatively affect our financial results.

We maintain a range of healthcare benefits for our active employees pursuant to labor contracts and otherwise. Healthcare benefits for active employees are provided through comprehensive hospital, surgical and major medical benefit provisions or through health maintenance organizations, all of which are subject to various cost-sharing features. Some of these benefits are provided for in fixed amounts negotiated in labor contracts with the respective unions. If our costs under our benefit programs for active employees exceed our projections, our business and financial results could be materially adversely affected. Additionally, foreign competitors and many domestic competitors provide fewer benefits to their employees, and this difference in cost could adversely impact our competitive position.

A growing portion of our sales may be derived from international sources, which exposes us to certain risks which may adversely affect our financial results and impact our ability to service debt.

We have operations outside of the United States. Approximately 18.2% of our net sales for the year ended December 31, 2019 were derived from sales by our subsidiaries located outside of the U.S. In addition, we may expand our international operations through internal growth or acquisitions. International operations, particularly sales to emerging markets and manufacturing in non-U.S. countries, are subject to risks that are not present within U.S. markets, which include, but are not limited to, the following:

- volatility of currency exchange between the U.S. dollar and currencies in international markets;
- changes in local government regulations and policies including, but not limited to, foreign currency exchange controls or monetary policy, governmental embargoes, repatriation of earnings, expropriation of property, duty or tariff restrictions, investment limitations and tax policies;
- political and economic instability and disruptions, including labor unrest, civil strife, public health crises (including viral outbreaks such as the coronavirus), acts of war, guerrilla activities, insurrection and terrorism;
- legislation that regulates the use of chemicals;
- disadvantages of competing against companies from countries that are not subject to U.S. laws and regulations, including the Foreign Corrupt Practices Act ("FCPA");
- compliance with international trade laws and regulations, including export control and economic sanctions, such as anti-dumping duties;
- difficulties in staffing and managing multi-national operations;
- limitations on our ability to enforce legal rights and remedies;
- tax inefficiencies in repatriating cash flow from non-U.S. subsidiaries that could affect our financial results and reduce our ability to service debt;

- reduced protection of intellectual property rights; and
- other risks arising out of foreign sovereignty over the areas where our operations are conducted.

In addition, we could be adversely affected by violations of the FCPA and similar worldwide anti-bribery laws as well as export controls and economic sanction laws. The FCPA and similar anti-bribery laws in other jurisdictions generally prohibit companies and their intermediaries from making improper payments to non-U.S. officials for the purpose of obtaining or retaining business.

Our acquisition and disposition agreements by which we have acquired or sold companies, include indemnification provisions that may not fully protect us and may result in unexpected liabilities.

Certain of the agreements related to the acquisition and disposition of businesses require indemnification against certain liabilities related to the operations of the company for the previous owner. We cannot be assured that any of these indemnification provisions will fully protect us, and as a result we may incur unexpected liabilities that adversely affect our profitability and financial position.

We depend on the services of key individuals and relationships, the loss of which could materially harm us.

Our success will depend, in part, on the efforts of our key leadership, including key technical, commercial and manufacturing personnel. Our future success will also depend on, among other factors, our ability to retain or attract other qualified personnel. The loss of the services of any of our key employees or the failure to retain or attract employees could have a material adverse effect on us.

Economic conditions and regulatory changes following the United Kingdom's exit from the European Union could have a material adverse effect on our business and results of operations.

The United Kingdom's exit from the European Union and the resulting significant change to the United Kingdom's relationship with the European Union and with countries outside the European Union (and the laws, regulations and trade deals impacting business conducted between them) could disrupt the overall economic growth or stability of the United Kingdom and the European Union and negatively impact our operations. The United Kingdom exited the European Union on January 31, 2020. The United Kingdom is currently in a transition period that will expire on December 31, 2020. These developments, or the perception that any of them could occur, have had and may continue to have a material adverse effect on global economic conditions and the stability of global financial markets, and may significantly reduce global market liquidity and restrict the ability of key market participants to operate in certain financial markets. Any of these factors could depress economic activity and restrict our access to capital, which could have a material adverse effect on our business, financial condition and results of operations and reduce the price of our equity shares. We operate manufacturing facilities internationally, including in the United Kingdom. Accordingly, the United Kingdom's withdrawal from the European Union may have an adverse impact on our international operations, particularly in the United Kingdom.

Our reputation, ability to do business, and results of operations may be impaired by legal compliance risks.

While we strive to maintain high standards, our internal controls and compliance systems may not always protect us from acts committed by our employees, agents, or business partners that would violate U.S. and/or non-U.S. laws or adequately protect our confidential information, including the laws governing payments to government officials, bribery, fraud, anti-kickback and false claims rules, competition, export and import compliance, money laundering, and data privacy laws, as well as the improper use of proprietary information or social media. Any such allegations, violations of law or improper actions could subject us to civil or criminal investigations in the U.S. and in other jurisdictions, could lead to substantial civil or criminal, monetary and non-monetary penalties, and related shareholder lawsuits, could lead to increased costs of compliance, could damage our reputation and could have a material effect on our financial statements.

If the Cequent spin-off does not qualify as a tax-free transaction, the Company and its shareholders could be subject to substantial tax liabilities.

The separation of our former Cequent businesses from TriMas in 2015 was conditioned on our receipt of an opinion from our tax advisors, in form and substance satisfactory to us, that the distribution of shares of our Cequent businesses in the spin-off qualifies as tax-free to the Cequent businesses, the Company and our shareholders for U.S. federal income tax purposes under Sections 355 and 368(a)(1)(D) and related provisions of the U.S. Internal Revenue Code of 1986, as amended (the "Code"), the Company and other members of our consolidated tax reporting group. The opinion relied on, among other things, various assumptions and representations as to factual matters made by the Company and the Cequent businesses which, if inaccurate or incomplete in any material respect, could jeopardize the conclusions reached by our advisor in its opinion. The opinion is not binding on the Internal Revenue Service ("IRS"), or the courts, and there is no assurance that the IRS or the courts will not challenge the qualification of the spin-off as a transaction under Sections 355 and 368(a) of the Code or that any such challenge would not prevail.

If the spin-off were determined not to qualify under Section 355 of the Code, each U.S. holder of our common shares who received shares of the Cequent businesses in connection with the spin-off would generally be treated as having received a taxable distribution of property in an amount equal to the fair market value of the shares of the Cequent businesses that were received. That distribution would be taxable to each such shareholder as a dividend to the extent of our current and accumulated earnings and profits. For each such shareholder, any amount that exceeded our earnings and profits would be treated first as a non-taxable return of capital to the extent of such shareholder's tax basis in his or her common shares of the Company with any remaining amount being taxed as a capital gain. We would be subject to tax as if we had sold common shares in a taxable sale for their fair market value and we would recognize taxable gain in an amount equal to the excess of the fair market value of such common shares over our tax basis in such common shares, which could have a material adverse impact on our financial condition, results of operations and cash flows.

Item 1B. Unresolved Staff Comments

Not applicable.

Item 2. Properties
Properties

Our principal manufacturing facilities range in size from approximately 10,000 square feet to approximately 255,000 square feet. Except as set forth in the table below, all of our manufacturing facilities are owned. The leases for our manufacturing facilities have terms that expire from 2020 through 2029 and are generally renewable, at our option, for various terms, provided that we are not in default under the lease agreements. Substantially all of our owned U.S. real properties are subject to liens in connection with our credit facility. Our executive offices are located in Bloomfield Hills, Michigan under a lease through February 2028. Our buildings have been generally well maintained, are in good operating condition and are adequate for current production requirements.

The following list sets forth the location of our principal owned and leased manufacturing and other facilities used in continuing operations and identifies the principal reportable segment utilizing such facilities as of December 31, 2019:

	Packaging	Aerospace	Specialty Products
United States:			
Alabama			Huntsville
Arkansas	Atkins ⁽¹⁾		
Arizona		Tempe ⁽¹⁾	Tolleson
California	Irwindale ⁽¹⁾ Rohnert Park ⁽¹⁾	City of Industry Commerce ⁽¹⁾	Stanton ⁽¹⁾
Indiana	Auburn Hamilton ⁽¹⁾		
Kansas		Ottawa	
Ohio	New Albany ⁽¹⁾		
Oklahoma			Tulsa
Texas			Longview
International:			
China	Haining City ⁽¹⁾ Hangzhou ⁽¹⁾		
Germany	Neunkirchen		
India	Baddi New Delhi ⁽¹⁾		
Italy	Forli Povolaro		
Mexico	San Miguel de Allende ⁽¹⁾		
Slovakia	Levice ⁽¹⁾		
United Kingdom	Leicester		
Vietnam	Thu Dau Mot ⁽¹⁾		

⁽¹⁾ Represents a leased facility. All such leases are operating leases.

Item 3. Legal Proceedings

See Note 14, "Commitments and Contingencies" included in Item 8, "Financial Statements and Supplementary Data," within this Form 10-K.

Item 4. Mine Safety Disclosures

Not applicable.

Supplementary Item. Information about our Executive Officers

As of December 31, 2019, the following were executive officers of the Company:

Thomas A. Amato. Mr. Amato, age 56, was appointed the Company's president and chief executive officer in July 2016. Previously, he served as chief executive officer and president of Metaldyne, LLC, an international engineered products manufacturing company, from 2009 through 2015, and co-president and chief integration officer of Metaldyne Performance Group, a global manufacturing company formed in mid-2014 and taken public in the same year, from August 2014 through December 2015. Prior to 2009, he served as chairman, chief executive officer, and president of Metaldyne Corporation, a global components manufacturer, and co-chief executive officer of Asahi Tec, a Japanese casting and forging company. Prior to this, Mr. Amato worked at MascoTech in positions of increasing responsibility, and successfully completed several acquisitions and divestitures. During this time, one of his roles was vice president of corporate development for TriMas. From 1987 to 1994, Mr. Amato worked at Imperial Chemical Industries, a large multinational chemical company, as an applications development engineer and, eventually, a group leader.

Robert J. Zalupski. Mr. Zalupski, age 60, was appointed the Company's chief financial officer in January 2015. Previously, he served as vice president, finance and treasurer of the Company since 2003 and assumed responsibility for corporate development in March 2010. He joined the Company as director of finance and treasury in 2002, prior to which he worked in the Detroit office of Arthur Andersen. From 1996 through 2001, Mr. Zalupski was a partner in the audit and business advisory services practice of Arthur Andersen providing audit, business consulting, and risk management services to both public and privately held companies in the manufacturing, defense, and automotive industries. Prior to 1996, Mr. Zalupski held various positions of increasing responsibility within the audit practice of Arthur Andersen serving public and privately held clients in a variety of industries.

Joshua A. Sherbin. Mr. Sherbin, age 56, was appointed the Company's general counsel and corporate secretary in 2005, vice president and chief compliance officer in May 2008, and senior vice president in March 2016. Prior to joining the Company, he was employed as the North American corporate counsel and corporate secretary for Valeo, a diversified Tier 1 international automotive supplier headquartered in Europe. Prior to joining Valeo in 1997, Mr. Sherbin was senior counsel, assistant corporate secretary for Kelly Services, Inc., an employment staffing company, from 1995 to 1997. From 1988 until 1995, he was an associate with the law firm Butzel Long in its general business practice.

PART II

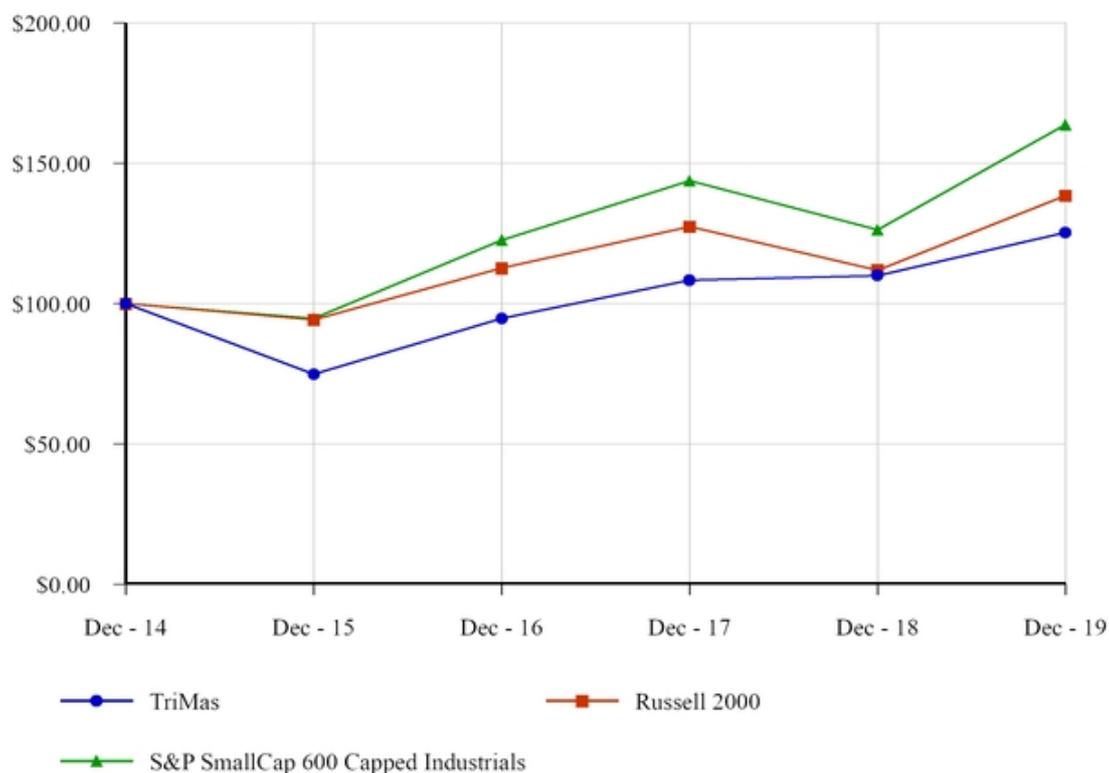
Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Our common stock, par value \$0.01 per share, is listed for trading on the NASDAQ Global Select Market under the symbol "TRS." As of February 21, 2020, there were 192 holders of record of our common stock.

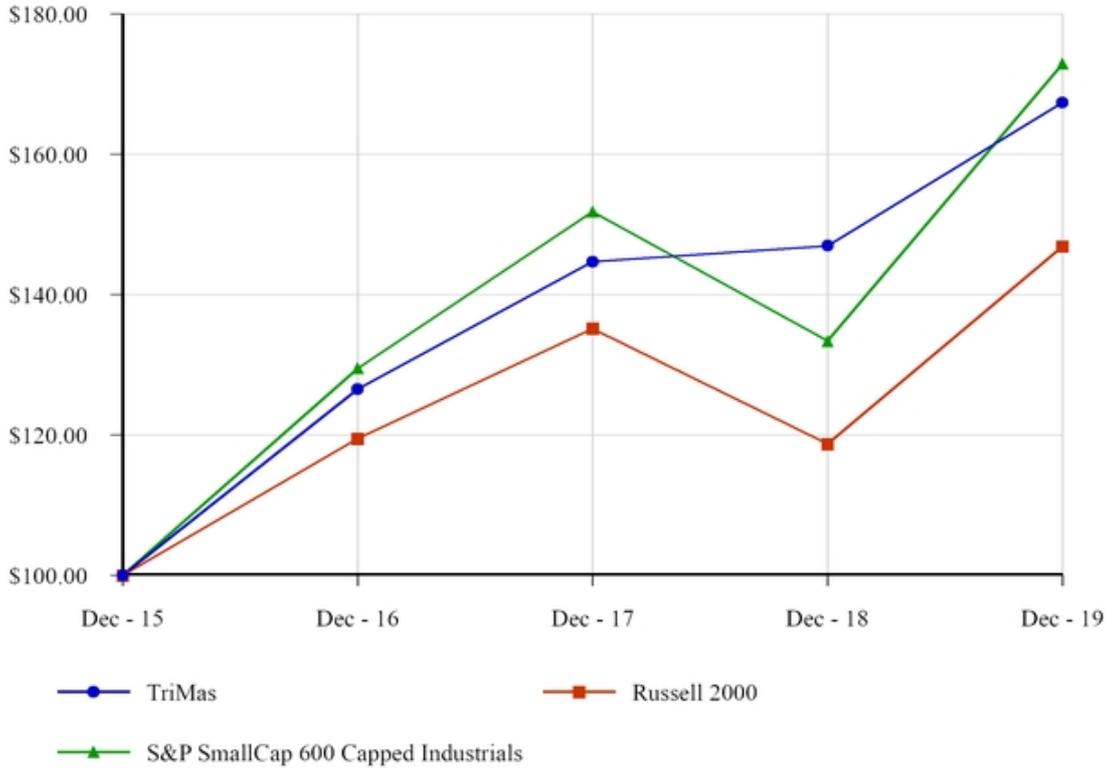
Our credit agreement and the indenture governing our senior notes restrict the payment of dividends on common stock, as such we did not pay dividends in 2019 or 2018. Our current policy is to retain earnings to repay debt and finance our operations and acquisitions. See the discussion under Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources" and Note 11 to the Company's financial statements captioned "Long-term Debt," included in Item 8, "Financial Statements and Supplementary Data," within this Form 10-K.

Performance Graphs

The following graph compares the cumulative total stockholder return from December 31, 2014 through December 31, 2019 for TriMas common stock, the Russell 2000 Index and the S&P SmallCap 600 Capped Industrials Index. We have assumed that dividends have been reinvested (and taking into account the value of Horizon Global shares distributed in the spin-off) and returns have been weighted-averaged based on market capitalization. The graph assumes that \$100 was invested on December 31, 2014 in each of TriMas common stock, the stocks comprising the Russell 2000 Index and the stocks comprising the S&P SmallCap 600 Capped Industrials Index.



The following graph also compares TriMas common stock, the Russell 2000 Index and the S&P SmallCap 600 Capped Industrials Index, but displays the cumulative total stockholder return over a four year period from December 31, 2015 through December 31, 2019. Management believes this comparison of more recent relative returns is helpful information, as it highlights TriMas' improved results following the implementation of the TriMas Business Model in 2016. The TriMas Business Model is the common framework under which we operate our multi-industry set of business. We have assumed that dividends have been reinvested and returns have been weighted-averaged based on market capitalization. The graph assumes that \$100 was invested on December 31, 2015 in each of TriMas common stock, the stocks comprising the Russell 2000 Index and the stocks comprising the S&P SmallCap 600 Capped Industrials Index.



Issuer Purchases of Equity Securities

The following table provides information about purchases made by the Company, or on behalf of the Company by an affiliated purchaser, of shares of the Company's common stock during the three months ended December 31, 2019.

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs ⁽¹⁾	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Program ⁽¹⁾
October 1, 2019 to October 31, 2019	3,872	\$ 29.01	3,872	\$ 41,653,214
November 1, 2019 to November 30, 2019	302,650	\$ 30.89	302,650	\$ 107,304,356
December 1, 2019 to December 31, 2019	200,000	\$ 30.96	200,000	\$ 101,112,683
Total	506,522	\$ 30.90	506,522	\$ 101,112,683

⁽¹⁾ In February 2019, the Company announced its Board of Directors had authorized the Company to increase the purchase of its common stock up to \$75 million in the aggregate from its previous authorization of \$50 million. In November 2019, the Company announced its Board of Directors further increased the Company's common stock share repurchase authorization to \$150 million in the aggregate. The increased authorization includes the value of shares already purchased under the previous authorization. The share repurchase program is effective and has no expiration date. Pursuant to this share repurchase program, during the three months ended December 31, 2019, the Company repurchased 506,522 shares of its common stock at a cost of approximately \$15.7 million.

Item 6. Selected Financial Data

The financial data for each of the five years presented has been derived from our financial statements and notes to those financial statements, which have been audited by Deloitte & Touche LLP. The following data should be read in conjunction with Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations," and our audited financial statements included in Item 8, "Financial Statements and Supplementary Data," within this Form 10-K. The following tables set forth our selected historical financial data from continuing operations for the five years ended December 31, 2019 (dollars and shares in thousands, except per share data).

	Year ended December 31,				
	2019	2018	2017	2016	2015
Statement of Operations Data:					
Net sales	\$ 723,530	\$ 705,030	\$ 656,160	\$ 635,030	\$ 670,590
Gross profit	193,900	200,110	189,280	181,110	212,390
Operating profit (loss) ^(a)	91,220	108,810	92,720	(29,430)	91,560
Income (loss) from continuing operations ^(a)	61,940	73,710	35,960	(27,600)	45,570
Per Share Data:					
Basic:					
Continuing operations ^(a)	\$ 1.37	\$ 1.61	\$ 0.79	\$ (0.61)	\$ 1.01
Weighted average shares	45,304	45,825	45,683	45,407	45,124
Diluted:					
Continuing operations ^(a)	\$ 1.36	\$ 1.60	\$ 0.78	\$ (0.61)	\$ 1.00
Weighted average shares	45,595	46,170	45,990	45,407	45,483

	Year ended December 31,				
	2019	2018	2017	2016	2015
Balance Sheet Data:					
Total assets	\$ 1,192,700	\$ 1,100,520	\$ 1,033,200	\$ 1,051,650	\$ 1,170,300
Total debt	294,690	293,560	303,080	374,650	419,630
Goodwill and other intangibles ^(a)	496,030	484,540	505,780	519,800	641,490

^(a)During 2016, we recorded goodwill and indefinite-lived intangible asset impairment charges totaling approximately \$98.9 million.

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

The statements in the discussion and analysis regarding industry outlook, our expectations regarding the performance of our business and the other non-historical statements in the discussion and analysis are forward-looking statements. These forward-looking statements are subject to numerous risks and uncertainties, including, but not limited to, the risks and uncertainties described in Item 1A "Risk Factors." Our actual results may differ materially from those contained in or implied by any forward-looking statements. You should read the following discussion together with Item 8, "Financial Statements and Supplementary Data."

Introduction

We are a diversified global manufacturer and provider of products for customers primarily in the consumer products, aerospace and industrial end markets. Our wide range of innovative product solutions are engineered and designed to solve application-specific challenges that our customers face. We believe our businesses share important and distinguishing characteristics, including: well-recognized and leading brand names in the focused markets we serve; innovative product technologies and features; customer approved processes and qualified products; established distribution networks; relatively low ongoing capital investment requirements; strong cash flow conversion and long-term growth opportunities. While the majority of our revenue is in the United States, we manufacture and supply products globally to a wide range of companies. We are principally engaged in three reportable segments: Packaging, Aerospace and Specialty Products.

In December 2019, we completed the sale of our Lamons division ("Lamons"), a manufacturer and distributor of industrial sealing, fastening and specialty products primarily used in the petrochemical and petroleum-refining industries, to two wholly-owned subsidiaries of an investment fund sponsored by First Reserve. The sale of Lamons was an important strategic step for TriMas, as we simplify and streamline our portfolio of businesses, significantly reducing our exposure to the oil and gas end market and allowing us to further focus on the businesses reported in our Packaging and Aerospace segments and the markets they serve. Net after-tax proceeds from the sale were approximately \$110.9 million, and remain subject to customary post-closing adjustments. The financial results of Lamons were previously reported within our Specialty Products reportable segment. The financial position, results of operations and cash flows of Lamons are reflected as discontinued operations for all periods presented through the date of disposition.

Key Factors and Risks Affecting Our Reported Results

Our businesses and results of operations depend upon general economic conditions. We serve customers in industries that are highly competitive, cyclical and that may be significantly impacted by changes in economic or geopolitical conditions.

Net sales for the year increased approximately \$18.5 million, primarily as a result of sales from businesses acquired during 2019 in our Packaging segment. Sales growth from these acquisitions, plus from dispensers for health, beauty and home care applications and aerospace fastening products was partially offset by declines in sales of North American industrial, food and beverage and oil and gas-related products. While sales levels increased, our gross profit and operating profit decreased from 2018 levels, primarily due to a less favorable product sales mix, as a result of certain 2019 and 2018 non-operating liabilities and as a result of higher freight costs.

Other than the sale of Lamons, the most significant drivers of change in the results of our operations in 2019 compared with 2018 were the impact of our two acquisitions in 2019, which drove the overall sales growth but at lower operating margins than overall TriMas, a decline in industrial end market sales and related profit, and three non-cash settlements of previously recorded liabilities.

We acquired Plastic Srl and Taplast S.p.A. ("Taplast") in January 2019 and April 2019, respectively. Plastic Srl is a manufacturer of single-bodied and assembled polymeric caps and closures for use in home care product applications. Taplast is a designer and manufacturer of dispensers, closures and containers for the beauty and personal care, household, and food and beverage packaging end markets. These acquisitions contributed \$35.3 million of sales during 2019 within our Packaging segment, and provide opportunities for future growth, as well as additional manufacturing and engineering capacity, in the European market. While Plastic Srl and Taplast were accretive to 2019 operating profit dollars, their relative contribution was below the segment overall margin rate, impacting the Packaging segment operating profit margin by more than 100 basis points. We expect, over time, to fully integrate these acquisitions utilizing the TriMas Business Model ("TBM"), achieving planned synergies and improving margins.

While demand levels in certain end markets were strong, especially for health, beauty and home care products as well as commercial aircraft fastening products, sales of North American industrial-related products declined by nearly \$20 million from prior year levels. In our Specialty Products segment, industrial sales were down approximately \$13.8 million, with cylinder sales lower due to the impact of customer consolidation and inventory management, and sales of upstream oil and gas products lower due to reduced oilfield-related activity. In our Packaging segment, industrial sales were down approximately \$5.8 million due to lower demand levels. Given this level of sales, operating profit levels were significantly impacted, primarily in our Specialty Products segment, which declined by 300 basis points year-over-year due to lower fixed cost absorption and higher conversion costs. While difficult to quantify, we believe demand levels, primarily in the Packaging end markets, are being affected by uncertainties related to the direct and indirect impact of current and proposed tariffs and other restrictions on trade.

An additional factor significantly impacting 2019 versus 2018 results of operations related to the termination of a legacy liability of approximately \$8.2 million, which resulted in a non-cash reduction to corporate office selling, general and administrative expenses in 2018 that did not repeat in 2019. Prior to 2002, we were wholly-owned by Metaldyne Corporation ("Metaldyne"). In connection with the reorganization between TriMas and Metaldyne in June 2002, we assumed certain liabilities and obligations of Metaldyne, mainly comprised of contractual obligations to former TriMas employees, tax-related matters, benefit plan liabilities and reimbursements to Metaldyne of normal course payments to be made on TriMas' behalf. Metaldyne and its U.S. subsidiaries filed voluntary petitions in the United States Bankruptcy Court under Chapter 11 of the U.S. Bankruptcy Code in 2009. In January 2018, the U.S. Bankruptcy Court entered a final decree to close all remaining cases and finalize the Metaldyne bankruptcy distribution trust, effectively terminating any potential obligation by TriMas to Metaldyne.

Another factor impacting the 2019 versus 2018 results of operations was a \$3.9 million non-cash reversal of a contingent liability in our Packaging segment. This liability represented deferred purchase price for a prior acquisition, for which the underlying obligation expired during 2019.

The remaining factor impacting the 2019 versus 2018 results of operations was our settlement of defined benefit obligations in 2018. In 2018, we purchased an annuity contract to transfer certain retiree defined benefit obligations to an insurance company. The annuity contract was funded by plan assets. We recognized a one-time settlement charge of approximately \$2.5 million, which is included in other income (expense), net in the accompanying consolidated statement of income.

Additional Key Risks that May Affect Our Reported Results

Critical factors affecting our ability to succeed include: our ability to create organic growth through product development, cross-selling and extending product-line offerings, and our ability to quickly and cost-effectively introduce new products; our ability to acquire and integrate companies or products that supplement existing product lines, add new distribution channels or customers, expand our geographic coverage or enable better absorption of overhead costs; our ability to manage our cost structure more efficiently via supply base management, internal sourcing and/or purchasing of materials, selective outsourcing and/or purchasing of support functions, working capital management, and greater leverage of our administrative functions.

Our overall business does not experience significant seasonal fluctuation, other than our fourth quarter, which has tended to be the lowest net sales quarter of the year due to holiday shutdowns at certain customers or other customers deferring capital spending to the following year. Given the shorter-cycle nature of most of our businesses, we do not consider sales order backlog to be a material factor. A growing amount of our sales is derived from international sources, which exposes us to certain risks, including currency risks.

We are sensitive to price movements in our raw materials supply base. Our largest material purchases are for resins (such as polypropylene and polyethylene), steel, aluminum and other oil and metal-based purchased components. In mid 2018, material costs began to rise, increasing through the remainder of 2018, primarily as a direct and indirect result of foreign trade policy changes. These cost increases primarily related to oil and metal-based commodities. We took swift actions, and continue to take actions, to mitigate such cost impacts, including implementing commercial pricing adjustments, resourcing to alternate suppliers and insourcing of previously sourced products to better leverage our global manufacturing footprint. As a result of these actions, as well as softening of certain underlying commodity costs during 2019, we largely mitigated the impact such that material costs were not a significant driver of year-over-year profit change. While higher material costs were not directly a significant driver of year-over-year profit change, certain of our Packaging segment customers in the United States chose to resource their order requirements in 2019 to avoid tariffs or higher prices from tariffs, until, we believe, we are able to install capacity outside of countries subject to tariffs. Although we believe we are generally able to mitigate the impact of higher commodity costs, we may experience additional material costs and disruptions in supply in the future and may not be able to pass along higher costs to our customers in the form of price increases or otherwise mitigate the impacts to our operating results.

Our Arrow Engine business in our Specialty Products segment is sensitive to the demand for natural gas and crude oil in North America. For example, demand for engine, pump jack and compressor products are impacted by active oil and gas rig counts and wellhead investment activities. Separately, oil-based commodity costs are a significant driver of raw materials and purchased components used within our Packaging reportable segment.

Although we have escalator/de-escalator clauses in commercial contracts with certain of our customers, or can modify prices based on market conditions to recover higher costs, we cannot be assured of full cost recovery in the open market.

Each year, as a core tenet of the TBM, our businesses target cost savings from Kaizen and continuous improvement initiatives in an effort to reduce, or otherwise offset, the impact of increased input and conversion costs through increased throughput and yield rates, with a goal of at least covering inflationary and market cost increases. In addition, we continuously review our operating cost structures to ensure alignment with current market demand.

We continue to evaluate alternatives to redeploy the cash generated by our businesses, one of which includes returning capital to our shareholders. In November 2015, our Board of Directors authorized up to \$50 million in share repurchases. During 2019, our Board of Directors increased the authorization to \$75 million in February, and later to \$150 million in November. In 2019, we purchased 1,230,050 shares of our outstanding common stock for approximately \$36.7 million, which represents nearly 2.7% of our outstanding common shares as of December 31, 2018. During 2018, we purchased 442,632 shares of our outstanding common stock for approximately \$12.1 million.

Each increase in share repurchase authorization includes the value of shares already purchased under the previous authorization. We will continue to evaluate opportunities to return capital to shareholders through the purchase of our common stock, depending on market conditions and other factors.

Segment Information and Supplemental Analysis

The following table summarizes financial information for our three reportable segments (dollars in thousands):

	Year ended December 31,					
	2019	As a Percentage of Net Sales	2018	As a Percentage of Net Sales	2017	As a Percentage of Net Sales
Net Sales						
Packaging	\$ 392,340	54.2%	\$ 368,200	52.2%	\$ 344,570	52.5%
Aerospace	164,840	22.8%	156,380	22.2%	154,050	23.5%
Specialty Products	166,350	23.0%	180,450	25.6%	157,540	24.0%
Total	<u>\$ 723,530</u>	<u>100.0%</u>	<u>\$ 705,030</u>	<u>100.0%</u>	<u>\$ 656,160</u>	<u>100.0%</u>
Gross Profit						
Packaging	\$ 116,180	29.6%	\$ 119,620	32.5%	\$ 116,620	33.8%
Aerospace	49,960	30.3%	45,210	28.9%	45,060	29.3%
Specialty Products	27,760	16.7%	35,280	19.6%	27,600	17.5%
Total	<u>\$ 193,900</u>	<u>26.8%</u>	<u>\$ 200,110</u>	<u>28.4%</u>	<u>\$ 189,280</u>	<u>28.8%</u>
Selling, General and Administrative						
Packaging	\$ 35,340	9.0%	\$ 35,030	9.5%	\$ 38,310	11.1%
Aerospace	21,540	13.1%	20,280	13.0%	19,970	13.0%
Specialty Products	11,150	6.7%	11,840	6.6%	10,060	6.4%
Corporate expenses	34,500	N/A	24,060	N/A	31,560	N/A
Total	<u>\$ 102,530</u>	<u>14.2%</u>	<u>\$ 91,210</u>	<u>12.9%</u>	<u>\$ 99,900</u>	<u>15.2%</u>
Operating Profit (Loss)						
Packaging	\$ 80,770	20.6%	\$ 84,590	23.0%	\$ 80,610	23.4%
Aerospace	28,400	17.2%	24,930	15.9%	24,960	16.2%
Specialty Products	16,550	9.9%	23,350	12.9%	17,280	11.0%
Corporate	(34,500)	N/A	(24,060)	N/A	(30,130)	N/A
Total	<u>\$ 91,220</u>	<u>12.6%</u>	<u>\$ 108,810</u>	<u>15.4%</u>	<u>\$ 92,720</u>	<u>14.1%</u>
Capital Expenditures						
Packaging	\$ 16,400	4.2%	\$ 13,590	3.7%	\$ 17,140	5.0%
Aerospace	6,280	3.8%	820	0.5%	2,800	1.8%
Specialty Products	6,920	4.2%	4,120	2.3%	4,310	2.7%
Corporate ^(a)	70	N/A	4,890	N/A	9,460	N/A
Total	<u>\$ 29,670</u>	<u>4.1%</u>	<u>\$ 23,420</u>	<u>3.3%</u>	<u>\$ 33,710</u>	<u>5.1%</u>
Depreciation						
Packaging	\$ 15,070	3.8%	\$ 12,510	3.4%	\$ 12,240	3.6%
Aerospace	5,680	3.4%	5,790	3.7%	5,170	3.4%
Specialty Products	3,840	2.3%	3,650	2.0%	4,180	2.7%
Corporate	280	N/A	280	N/A	180	N/A
Total	<u>\$ 24,870</u>	<u>3.4%</u>	<u>\$ 22,230</u>	<u>3.2%</u>	<u>\$ 21,770</u>	<u>3.3%</u>
Amortization						
Packaging	\$ 9,580	2.4%	\$ 9,110	2.5%	\$ 9,390	2.7%
Aerospace	8,020	4.9%	8,110	5.2%	8,120	5.3%
Specialty Products	1,030	0.6%	1,040	0.6%	1,030	0.7%
Corporate	—	N/A	—	N/A	—	N/A
Total	<u>\$ 18,630</u>	<u>2.6%</u>	<u>\$ 18,260</u>	<u>2.6%</u>	<u>\$ 18,540</u>	<u>2.8%</u>

^(a) Corporate capital expenditures for the years ended December 31, 2018 and 2017, respectively, are primarily related to purchases of machinery and equipment formerly held under operating leases. These purchased assets were subsequently transferred from Corporate to the reportable segment utilizing the assets.

Results of Operations

Year Ended December 31, 2019 Compared with Year Ended December 31, 2018

The principal factors impacting us during the year ended December 31, 2019, compared with the year ended December 31, 2018 were:

- the impact of our two acquisitions, Plastic Srl and Taplast, acquired in January 2019 and April 2019, respectively, which drove the overall sales growth but at lower operating margins;
- a decline in North American industrial end market sales and related operating profit, primarily in our Specialty Products and Packaging reportable segments;
- the termination of a Corporate liability, resulting in an approximate \$8.2 million reduction in selling, general and administrative expenses during 2018 which did not repeat in 2019;
- an approximate \$3.9 million non-cash reversal of a contingent liability in our Packaging reportable segment, for which the underlying obligation expired in 2019; and
- the settlement of defined benefit obligations in 2018, which resulted in an approximate \$2.5 million non-cash settlement charge that did not repeat in 2019.

Overall, net sales increased approximately \$18.5 million, or approximately 2.6%, to \$723.5 million in 2019, as compared to \$705.0 million in 2018. The acquisitions of Taplast, in April 2019, and Plastic Srl, in January 2019, contributed approximately \$35.3 million of sales in our Packaging segment. Organic sales overall, excluding the impact of currency exchange, decreased by approximately \$11.0 million compared to 2018. We experienced approximately \$12.2 million higher sales to the Packaging segment's health, beauty and home care end markets and \$8.4 million higher sales within our Aerospace segment, both due to solid demand levels primarily in North America. These increases were more than offset by an approximate \$19.8 million decline in sales of industrial-related products in our Specialty Products and Packaging segments, primarily as a result of end market conditions in North America, as well as approximately \$11.8 million lower sales of products for food and beverage applications. Additionally, net sales were lower by approximately \$5.8 million due to unfavorable currency exchange, as our reported results in U.S. dollars were negatively impacted as a result of the stronger U.S. dollar relative to foreign currencies.

Gross profit margin (gross profit as a percentage of sales) approximated 26.8% and 28.4% in 2019 and 2018, respectively. Gross profit margin decreased, as the impact of higher sales levels was more than offset by a less favorable product sales mix, resulting from higher levels of sales growth in product applications and end markets typically with lower margin profiles, and acquisition sales with gross margins below TriMas' overall gross margin rate. Gross profit margin further declined due to higher freight and conversion costs in 2019 and as a result of unfavorable currency exchange.

Operating profit margin (operating profit as a percentage of sales) approximated 12.6% and 15.4% in 2019 and 2018, respectively. Operating profit decreased \$17.6 million, to \$91.2 million in 2019, as compared to \$108.8 million in 2018. Operating profit and margin decreased primarily due to the year-over-year impact of an approximate \$8.2 million non-cash reduction of our recorded liability to Metaldyne in 2018 following the U.S. Bankruptcy Court's final decree to close all remaining cases and terminate the Metaldyne bankruptcy distribution trust that did not repeat in 2019. In addition, during 2019 we also recognized a \$3.9 million non-cash reversal of a contingent liability in our Packaging segment. Operating profit and related margin further declined as the impact of higher sales levels was more than offset by a less favorable product sales mix, increased purchase accounting expenses, increased professional fees primarily in support of corporate development activities, higher freight and conversion costs, and as a result of unfavorable currency exchange.

Interest expense increased approximately \$0.1 million, to \$14.0 million in 2019, as compared to \$13.9 million in 2018, as a result of higher intra-period revolving credit borrowings in 2019 as compared to 2018.

Other income (expense), net increased approximately \$3.5 million to \$1.0 million of income in 2019, from \$2.5 million of expense in 2018, primarily due to a one-time charge of \$2.5 million related to the settlement of defined benefit obligations in second quarter 2018 that did not repeat in 2019.

Income tax expense decreased approximately \$2.3 million, to \$16.3 million in 2019, as compared to \$18.7 million in 2018. The effective income tax rate for 2019 was 20.9%, compared to 20.2% for 2018. During 2019, we reported domestic and foreign pre-tax income of approximately \$52.2 million and \$26.1 million, respectively, and recognized tax benefits of approximately \$1.2 million resulting from research and manufacturing tax incentives. We also incurred tax charges of approximately \$3.6 million directly attributable to increases in valuation allowances on certain deferred tax assets including foreign tax operating loss carryforwards. In 2018, we reported domestic and foreign pre-tax income of approximately \$64.7 million and \$27.7 million, respectively, and recognized a net tax benefit of approximately \$2.7 million related to provision to return adjustments for our U.S. Federal tax return, which included an approximate \$1.1 million benefit due to additional regulations that were issued in connection with the Tax Cuts and Jobs Act ("Tax Reform Act").

Income from continuing operations decreased approximately \$11.8 million to \$61.9 million in 2019, from \$73.7 million in 2018. The decrease was primarily the result of a decrease in operating profit of approximately \$17.6 million, partially offset by a decrease in income tax expense of approximately \$2.3 million and an increase of other income (expense) of approximately \$3.5 million.

See below for a discussion of operating results by reportable segment.

Packaging. Net sales increased approximately \$24.1 million, or 6.6%, to \$392.3 million in 2019, as compared to \$368.2 million in 2018. The Taplast and Plastic Srl acquisitions contributed approximately \$35.3 million in 2019. Sales to the health, beauty and home care end market increased approximately \$12.2 million, primarily due to higher demand in North America and Europe as well as sales growth in Asia. These increases were partially offset by a decrease in sales of products to the food and beverage end market by approximately \$11.8 million, primarily due to lower sales of pumps as well as labor and capacity constraints to manufacture caps for certain food applications. Sales of products to the industrial end market declined by approximately \$5.8 million due to lower demand in North America. Additionally, net sales were lower by approximately \$5.8 million due to unfavorable currency exchange, as our reported results in U.S. dollars were negatively impacted as a result of the stronger U.S. dollar relative to foreign currencies.

Packaging's gross profit decreased approximately \$3.4 million to \$116.2 million, or 29.6% of sales, in 2019, as compared to \$119.6 million, or 32.5% of sales, in 2018. Gross profit decreased by approximately \$3.2 million due to higher freight costs, more than half of which was as a result of expediting shipments to fulfill committed delivery dates, and by approximately \$2.0 million due to unfavorable currency exchange, as our reported results in U.S. dollars were negatively impacted as a result of the stronger U.S. dollar relative to foreign currencies. While the increase in net sales contributed incremental gross profit dollars, we experienced a less favorable product sales mix, primarily due to gross margins of the acquired businesses being below the current overall segment margin, which impacted gross margin by nearly 100 basis points. In addition, sales to the health, beauty and home care end market comprised a larger percentage of net sales in 2019 compared to 2018, and yield a lower gross profit margin.

Packaging's selling, general and administrative expenses increased approximately \$0.3 million to \$35.3 million, or 9.0% of sales, in 2019, as compared to \$35.0 million, or 9.5% of sales, in 2018, primarily due to higher ongoing selling, general and administrative costs associated with the acquisitions completed in 2019 as well as non-cash purchase accounting-related expenses of approximately \$0.8 million related to the write-off of the trade name acquired in the Plastic Srl acquisition that will not be used. These increases were partially offset by an approximate \$3.9 million non-cash reversal of a contingent liability for which the underlying obligation expired in 2019.

Packaging's operating profit decreased approximately \$3.8 million to \$80.8 million, or 20.6% of sales, in 2019, as compared to \$84.6 million, or 23.0% of sales, in 2018, as the impact of higher freight costs, unfavorable foreign currency exchange, a less favorable product sales mix, and higher selling, general and administrative expenses more than offset the impact of higher sales levels.

Aerospace. Net sales increased approximately \$8.4 million, or 5.4%, to \$164.8 million in 2019, as compared to \$156.4 million in 2018, due to steady demand levels for fastener products combined with improved production throughput at our manufacturing facilities.

Gross profit within Aerospace increased approximately \$4.8 million to \$50.0 million, or 30.3% of sales, in 2019, from \$45.2 million, or 28.9% of sales, in 2018, as the higher sales were more profitable as a result of production efficiencies. In addition, gross profit and related margin increased due to a favorable product sales mix of more highly-engineered fasteners.

Selling, general and administrative expenses increased approximately \$1.3 million to \$21.5 million, or 13.1% of sales, in 2019, as compared to \$20.3 million, or 13.0% of sales, in 2018, consistent with the increase in sales levels on percentage basis.

Operating profit within Aerospace increased approximately \$3.5 million to \$28.4 million, or 17.2% of sales, in 2019, as compared to \$24.9 million, or 15.9% of sales, in 2018, primarily due to higher sales levels, improved production efficiencies and a more favorable product sales mix, which were partially offset by higher selling, general and administrative expenses.

Specialty Products. Net sales decreased approximately \$14.1 million, or 7.8%, to \$166.4 million in 2019, as compared to \$180.5 million in 2018. Sales of engines, compressors and related parts used in upstream oil and gas applications decreased approximately \$7.1 million due to lower oil and gas drilling investment activity in the U.S. and Canada. Sales of our industrial cylinder products decreased approximately \$6.7 million, primarily due to decreased demand for both high pressure and acetylene steel cylinders, we believe, as a result of customer consolidation and related asset cylinder inventory management. In addition, net sales decreased by approximately \$0.3 million due to lower sales of machined components products.

Gross profit within Specialty Products decreased approximately \$7.5 million to \$27.8 million, or 16.7% of sales, in 2019, as compared to \$35.3 million, or 19.6% of sales, in 2018. Gross profit decreased primarily due to lower sales, reduced fixed cost absorption, and higher conversion costs for our cylinder products and machined components.

Selling, general and administrative expenses within Specialty Products decreased approximately \$0.7 million to \$11.2 million, or 6.7% of sales, in 2019, as compared to \$11.8 million, or 6.6% of net sales, in 2018. Selling, general and administrative expenses decreased as we have continued to manage spending levels consistent with current lower demand levels.

Operating profit within Specialty Products decreased approximately \$6.8 million to \$16.6 million, or 9.9% of sales, in 2019, as compared to \$23.4 million, or 12.9% of sales, in 2018, primarily due to lower sales levels, reduced fixed cost absorption and higher conversion costs.

Corporate Expenses. Corporate expenses included in operating profit consist of the following (dollars in millions):

	Year ended December 31,	
	2019	2018
Corporate operating expenses	\$ 25.4	\$ 22.3
Non-cash stock compensation	5.8	7.2
Legacy (income) expenses, net	3.3	(5.4)
Corporate expenses	<u>\$ 34.5</u>	<u>\$ 24.1</u>

Corporate expenses included in operating profit increased approximately \$10.4 million to \$34.5 million in 2019, from \$24.1 million in 2018. Legacy (income) expenses, net increased approximately \$8.7 million, primarily due to the termination of the liability to Metaldyne in first quarter 2018, which resulted in an approximate \$8.2 million non-cash reduction in legacy (income) expenses, net, that did not occur in 2019. Corporate operating expenses increased approximately \$3.1 million, primarily due to increased professional fees in support of corporate development activities.

Discontinued Operations. The results of discontinued operations consist of our former Lamons business, which was sold on December 20, 2019. Income from discontinued operations, net of income tax expenses, was \$36.7 million for the year ended December 31, 2019, as compared to income from discontinued operations, net of income taxes, of \$9.6 million for the year ended December 31, 2018. See Note 5, "Discontinued Operations," to our consolidated financial statements attached herein.

Year Ended December 31, 2018 Compared with Year Ended December 31, 2017

The principal factors impacting us during the year ended December 31, 2018 compared with the year ended December 31, 2017 were:

- increased sales levels across our end markets, primarily driven by higher demand for our industrial products within our Specialty Products reportable segment and from growth in our health, beauty and home care end market within our Packaging reportable segment;
- benefits of leveraging the TBM, as we continue to drive operating improvements, as well as evaluate, realign and streamline fixed costs and selling, general and administrative expenses;
- the impact of the Tax Reform Act, contributing to a lower overall effective tax rate;
- higher commodity costs, primarily related to oil and steel-based raw materials, primarily impacting our Packaging reportable segment;
- the termination of the liability to Metaldyne, resulting in an approximate \$8.2 million reduction in selling, general and administrative expenses;
- the impact of fees and expenses related to our issuance of our 4.875% senior unsecured notes due October 2025 ("Senior Notes") and other refinancing activities in 2017; and
- the settlement of defined benefit obligations in 2018, wherein a one time settlement charge was recognized.

Overall, net sales increased approximately \$48.9 million, or approximately 7.4%, to \$705.0 million in 2018, as compared to \$656.2 million in 2017, as sales increased in all three reportable segments. The primary drivers of the sales increase were industrial cylinder products, as well as engines, compressors and related parts used in upstream oil and gas applications, which increased approximately \$16.2 million and \$7.4 million, respectively, within our Specialty Products reportable segment. In addition, sales of our health, beauty and home care products increased approximately \$15.6 million within our Packaging reportable segment. Net sales also increased by approximately \$1.7 million due to net favorable currency exchange, as our reported results in U.S. dollars were favorably impacted as a result of the weakening U.S. dollar relative to foreign currencies.

Gross profit margin (gross profit as a percentage of sales) approximated 28.4% and 28.8% in 2018 and 2017, respectively. Gross profit increased primarily as a result of higher sales levels, as well as lower facility exit costs within our Packaging reportable segment. These increases were partially offset by the impact of higher commodity-related costs, a less favorable product sales mix and pricing pressures, most notably in our health, beauty and home care end market within our Packaging reportable segment.

Operating profit margin (operating profit as a percentage of sales) approximated 15.4% and 14.1% in 2018 and 2017, respectively. Operating profit increased approximately \$16.1 million, to \$108.8 million in 2018, as compared to an operating profit of \$92.7 million in 2017. Operating profit increased primarily due to overall higher sales levels and as a result of the approximately \$8.2 million reduction of our recorded liability to Metaldyne in 2018 following the U.S. Bankruptcy Court's final decree to close all remaining cases and terminate the Metaldyne bankruptcy distribution trust.

Interest expense decreased approximately \$0.5 million, to \$13.9 million in 2018, as compared to \$14.4 million in 2017, as lower weighted average borrowings more than offset an increase in our interest rates.

Other expense, net decreased approximately \$5.9 million to \$2.5 million in 2018, from \$8.5 million in 2017, primarily due to approximately \$6.6 million of debt financing and related expenses we incurred in connection with our 2017 refinancing of our long-term debt that did not recur in 2018. This decrease was partially offset by our recognition of a one-time settlement charge of approximately \$2.5 million in 2018 related to our settlement of defined benefit obligations. In 2018, we purchased an annuity contract to transfer certain retiree defined benefit obligations to an insurance company. The annuity contract was funded by plan assets.

Income tax expense decreased approximately \$15.3 million, to \$18.7 million in 2018 as compared to \$33.9 million in 2017. The effective income tax rate for 2018 was 20.2%, compared to 48.5% for 2017. During 2018, we reported domestic and foreign pre-tax income of approximately \$64.7 million and \$27.7 million, respectively, and recognized a net tax benefit of approximately \$2.7 million related to provision to return adjustments for our U.S. Federal tax return, which included an approximate \$1.1 million benefit due to additional regulations that were issued in connection with the Tax Reform Act. In 2017, we reported domestic and foreign pre-tax income of approximately \$46.2 million and \$23.7 million, and recognized tax benefits of approximately \$1.5 million resulting from research and manufacturing tax incentives. We recognized approximately \$12.7 million of income tax expense as a result of the Tax Reform Act, including \$3.7 million of provisional expense related to revaluing our net deferred tax assets at the lower U.S. corporate tax rate, and a \$9.0 million of provisional tax expense related to the deemed repatriation of approximately \$110.0 million of undistributed non-U.S. subsidiary earnings.

Income from continuing operations increased approximately \$37.8 million to \$73.7 million in 2018, from \$36.0 million in 2017. The increase was primarily the result of an approximately \$16.1 million increase in operating profit, a decrease in income tax expense of approximately \$15.3 million, a decrease in interest expense of approximately \$0.5 million and a decrease in other expense, net of approximately \$5.9 million.

See below for a discussion of operating results by reportable segment.

Packaging. Net sales increased approximately \$23.6 million, or 6.9%, to \$368.2 million in 2018, as compared to \$344.6 million in 2017. Sales of our health, beauty and home care products increased approximately \$15.6 million, driven by higher sales in Asia and North America as well as the ramp up of new products. Sales of our industrial closures increased approximately \$5.7 million and sales of our food and beverage products increased approximately \$0.6 million, both due to increased demand in North America. Additionally, net sales increased by approximately \$1.7 million due to favorable currency exchange, as our reported results in U.S. dollars were favorably impacted as a result of the weakening of the U.S. dollar relative to foreign currencies.

Packaging's gross profit increased approximately \$3.0 million to \$119.6 million, or 32.5% of sales, in 2018, as compared to \$116.6 million, or 33.8% of sales, in 2017, primarily as a result of higher sales levels, as well as approximately \$2.7 million of costs incurred in 2017 to consolidate manufacturing facilities in India and to finalize the move to a new facility in Mexico that did not recur. In addition, gross profit increased due to approximately \$0.8 million of favorable currency exchange, as our reported results in U.S. dollars were favorably impacted as a result of the weakening of the U.S. dollar relative to foreign currencies. These increases were partially offset by approximately \$3.5 million higher steel and resin-based material costs, as well as a less favorable product sales mix and pricing pressures, most notably in our health, beauty and home care end market.

Packaging's selling, general and administrative expenses decreased approximately \$3.3 million to \$35.0 million, or 9.5% of sales, in 2018, as compared to \$38.3 million, or 11.1% of sales, in 2017, primarily due to approximately \$2.7 million lower third-party professional fees in 2018, as well as a charge of approximately \$1.0 million in 2017 to reserve for an outstanding accounts receivable deemed uncollectable from a European customer who filed for insolvency. These decreases were partially offset by higher employee-related costs in 2018 supporting our sales growth initiatives.

Packaging's operating profit increased approximately \$4.0 million to \$84.6 million, or 23% of sales, in 2018, as compared to \$80.6 million, or 23.4% of sales, in 2017. Operating profit increased primarily due to higher sales levels, lower consolidation and move costs than in 2017, lower selling, general, and administrative expenses and approximately \$0.6 million due to favorable currency exchange, all of which were partially offset by higher material costs, a gain of approximately \$2.5 million related to the the sale of the former Mexico facility in 2017 that did not recur, a less favorable product sales mix and pricing pressures.

Aerospace. Net sales increased approximately \$2.3 million, or 1.5%, to \$156.4 million in 2018, as compared to \$154.1 million in 2017, as we achieved higher fastener sales levels consistent with new aircraft build rates.

Gross profit within Aerospace increased approximately \$0.1 million to \$45.2 million, or 28.9% of sales, in 2018, from \$45.1 million, or 29.3% of sales, in 2017, primarily as a result of higher sales levels. Gross profit margin decreased slightly due to the impact of lower profit generated by our standard fastener product facility in Ottawa, Kansas.

Selling, general and administrative expenses increased approximately \$0.3 million to \$20.3 million, or 13.0% of sales, in 2018, as compared to \$20.0 million, or 13.0% of sales, in 2017, primarily due to an increase in certain selling costs, consistent with the increase in sales over 2017.

Operating profit within Aerospace was relatively flat at approximately \$24.9 million, or 15.9% of sales, in 2018, as compared to \$25.0 million, or 16.2% of sales, in 2017, as the impact of higher sales was offset by lower profit generated by our standard fastener product facility in Ottawa, Kansas and higher selling, general and administrative expenses.

Specialty Products. Net sales for 2018 increased approximately \$22.9 million, or 14.5%, to \$180.5 million, as compared to \$157.5 million in 2017. Sales of our engines, compressors and related parts used in upstream oil and gas applications increased by approximately \$7.4 million due to higher levels of extraction activity in the United States and Canada. Sales of our steel cylinders for the compressed gas market increased by approximately \$16.2 million, as we captured increased general industrial and defense demand for steel cylinders. Sales of our machined components products decreased by approximately \$0.7 million, as new product sales were more than offset by our decision to exit certain less profitable components.

Gross profit within Specialty Products increased approximately \$7.7 million to \$35.3 million, or 19.6% of sales, in 2018, as compared to \$27.6 million, or 17.5% of sales, in 2017. Gross profit and margin increased primarily as a result of higher sales levels, as we continued to leverage our lower fixed cost footprint and as a result of improved margins for our machined components products due to our decision to exit certain less profitable components. The increases were partially offset by approximately \$2 million higher input costs, primarily related to the manufacture of our industrial cylinder products.

Selling, general and administrative expenses within Specialty Products increased approximately \$1.7 million to \$11.8 million, or 6.6% of sales, in 2018, as compared to \$10.1 million, or 6.4% of sales, in 2017. Selling, general and administrative expenses increased primarily due to higher sales levels.

Operating profit within Specialty Products increased approximately \$6.1 million to \$23.4 million, or 12.9% of sales, in 2018, as compared to \$17.3 million, or 11.0% of sales, in 2017, primarily as a result of higher sales levels.

Corporate Expenses. Corporate expenses included in operating profit consist of the following (dollars in millions):

	Year ended December 31,	
	2018	2017
Corporate operating expenses	\$ 22.3	\$ 20.9
Non-cash stock compensation	7.2	6.8
Legacy expenses	(5.4)	2.4
Corporate expenses	<u>\$ 24.1</u>	<u>\$ 30.1</u>

Corporate expenses included in operating profit decreased approximately \$6.0 million to \$24.1 million in 2018, from \$30.1 million in 2017, primarily due to the termination of the liability to Metaldyne in 2018, resulting in an approximate \$8.2 million non-cash reduction in legacy (income) expenses, net. Corporate operating expenses increased approximately \$1.4 million, primarily due to an increase in professional fees related to corporate development activities and an increase in expense related to our short-term incentive compensation plans. Non-cash stock compensation increased approximately \$0.4 million, primarily due to the amount of equity grants in 2018 compared with 2017 as well as the estimated attainment of certain performance-based equity awards.

Discontinued Operations. The results of discontinued operations consists of our former Lamons businesses, which was sold on December 20, 2019. Income from discontinued operations, net of income tax expenses, was \$9.6 million for the year ended December, 31 2018, as compared to a loss from discontinued operations, net of income taxes, of \$5.0 million for the year ended December 31, 2017. See Note 5, “Discontinued Operations,” to our consolidated financial statements attached herein.

Liquidity and Capital Resources

Cash Flows

Cash flows provided by operating activities of continuing operations in 2019 were approximately \$95.7 million, as compared to \$110.8 million in 2018. Significant changes in cash flows provided by operating activities of continuing operations and the reasons for such changes are as follows:

- In 2019, the Company generated \$148.1 million in cash flows, based on the reported net income of \$61.9 million and after considering the effects of non-cash items related to gains and losses on dispositions of assets, depreciation, amortization, changes in deferred income taxes, debt financing and related expenses, stock-based compensation and other operating activities. In 2018, the Company generated \$138.2 million in cash flows based on the reported net income of \$73.7 million and after considering the effects of similar non-cash items.
- Decreases in accounts receivable resulted in a source of cash of approximately \$3.3 million in 2019, primarily due to timing of cash collections. Increases in accounts receivable resulted in a use of cash of approximately \$9.6 million in 2018. Days sales outstanding of receivables increased by 3 days, primarily as a result of an increase in sales in Europe following our Italian acquisitions during 2019, where standard terms are typically longer than in North America.

- We decreased our investment in inventory by approximately \$0.7 million in 2019, while we increased our investment in inventory by approximately \$14.7 million in 2018 to buy-ahead on certain China-sourced products that were subject to tariffs, or where the tariff rate would increase, to avoid the higher cost and to ensure we had sufficient inventory supply. Our days sales in inventory remained relatively flat in 2019 as compared to 2018, as we have been moderating inventory levels in line with sales levels.
- Increases in prepaid expenses and other assets resulted in a use of cash of approximately \$6.9 million in 2019. Decreases in prepaid expenses and other assets resulted in a source of cash of approximately \$8.8 million in 2018. The changes in both 2019 and 2018 are primarily as a result of the timing of payments made for income taxes and certain operating expenses.
- Decreases in accounts payable and accrued liabilities resulted in a use of cash of approximately \$12.8 million and \$2.3 million in 2019 and 2018, respectively. Our days accounts payable on hand increased by approximately 9 days year-over-year due to the timing and mix of payment terms in 2019 compared to 2018. The decrease in accounts payable and accrued liabilities was further impacted by net non-cash reductions of obligations of approximately \$3.9 million in 2019 and \$8.2 million in 2018.

Net cash provided by investing activities in 2019 was approximately \$31.3 million, as compared to \$23.4 million used for investing activities in 2018. During 2019, we paid approximately \$67.1 million, net of cash acquired, to acquire Plastic Srl and Taplast. We invested approximately \$29.7 million in capital expenditures as we have continued our investment in growth, capacity and productivity-related capital projects. Cash received from the disposition of assets was approximately \$128.1 million in 2019, primarily related to the sale of Lamons. During 2018, we invested approximately \$23.4 million in capital expenditures and received cash from the disposition of assets of approximately \$0.1 million.

Net cash used for financing activities in 2019 was approximately \$40.4 million, as compared to \$24.0 million in 2018. During 2019, we made net repayments of approximately \$0.3 million on our revolving credit facilities. We also purchased approximately \$36.7 million of outstanding common stock and used a net cash amount of approximately \$3.3 million related to our stock compensation arrangements. During 2018, we made net repayments of approximately \$9.4 million on our revolving credit and accounts receivable facilities, purchased approximately \$12.1 million of outstanding common stock and used a net cash amount of approximately \$2.4 million related to our stock compensation arrangements.

Our Debt and Other Commitments

The \$300.0 million aggregate principal amount of Senior Notes accrues interest at a rate of 4.875% per annum, payable semi-annually in arrears on April 15 and October 15, commencing on April 15, 2018, and mature on October 15, 2025. The payment of principal and interest is jointly and severally guaranteed, on a senior unsecured basis by certain named subsidiaries of the Company (each a "Guarantor" and collectively the "Guarantors"). The Senior Notes are *pari passu* in right of payment with all existing and future senior indebtedness and subordinated to all existing and future secured indebtedness to the extent of the value of the assets securing such indebtedness. For the twelve months ended December 31, 2019, our consolidated subsidiaries that do not guarantee the Senior Notes represented approximately 16% of the total of guarantor and non-guarantor net sales, treating each as a consolidated group and excluding intercompany transactions between guarantor and non-guarantor subsidiaries. In addition, our non-guarantor subsidiaries represented approximately 29% and 11% of the total guarantor and non-guarantor assets and liabilities, respectively, as of December 31, 2019, treating the guarantor and non-guarantor subsidiaries each as a consolidated group and excluding intercompany transactions between such groups.

Prior to October 15, 2020, we may redeem up to 35% of the principal amount of the Senior Notes at a redemption price of 104.875% of the principal amount, plus accrued and unpaid interest, if any, to the redemption date, with the net cash proceeds of one or more equity offerings provided that each such redemption occurs within 90 days of the date of closing of each such equity offering. In addition, we may redeem all or part of the Senior Notes at a redemption price equal to 100% of the principal amount thereof, plus accrued and unpaid interest, if any, to the redemption date, plus a "make whole" premium.

We are party to a credit agreement, consisting of a \$300.0 million senior secured revolving credit facility, which permits borrowings denominated in specific foreign currencies, subject to a \$125.0 million sub limit (collectively, the "Credit Agreement"). The Credit Agreement matures on September 20, 2022 and is subject to interest at London Interbank Offered Rate ("LIBOR") plus 1.50%. The interest rate spread is based upon the leverage ratio, as defined, as of the most recent determination date. The Credit Agreement allows issuance of letters of credit, not to exceed \$40.0 million in aggregate, against revolving credit facility commitments.

The Credit Agreement also provides for incremental revolving credit commitments in an amount not to exceed the greater of \$200 million and an amount such that, after giving effect to such incremental commitments and the incurrence of any other indebtedness substantially simultaneously with the making of such commitments, the senior secured net leverage ratio, as defined in the Credit Agreement, is no greater than 3.00 to 1.00. The terms and conditions of any incremental revolving credit facility commitments must be no more favorable than the existing credit facility.

Amounts drawn under our revolving credit facility fluctuate daily based upon our working capital and other ordinary course needs. Availability under our revolving credit facility depends upon, among other things, compliance with our Credit Agreement's financial covenants. Our Credit Agreement contains various negative and affirmative covenants and other requirements affecting us and our subsidiaries, including the ability to, subject to certain exceptions and limitations, incur debt, liens, mergers, investments, loans, advances, guarantee obligations, acquisitions, assets dispositions, sale-leaseback transactions, hedging agreements, dividends and other restricted payments, transactions with affiliates, restrictive agreements and amendments to charters, bylaws, and other material documents. The terms of our Credit Agreement require us and our subsidiaries to meet certain restrictive financial covenants and ratios computed quarterly, including a maximum total net leverage ratio (total consolidated indebtedness plus outstanding amounts under the accounts receivable securitization facility, less the aggregate amount of certain unrestricted cash and unrestricted permitted investments, as defined, over consolidated EBITDA, as defined), a maximum senior secured net leverage ratio (total consolidated senior secured indebtedness, less the aggregate amount of certain unrestricted cash and unrestricted permitted investments, as defined, over consolidated EBITDA, as defined) and a minimum interest expense coverage ratio (consolidated EBITDA, as defined, over the sum of consolidated cash interest expense, as defined, and preferred dividends, as defined). Our permitted total net leverage ratio under the Credit Agreement is 4.00 to 1.00 as of December 31, 2019. If we were to complete an acquisition which qualifies for a Covenant Holiday Period, as defined in our Credit Agreement, then our permitted total net leverage ratio cannot exceed 4.50 to 1.00 during that period. Our actual total net leverage ratio was 1.31 to 1.00 at December 31, 2019. Our permitted senior secured net leverage ratio under the Credit Agreement is 3.50 to 1.00 as of December 31, 2019. If we were to complete an acquisition which qualifies for a Covenant Holiday Period, as defined in our Credit Agreement, then our permitted senior secured net leverage ratio cannot exceed 4.00 to 1.00 during that period. Our actual senior secured net leverage ratio was not meaningful at December 31, 2019. Our permitted interest expense coverage ratio under the Credit Agreement is 3.00 to 1.00 and, our actual interest expense coverage ratio was 12.99 to 1.00 as of December 31, 2019. At December 31, 2019, we were in compliance with our financial and other covenants contained in the Credit Agreement.

The following is a reconciliation of net income, as reported, which is a GAAP measure of our operating results, to Consolidated Bank EBITDA, as defined in our Credit Agreement, for the year ended December 31, 2019. We present Consolidated Bank EBITDA to show our performance under our financial covenants. Dollars are in thousands in the below tables.

	Year ended December 31, 2019
Net income	\$ 98,620
Bank stipulated adjustments:	
Interest expense, net (as defined)	13,950
Income tax expense	30,760
Depreciation and amortization	46,890
Non-cash compensation expense ⁽¹⁾	6,450
Other non-cash expenses or losses	5,150
Non-recurring expenses or costs ⁽²⁾	6,600
Extraordinary, non-recurring or unusual gains or losses	1,790
Business and asset dispositions	160
Permitted acquisitions	1,150
Permitted dispositions ⁽³⁾	(58,750)
Consolidated Bank EBITDA, as defined	<u>\$ 152,770</u>

	December 31, 2019
Total Indebtedness, as defined	\$ 200,000
Consolidated Bank EBITDA, as defined	152,770
Actual total net leverage ratio	<u>1.31 x</u>
Covenant requirement	<u>4.00 x</u>

	December 31, 2019
Total senior secured indebtedness ⁽⁴⁾	\$ (100,000)
Consolidated Bank EBITDA, as defined	152,770
Senior secured net leverage ratio	n/m x
Covenant requirement	3.50 x

	December 31, 2019
Interest expense, as defined	\$ 13,950
Bank stipulated adjustments:	
Interest income	(1,000)
Non-cash amounts attributable to amortization of financing costs	(1,190)
Total Consolidated Cash Interest Expense, as defined	\$ 11,760

	December 31, 2019
Consolidated Bank EBITDA, as defined	\$ 152,770
Total Consolidated Cash Interest Expense, as defined	11,760
Actual interest expense coverage ratio	12.99 x
Covenant requirement	3.00 x

⁽¹⁾ Non-cash compensation expenses resulting from the grant of equity awards.

⁽²⁾ Non-recurring costs and expenses relating to severance, relocation, restructuring and curtailment expenses.

⁽³⁾ EBITDA from permitted dispositions, as defined.

⁽⁴⁾ Senior secured indebtedness is negative at December 31, 2019 due to the deduction of certain unrestricted cash and unrestricted permitted investments as allowed under the Credit Agreement.

During 2018, we terminated our \$75.0 million accounts receivable facility, under which we had the ability to sell eligible accounts receivable to a third-party multi-seller receivables funding company.

At December 31, 2019, we had no amounts outstanding under our revolving credit facility and had \$283.9 million potentially available after giving effect to approximately \$16.1 million of letters of credit issued and outstanding. At December 31, 2018, we had no amounts outstanding under our revolving credit facility and had \$284.9 million potentially available after giving effect to approximately \$15.1 million of letters of credit issued and outstanding. The letters of credit are used for a variety of purposes, including support of certain operating lease agreements, vendor payment terms and other subsidiary operating activities, and to meet various states' requirements to self-insure workers' compensation claims, including incurred but not reported claims. Our borrowing capacity was not reduced by leverage restrictions contained in the Credit Agreement as of December 31, 2019 and December 31, 2018.

We rely upon our cash flow from operations and available liquidity under our revolving credit facility to fund our debt service obligations and other contractual commitments, working capital and capital expenditure requirements, as well as for discretionary spending such as any repurchases of our common stock. At the end of each quarter, we use cash on hand from our domestic and certain foreign subsidiaries to pay down amounts outstanding under our revolving credit facility, if applicable.

Our weighted average borrowings approximated \$338.0 million during 2019, compared to \$315.2 million during 2018, as we effectively redeployed the cash generated by our operations over this time period into two bolt-on acquisitions, capital investments in our business and repurchases of our common stock.

Cash management related to our revolving credit facility is centralized. We monitor our cash position and available liquidity on a daily basis and forecast our cash needs on a weekly basis within the current quarter and on a monthly basis outside the current quarter over the remainder of the year. Our business and related cash forecasts are updated monthly. The majority of our cash on hand as of December 31, 2019 is recorded as a Corporate asset and is located within United States. We have aggregate available funding under our revolving credit facility of \$283.9 million at December 31, 2019, which is not reduced by leverage restrictions. Based on forecasted cash sources and requirements inherent in our business plans, we believe that our liquidity and capital resources, including anticipated cash flows from operations, will be sufficient to meet our debt service, capital expenditure and other short-term and long-term obligation needs for the foreseeable future.

We are subject to variable interest rates on our revolving credit facility. At December 31, 2019, 1-Month LIBOR approximated 1.76%. At December 31, 2019, we had no amounts outstanding on our revolving credit facility and, therefore, no variable rate-based borrowings outstanding.

In addition to our long-term debt, we have other cash commitments related to leases. We account for these lease transactions primarily as operating leases, and incurred expense from continuing operations related thereto of approximately \$7.5 million in 2019. We continue to be party to non-cancelable leases for certain facilities we have exited as part of restructuring activities, and have entered into sublease agreements to minimize our net lease payments. We expect leasing will continue to be an available financing option to fund future capital expenditure requirements.

We continuously evaluate strategies to redeploy our cash, including returning capital to our shareholders. In November 2015, our Board of Directors authorized up to \$50 million in share repurchases. During 2019, our Board of Directors increased the authorization to \$75 million in February, and later to \$150 million in November. During 2019 and 2018, we purchased 1,230,050 and 442,632 shares of our outstanding common stock for approximately \$36.7 million and \$12.1 million, respectively. We will continue to evaluate opportunities to return capital to shareholders through the purchase of our common stock, depending on market conditions and other factors.

Market Risk

We conduct business in various locations throughout the world and are subject to market risk due to changes in the value of foreign currencies. The functional currencies of our foreign subsidiaries are primarily the local currency in the country of domicile. We manage these operating activities at the local level and revenues and costs are generally denominated in local currencies; however, results of operations and assets and liabilities reported in U.S. dollars will fluctuate with changes in exchange rates between such local currencies and the U.S. dollar.

We have historically used derivative financial instruments to manage currency risks, as we seek to to mitigate the risk associated with fluctuations in currency rates impacting cash flows related to certain receivables, payables and intercompany transactions denominated in foreign currencies. We also use cross-currency swap agreements to mitigate currency risks associated with the net investment in certain of our foreign subsidiaries. See Note 12, "*Derivative Instruments*," included in Item 8, "*Financial Statements and Supplementary Data*," within this Form 10-K for additional information.

While we had no variable-rate borrowings outstanding at December 31, 2019, in prior years we were subject to interest risk as it related to our long-term debt, where we used interest rate swap agreements to fix the variable portion of our debt to manage this risk. See Note 12, "*Derivative Instruments*," included in Item 8, "*Financial Statements and Supplementary Data*," within this Form 10-K for additional information.

Common Stock

TriMas is listed in the NASDAQ Global Select MarketSM. Our stock trades under the symbol "TRS."

Contractual Obligations and Off-Balance Sheet Arrangements

Under various agreements, we are obligated to make future cash payments in fixed amounts. These include payments under our long-term debt agreements, rent payments required under operating lease agreements, certain benefit obligations and interest obligations on our long-term debt.

The following table summarizes our significant contractual cash obligations as of December 31, 2019 (dollars in thousands).

	Payments Due by Periods				
	Total	Less than One Year	1 - 3 Years	3 - 5 Years	More than 5 Years
Contractual cash obligations:					
Long-term debt	\$ 300,000	\$ —	\$ —	\$ —	\$ 300,000
Operating lease obligations	36,500	7,600	12,160	7,420	9,320
Benefit obligations	13,810	1,050	2,300	2,630	7,830
Interest obligations ^(a)	87,760	14,630	29,250	29,250	14,630
Total contractual obligations	\$ 438,070	\$ 23,280	\$ 43,710	\$ 39,300	\$ 331,780

^(a) Our Senior Notes bear interest at 4.875%. There were no outstanding borrowings under our senior secured revolving credit facility at December 31, 2019. The future interest obligations calculation excludes the impact of our cross-currency swap agreements. See Note 12, "Derivative Instruments," included in Item 8, "Financial Statements and Supplementary Data," within this Form 10-K for additional information.

As of December 31, 2019, we had a \$300.0 million revolving credit facility, with no outstanding balance.

As of December 31, 2019, we are contingently liable for standby letters of credit totaling \$16.1 million issued on our behalf by financial institutions under the Credit Agreement. These letters of credit are used for a variety of purposes, including to support certain operating lease agreements, vendor payment terms and other subsidiary operating activities, and to meet various states' requirements to self-insure workers' compensation claims, including incurred but not reported claims.

The liability related to unrecognized tax benefits has been excluded from the contractual obligations table because a reasonable estimate of the timing and amount of cash flows from future tax settlements cannot be determined. For additional information, refer to Note 20, "Income Taxes," included in Item 8, "Financial Statements and Supplementary Data," within this Form 10-K.

Credit Rating

We and certain of our outstanding debt obligations are rated by Standard & Poor's and Moody's. On June 7, 2019, Moody's affirmed a Ba3 rating to our Senior Notes, as presented in Note 11, "Long-term Debt" included in Item 8, "Financial Statements and Supplementary Data" within this Form 10-K. Moody's also affirmed a Ba2 Corporate Family Rating and maintained its outlook as stable. On February 12, 2020, Standard & Poor's affirmed a BB- rating to our senior unsecured debt, affirmed a BB corporate credit rating and maintained its outlook as stable. If our credit ratings were to decline, our ability to access certain financial markets may become limited, our cost of borrowings may increase, the perception of us in the view of our customers, suppliers and security holders may worsen and as a result, we may be adversely affected.

Outlook

While 2019 macroeconomic and end market conditions were challenging, particularly in the North American industrial end markets we serve, we believe we were able to mitigate much of the impact by continuing to operate under the TriMas Business Model, which provides the standardized set of processes that we follow to drive results across our multi-industry set of businesses. Despite these challenging conditions, we experienced year-over-year sales increases, driven by the results of both of the 2019 acquisitions in Packaging and strong demand in Aerospace. Through our sale of Lamons, we have reduced our exposure to highly cyclical energy-related end markets, allowing us to further focus in our core Packaging and Aerospace platforms. We also generated strong cash flow in 2019, which along with cash on hand allowed us to allocate capital for acquisitions, internal capital investment and stock repurchases.

We believe we remain positioned to capitalize on available market growth opportunities, as well as have instilled a culture of Kaizen and continuous improvement to generate additional production efficiencies and cost savings. We are not anticipating significant improvements in our end markets, particularly given economic uncertainty around direct and indirect impacts of foreign trade policies. We will continue our efforts to mitigate the impact of external factors, while focusing on the aspects of our business that we can control.

We will continue to prioritize and pursue growth programs, particularly in our Packaging and Aerospace reportable segments, where we have many initiatives underway that we expect will benefit us in the future. We will also continue to ensure our cost structures remain aligned with customer demand in the end markets we serve, most notably in our Specialty Products reportable segment, where end market conditions in 2019 were increasingly challenging. We expect to leverage the tenets of the TriMas Business Model to achieve our growth plans, execute continuous improvement initiatives to offset inflationary pressures, and seek lower-cost sources for input costs, all while continuously assessing our manufacturing footprint, productivity and fixed-cost structure.

Impact of New Accounting Standards

See Note 2, "New Accounting Pronouncements," included in Item 8, "Financial Statements and Supplementary Data," within this Form 10-K.

Critical Accounting Policies

The following discussion of accounting policies is intended to supplement the accounting policies presented in Note 3, "Summary of Significant Accounting Policies" included in Item 8, "Financial Statements and Supplementary Data," within this Form 10-K. Certain of our accounting policies require the application of significant judgment by management in selecting the appropriate assumptions for calculating financial estimates. By their nature, these judgments are subject to an inherent degree of uncertainty. These judgments are based on our historical experience, our evaluation of business and macroeconomic trends, and information from other outside sources, as appropriate.

Receivables. Receivables are presented net of allowances for doubtful accounts of approximately \$2.1 million and \$2.8 million at December 31, 2019 and 2018, respectively. We monitor our exposure for credit losses and maintain adequate allowances for doubtful accounts. We determine these allowances based on our historical write-off experience and/or specific customer circumstances and provide such allowances when amounts are reasonably estimable and it is probable a loss has been incurred. Although we have been growing business with certain of our larger customers, and there has been some industry consolidation where certain of our customers are merging, we do not believe that significant credit risk exists or that we have a significant concentration of accounts receivable with a single customer or group of customers due to our diverse customer base. See Item 1A, "Risk Factors," for additional information regarding risks associated with a concentrated customer base.

Depreciation and Amortization. Depreciation is computed principally using the straight-line method over the estimated useful lives of the assets. Annual depreciation rates are as follows: building and land/building improvements three to 40 years, and machinery and equipment, three to 15 years. Capitalized debt issuance costs are amortized over the underlying terms of the related debt securities. Customer relationship intangibles are amortized over periods ranging from five to 25 years, while technology and other intangibles are amortized over periods ranging from one to 30 years.

Impairment of Long-Lived Assets and Definite-Lived Intangible Assets. We review, on at least a quarterly basis, the financial performance of each business unit for indicators of impairment. In reviewing for impairment indicators, we also consider events or changes in circumstances such as business prospects, customer retention, market trends, potential product obsolescence, competitive activities and other economic factors. An impairment loss is recognized when the carrying value of an asset group exceeds the future net undiscounted cash flows expected to be generated by that asset group. The impairment loss recognized is the amount by which the carrying value of the asset group exceeds its fair value.

Goodwill and Indefinite-Lived Intangibles. We assess goodwill and indefinite-lived intangible assets for impairment at the reporting unit level on an annual basis as of October 1, by reviewing relevant qualitative and quantitative factors. More frequent evaluations may be required if we experience changes in our business climate or as a result of other triggering events that take place. If carrying value exceeds fair value, a possible impairment exists and further evaluation is performed.

We determine our reporting units at the individual operating segment level, or one level below, when there is discrete financial information available that is regularly reviewed by segment management for evaluating operating results. For purposes of our 2019 goodwill impairment test, we had six reporting units, four of which had goodwill, within our three reportable segments.

We first perform a qualitative assessment for our annual goodwill impairment test and for our indefinite-lived intangible asset impairment test, which involves significant use of management's judgment and assumptions to determine whether it is more likely than not that the fair value of a reporting unit or indefinite-lived intangible asset is less than its carrying amount. In conducting the qualitative assessment, we consider macroeconomic conditions, industry and market considerations, overall financial performance, entity and reporting unit specific events, capital markets pricing, recent fair value estimates and carrying amounts, as well as legal, regulatory, and contractual factors. These factors are all considered in reaching a conclusion about whether it is more likely than not that the fair values of the intangible assets are less than the carrying values. If we conclude that further testing is required, we would perform a quantitative valuation to estimate the fair value of our intangible assets.

For purposes of the 2019 annual impairment tests, based on the qualitative assessments, we determined there were no indications that the fair value of a reporting unit or indefinite-lived intangible asset was less than its carrying amount; therefore, we determined that quantitative assessments were not required.

Future declines in sales and/or operating profit, declines in our stock price, or other changes in our business or the markets for our products could result in further impairments of our goodwill and indefinite-lived intangible assets.

Pension Benefits. We engage independent actuaries to compute the amounts of liabilities and expenses under defined benefit pension plans, subject to the assumptions that we determine are appropriate based on historical trends, current market rates and future projections as of the measurement date. Annually, we review the actual experience compared to the most significant assumptions used and makes adjustments to the assumptions, if warranted. Discount rates are based upon an expected benefit payments duration analysis and the equivalent average yield rate for high-quality fixed-income investments. Pension benefits are funded through deposits with trustees and the expected long-term rate of return on plan assets is based upon actual historical returns modified for known changes in the market and any expected change in investment policy. Certain accounting guidance, including the guidance applicable to pensions, does not require immediate recognition of the effects of a deviation between actual and assumed experience or the revision of an estimate. This approach allows the favorable and unfavorable effects that fall within an acceptable range to be netted.

Income Taxes. We compute income taxes using the asset and liability method, whereby deferred income taxes using current enacted tax rates are provided for the temporary differences between the financial reporting basis and the tax basis of assets and liabilities and for operating loss and tax credit carryforwards. We determine valuation allowances based on an assessment of positive and negative evidence on a jurisdiction-by-jurisdiction basis and record a valuation allowance to reduce deferred tax assets to the amount more likely than not to be realized. Recognized income tax positions are measured at the largest amount that is greater than 50% likely of being realized. Changes in recognition or measurement are reflected in the period in which the change in judgment occurs. We record interest and penalties related to unrecognized tax benefits in income tax expense.

On December 22, 2017, the Tax Reform Act was signed into law. The primary impact to us was the reduction in effective tax rate, substantially due to the reduction in the Federal statutory corporate income tax rate from 35% to 21%. While the Tax Reform Act also introduced new global intangible and base-erosion provisions, neither of these provisions has had a significant impact on our financial statements. The continued impact from the Tax Reform Act may differ from current estimates due to the issuance and finalization of future regulatory guidance.

Other Loss Reserves. We have other loss exposures related to environmental claims, asbestos claims and litigation. Establishing loss reserves for these matters requires the use of estimates and judgment in regard to risk exposure and ultimate liability. We are generally party to high deductible insurance programs for losses and liabilities related principally to workers' compensation, health and welfare claims and comprehensive general, product and vehicle liability. Generally, we are responsible for up to \$0.8 million per occurrence under our retention program for workers' compensation, between \$0.3 million and \$1.5 million per occurrence under our retention programs for comprehensive general, product and vehicle liability, and have a \$0.4 million per occurrence stop-loss limit with respect to our self-insured group medical plan. We accrue loss reserves up to our retention amounts based upon our estimates of the ultimate liability for claims incurred, including an estimate of related litigation defense costs, and an estimate of claims incurred but not reported using actuarial assumptions about future events. We accrue for such items when such amounts are reasonably estimable and probable. We utilize known facts and historical trends, as well as actuarial valuations in determining estimated required reserves. Changes in assumptions for factors such as medical costs and actual experience could cause these estimates to change significantly.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

In the normal course of business, we are exposed to market risk associated with fluctuations in commodity prices, insurable risks due to property damage, employee and liability claims, and other uncertainties in the financial and credit markets, which may impact demand for our products.

We conduct business in various locations throughout the world and are subject to market risk due to changes in the value of foreign currencies. The functional currencies of our foreign subsidiaries are primarily the local currency in the country of domicile. We manage these operating activities at the local level and revenues and costs are generally denominated in local currencies; however, results of operations and assets and liabilities reported in U.S. dollars will fluctuate with changes in exchange rates between such local currencies and the U.S. dollar. We use derivative financial instruments to manage currency risks associated with our procurement activities denominated in currencies other than the functional currency of our subsidiaries and the impact of currency rate volatility on our earnings.

We may also be subject to interest risk as it relates to long-term debt, for which we have historically and may prospectively employ derivative instruments such as interest rate swaps to mitigate the risk of variable interest rates. See Item 7 "*Management's Discussion and Analysis of Financial Condition and Results of Operations*" for details about our primary market risks, and the objectives and strategies used to manage these risks. Also see Note 11, "*Long-term Debt*," and Note 12, "*Derivative Instruments*," included in Item 8, "*Financial Statements and Supplementary Data*," within this Form 10-K for additional information.

Item 8. Financial Statements and Supplementary Data

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the shareholders and the Board of Directors of TriMas Corporation

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of TriMas Corporation and subsidiaries (the "Company") as of December 31, 2019 and 2018, the related consolidated statements of income, comprehensive income, cash flows, and shareholders' equity, for each of the three years in the period ended December 31, 2019, and the related notes and the schedule listed in the Index at Item 15 (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2019, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 27, 2020, expressed an unqualified opinion on the Company's internal control over financial reporting.

Basis for Opinion

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

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

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current-period audit of the financial statements that was communicated or required to be communicated to the audit committee and that (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Goodwill - Aerospace Reporting Unit - Refer to Notes 3 and 7 to the financial statements.

Critical Audit Matter Description

The Company's evaluation of goodwill impairment involves a qualitative assessment to determine whether it is more likely than not that the fair value of the reporting unit is less than its carrying amount. The qualitative assessment involves significant use of management's judgment and assumptions related to macroeconomic conditions, industry and market considerations, overall financial performance, entity and reporting unit specific events, and capital markets pricing, as well as legal, regulatory, and contractual factors. The Company also considers recent valuations of its reporting units, including the difference between the most recent fair value estimate and the carrying amount. Changes in these assumptions could have a significant effect on management's conclusion about whether a quantitative goodwill impairment test is necessary to estimate the fair value of its reporting units.

The Company's goodwill balance was \$335 million as of December 31, 2019, of which \$134 million was allocated to the Aerospace Reporting Unit ("Aerospace"). The Company concluded there were no indications that the fair value of any reporting unit was less than its carrying amount, therefore a quantitative assessment was not performed and no impairment was recognized.

Given the nature of the Aerospace operations, the assumptions used in the qualitative assessment, and the difference between the most recent fair value estimate and the carrying amount of Aerospace, auditing management's judgments related to the impact of macroeconomic conditions, overall financial performance for Aerospace, and capital markets pricing involved especially subjective judgment.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to management's qualitative evaluation of goodwill impairment for Aerospace included the following, among others:

- We tested the effectiveness of controls over goodwill, including those over management's judgments and assumptions related to macroeconomic conditions, industry and market considerations, overall financial performance, entity and reporting unit specific events, capital markets pricing, recent fair value estimates and carrying amounts, as well as legal, regulatory, and contractual factors.
- We evaluated management's ability to accurately forecast future revenues and operating margins by comparing actual results to management's historical forecasts.
- We evaluated the reasonableness of management's qualitative assessment of factors affecting revenue and operating margin forecasts by comparing the forecasts to:
 - Historical revenues and operating margins.
 - Internal communications to management and the Board of Directors.
 - Forecasted information included in Company press releases as well as in analyst and industry reports for the Company and certain of its peer companies.
- We evaluated the impact of changes in management's forecasts from the October 1, 2019, annual measurement date to December 31, 2019.
- With the assistance of our fair value specialists, we evaluated the reasonableness of management's qualitative assessment of current factors that may affect the (1) comparable company trading multiples and (2) weighted average cost of capital as used in the most recent quantitative fair value estimate by:
 - Testing independent source information underlying the determination of the comparable company trading multiples and weighted average cost of capital.
 - Developing a range of independent estimates and comparing those to management's assumptions.

/s/ Deloitte & Touche LLP

Detroit, Michigan
February 27, 2020

We have served as the Company's auditor since 2013.

TriMas Corporation
Consolidated Balance Sheet

(Dollars in thousands)

	December 31,	
	2019	2018
Assets		
Current assets:		
Cash and cash equivalents	\$ 172,470	\$ 108,150
Receivables, net	108,860	97,170
Inventories	132,660	127,160
Prepaid expenses and other current assets	20,050	6,900
Current assets, discontinued operations	—	72,430
Total current assets	434,040	411,810
Property and equipment, net	214,330	171,950
Operating lease right-of-use assets	27,850	—
Goodwill	334,640	316,650
Other intangibles, net	161,390	167,890
Deferred income taxes	500	1,080
Other assets	19,950	8,200
Non-current assets, discontinued operations	—	22,940
Total assets	\$ 1,192,700	\$ 1,100,520
Liabilities and Shareholders' Equity		
Current liabilities:		
Accounts payable	\$ 72,670	\$ 67,420
Accrued liabilities	42,020	43,890
Operating lease liabilities, current portion	5,100	—
Current liabilities, discontinued operations	—	30,420
Total current liabilities	119,790	141,730
Long-term debt, net	294,690	293,560
Operating lease liabilities	23,100	—
Deferred income taxes	16,830	3,330
Other long-term liabilities	40,810	39,220
Non-current liabilities, discontinued operations	—	2,230
Total liabilities	495,220	480,070
Preferred stock \$0.01 par: Authorized 100,000,000 shares; Issued and outstanding: None	—	—
Common stock, \$0.01 par: Authorized 400,000,000 shares; Issued and outstanding: 44,562,679 shares at December 31, 2019 and 45,527,993 shares at December 31, 2018	450	460
Paid-in capital	782,880	816,500
Accumulated deficit	(79,850)	(179,660)
Accumulated other comprehensive loss	(6,000)	(16,850)
Total shareholders' equity	697,480	620,450
Total liabilities and shareholders' equity	\$ 1,192,700	\$ 1,100,520

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

TriMas Corporation

Consolidated Statement of Income

(Dollars in thousands, except per share amounts)

	Year ended December 31,		
	2019	2018	2017
Net sales	\$ 723,530	\$ 705,030	\$ 656,160
Cost of sales	(529,630)	(504,920)	(466,880)
Gross profit	193,900	200,110	189,280
Selling, general and administrative expenses	(102,530)	(91,210)	(99,900)
Net gain (loss) on dispositions of assets	(150)	(90)	3,340
Operating profit	91,220	108,810	92,720
Other expense, net:			
Interest expense	(13,950)	(13,910)	(14,390)
Other income (expense), net	990	(2,540)	(8,450)
Other expense, net	(12,960)	(16,450)	(22,840)
Income before income taxes	78,260	92,360	69,880
Income tax expense	(16,320)	(18,650)	(33,920)
Income from continuing operations	61,940	73,710	35,960
Income (loss) from discontinued operations, net of income taxes	36,680	9,590	(5,000)
Net income	\$ 98,620	\$ 83,300	\$ 30,960
Basic earnings (loss) per share:			
Continuing operations	\$ 1.37	\$ 1.61	\$ 0.79
Discontinued operations	0.81	0.21	(0.11)
Net income per share	\$ 2.18	\$ 1.82	\$ 0.68
Weighted average common shares - basic	45,303,659	45,824,555	45,682,627
Diluted earnings (loss) per share:			
Continuing operations	\$ 1.36	\$ 1.60	\$ 0.78
Discontinued operations	0.80	0.20	(0.11)
Net income per share	\$ 2.16	\$ 1.80	\$ 0.67
Weighted average common shares - diluted	45,595,154	46,170,464	45,990,252

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

TriMas Corporation
Consolidated Statement of Comprehensive Income
(Dollars in thousands)

	Year ended December 31,		
	2019	2018	2017
Net income	\$ 98,620	\$ 83,300	\$ 30,960
Other comprehensive income (loss):			
Defined benefit plans (Note 15)	(1,470)	3,250	1,670
Foreign currency translation	10,290	(6,880)	6,050
Derivative instruments (Note 12)	3,300	4,110	(650)
Total other comprehensive income	12,120	480	7,070
Total comprehensive income	\$ 110,740	\$ 83,780	\$ 38,030

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

TriMas Corporation
Consolidated Statement of Cash Flows
(Dollars in thousands)

	Year ended December 31,		
	2019	2018	2017
Cash Flows from Operating Activities:			
Net income	\$ 98,620	\$ 83,300	\$ 30,960
Income (loss) from discontinued operations	36,680	9,590	(5,000)
Income from continuing operations	61,940	73,710	35,960
Adjustments to reconcile income from continuing operations to net cash provided by operating activities, net of acquisition impact:			
Loss (gain) on dispositions of assets	150	90	(3,340)
Depreciation	24,870	22,230	21,770
Amortization of intangible assets	18,630	18,260	18,540
Amortization of debt issue costs	1,130	1,290	1,320
Deferred income taxes	2,100	5,810	15,830
Non-cash compensation expense	6,450	7,170	6,780
Debt financing and related expenses	—	—	6,640
(Increase) decrease in receivables	3,280	(9,570)	3,980
(Increase) decrease in inventories	740	(14,680)	4,620
(Increase) decrease in prepaid expenses and other assets	(6,930)	8,790	(490)
Increase (decrease) in accounts payable and accrued liabilities	(12,780)	(2,330)	4,450
Other operating activities	(3,870)	10	2,750
Net cash provided by operating activities of continuing operations	95,710	110,780	118,810
Net cash provided by (used for) operating activities of discontinued operations	(20,110)	18,540	1,250
Net cash provided by operating activities	75,600	129,320	120,060
Cash Flows from Investing Activities:			
Capital expenditures	(29,670)	(23,420)	(33,710)
Acquisition of businesses, net of cash acquired	(67,090)	—	—
Net proceeds from dispositions of businesses, property and equipment	128,080	60	4,420
Net cash provided by (used for) investing activities of continuing operations	31,320	(23,360)	(29,290)
Net cash used for investing activities of discontinued operations	(2,240)	(1,440)	(3,060)
Net cash provided by (used for) investing activities	29,080	(24,800)	(32,350)
Cash Flows from Financing Activities:			
Proceeds from borrowings on revolving credit and accounts receivable facilities	189,060	59,060	401,300
Repayments of borrowings on revolving credit and accounts receivable facilities	(189,340)	(68,490)	(517,310)
Payments to purchase common stock	(36,740)	(12,140)	—
Shares surrendered upon exercise and vesting of equity awards to cover taxes	(3,340)	(2,380)	(510)
Proceeds from issuance of senior notes	—	—	300,000
Repayments of borrowings on term loan facilities	—	—	(257,940)
Debt financing fees	—	—	(6,070)
Other financing activities	—	—	(310)
Net cash used for financing activities of continuing operations	(40,360)	(23,950)	(80,840)
Net cash provided by financing activities of discontinued operations	—	—	—
Net cash used for financing activities	(40,360)	(23,950)	(80,840)
Cash and Cash Equivalents:			
Increase for the year	64,320	80,570	6,870
At beginning of year	108,150	27,580	20,710
At end of year	\$ 172,470	\$ 108,150	\$ 27,580
Supplemental disclosure of cash flow information:			
Cash paid for interest	\$ 12,430	\$ 13,800	\$ 9,430
Cash paid for income taxes	\$ 44,020	\$ 7,380	\$ 16,230

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

TriMas Corporation
Consolidated Statement of Shareholders' Equity
Years Ended December 31, 2019, 2018 and 2017
(Dollars in thousands)

	Common Stock	Paid-In Capital	Accumulated Deficit	Accumulated Other Comprehensive Income (Loss)	Total
Balances at December 31, 2016	\$ 460	\$ 817,580	\$ (293,920)	\$ (24,400)	\$ 499,720
Net income	—	—	30,960	—	30,960
Other comprehensive income	—	—	—	7,070	7,070
Shares surrendered upon exercise and vesting of equity awards to cover taxes	—	(510)	—	—	(510)
Non-cash compensation expense	—	6,780	—	—	6,780
Balances at December 31, 2017	\$ 460	\$ 823,850	\$ (262,960)	\$ (17,330)	\$ 544,020
Net income	—	—	83,300	—	83,300
Other comprehensive income	—	—	—	480	480
Purchase of common stock	—	(12,140)	—	—	(12,140)
Shares surrendered upon exercise and vesting of equity awards to cover taxes	—	(2,380)	—	—	(2,380)
Non-cash compensation expense	—	7,170	—	—	7,170
Balances at December 31, 2018	\$ 460	\$ 816,500	\$ (179,660)	\$ (16,850)	\$ 620,450
Net income	—	—	98,620	—	98,620
Other comprehensive income	—	—	—	12,120	12,120
Purchase of common stock	(10)	(36,730)	—	—	(36,740)
Shares surrendered upon exercise and vesting of equity awards to cover taxes	—	(3,340)	—	—	(3,340)
Non-cash compensation expense	—	6,450	—	—	6,450
Impact of accounting standards adoption (Note 2)	—	—	1,190	(1,270)	(80)
Balances at December 31, 2019	\$ 450	\$ 782,880	\$ (79,850)	\$ (6,000)	\$ 697,480

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

TRIMAS CORPORATION**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS****1. Basis of Presentation**

TriMas Corporation ("TriMas" or the "Company"), and its consolidated subsidiaries, is a diversified industrial manufacturer of products for customers primarily in the consumer products, aerospace and industrial end markets.

In the first quarter of 2019, TriMas began reporting its Stanton, California and Tolleson, Arizona machined components operations in its Specialty Products reportable segment. They were previously included in the Company's Aerospace reportable segment. This modification was made in connection with an organizational change of leadership responsibilities, allowing the Company to better leverage the machining competencies and resources of these operations with the other businesses within the Specialty Products reportable segment.

On December 20, 2019, the Company completed the previously announced sale of its Lamons business ("Lamons"), a transaction entered into with an investment fund sponsored by First Reserve on November 1, 2019. Lamons was sold for approximately \$135 million in cash, subject to customary post-closing adjustments. The financial results of Lamons were previously reported within the Company's Specialty Products reportable segment, and are presented as discontinued operations for all periods presented in the financial statements attached hereto.

See Note 19, "*Segment Information*," for further information on each of the Company's reportable segments.

2. New Accounting Pronouncements*Recently Issued Accounting Pronouncements*

In December 2019, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2019-12, "Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes" ("ASU 2019-12"), which removes specific exceptions to the general principles in Topic 740, simplifies the accounting for income taxes and provides clarification of certain aspects of current guidance. ASU 2019-12 is effective for fiscal years, and interim periods within those years, beginning after December 15, 2020, with early adoption permitted. The Company is in the process of assessing the impact of adoption on its consolidated financial statements.

In August 2018, the FASB issued ASU 2018-14, "Compensation - Retirement Benefits - Defined Benefit Plans - General (Subtopic 715-20)" ("ASU 2018-14"), which modifies the disclosure requirements for employers who sponsor defined benefit pension or other postretirement plans. ASU 2018-14 is effective for fiscal years ending after December 15, 2020, with early adoption permitted. ASU 2018-14 is to be applied retrospectively to all periods presented. The Company is in the process of assessing the impact of adoption on its consolidated financial statements.

In January 2017, the FASB issued ASU 2017-04, "Intangibles - Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment" ("ASU 2017-04"), which simplifies the test for goodwill impairment by eliminating the requirement to perform a hypothetical purchase price allocation to measure the amount of goodwill impairment. ASU 2017-04 is effective for fiscal years, and interim periods within those years, beginning after December 15, 2019, with early adoption permitted. The Company plans to adopt ASU 2017-04 effective January 1, 2020. The Company's adoption of ASU 2017-04 is not expected to have a significant impact on its consolidated financial statements.

Recently Adopted Accounting Pronouncements

In February 2018, the FASB issued ASU 2018-02, "Income Statement - Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income" ("ASU 2018-02"), which provides for the option to reclassify stranded tax effects resulting from the Tax Cuts and Jobs Act ("Tax Reform Act") classified within accumulated other comprehensive income (loss) ("AOCI") to retained earnings. The Company adopted ASU 2018-02 on January 1, 2019, and elected to reclassify approximately \$1.3 million in stranded tax effects from accumulated other comprehensive loss to accumulated deficit on the accompanying consolidated balance sheet. The Company's accounting policy is to release the income tax effects from AOCI when a defined benefit plan or a derivative instrument is liquidated and/or settled.

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

In February 2016, the FASB issued ASU 2016-02, "Leases (Topic 842)" ("ASU 2016-02") (the "New Lease Standard"), which requires lessees to recognize a lease liability and right-of-use (ROU) asset on its balance sheet for operating leases. Accounting for finance leases is substantially unchanged. The Company adopted the New Lease Standard on January 1, 2019 using a modified retrospective transition, and recorded a cumulative-effect adjustment to the opening balance of accumulated deficit as of the effective date (the effective date method). As a result of the adoption, the Company recognized approximately \$32 million of right-of-use assets and lease liabilities from continuing operations on its consolidated balance sheet. Additionally, the Company recognized an approximate \$0.1 million cumulative effect adjustment debit, net of tax, to accumulated deficit related to unamortized deferred losses for certain sale-leaseback transactions. The standard did not have an impact on the Company's consolidated statement of income.

3. Summary of Significant Accounting Policies

Principles of Consolidation. The accompanying consolidated financial statements include the accounts and transactions of TriMas and its subsidiaries. Intercompany transactions have been eliminated.

Use of Estimates. The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management of the Company 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. Such estimates and assumptions also affect the reported amounts of revenues and expenses during the reporting periods. Significant items subject to such estimates and assumptions include the carrying amount of property and equipment, goodwill and other intangibles, valuation allowances for receivables, inventories and deferred income tax assets, valuation of derivatives, estimated future unrecoverable lease costs, reserves for asbestos and ordinary course litigation, assets and obligations related to employee benefits and estimated unrecognized tax benefits. Actual results may differ from such estimates and assumptions.

Cash and Cash Equivalents. The Company considers cash on hand and on deposit and investments in all highly liquid debt instruments with initial maturities of three months or less to be cash and cash equivalents.

Receivables. Receivables are presented net of allowances for doubtful accounts of approximately \$2.1 million and \$2.8 million at December 31, 2019 and 2018, respectively. The Company monitors its exposure for credit losses and maintains allowances for doubtful accounts based upon the Company's best estimate of probable losses inherent in the accounts receivable balances. The Company does not believe that significant credit risk exists due to its diverse customer base.

Inventories. Inventories are stated at the lower of cost or net realizable value, with cost determined using the first-in, first-out method. Direct materials, direct labor and allocations of variable and fixed manufacturing-related overhead are included in inventory cost.

Property and Equipment. Property and equipment additions, including significant improvements, are recorded at cost. Upon retirement or disposal of property and equipment, the cost and accumulated depreciation are removed from the accounts, and any gain or loss is included in the accompanying statement of income. Repair and maintenance costs are charged to expense as incurred.

Depreciation and Amortization. Depreciation is computed principally using the straight-line method over the estimated useful lives of the assets. Annual depreciation rates are as follows: building and land/building improvements three to 40 years, and machinery and equipment, three to 15 years. Capitalized debt issuance costs are amortized over the underlying terms of the related debt securities. Customer relationship intangibles are amortized over periods ranging from five to 25 years, while technology and other intangibles are amortized over periods ranging from one to 30 years.

Impairment of Long-Lived Assets and Definite-Lived Intangible Assets. The Company reviews, on at least a quarterly basis, the financial performance of its businesses for indicators of impairment. In reviewing for impairment indicators, the Company also considers events or changes in circumstances such as business prospects, customer retention, market trends, potential product obsolescence, competitive activities and other economic factors. An impairment loss is recognized when the carrying value of an asset group exceeds the future net undiscounted cash flows expected to be generated by that asset group. The impairment loss recognized is the amount by which the carrying value of the asset group exceeds its fair value.

Goodwill. The Company assesses goodwill for impairment on an annual basis (October 1 test date) by reviewing relevant qualitative and quantitative factors. More frequent evaluations may be required if the Company experiences changes in its business climate or as a result of other triggering events that take place. If carrying value exceeds fair value, a possible impairment exists and further evaluation is performed.

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

The Company determines its reporting units at the individual operating segment level, or one level below, when there is discrete financial information available that is regularly reviewed by segment management for evaluating operating results. For purposes of the Company's 2019 goodwill impairment test, the Company had six reporting units, four of which had goodwill, within its three reportable segments. See Note 7, "Goodwill and Other Intangible Assets," for further details regarding the Company's goodwill impairment testing.

The Company begins its goodwill reviews by conducting a qualitative assessment ("Step Zero"), considering relevant events and circumstances that affect the fair value or carrying amount of a reporting unit. Such events and circumstances can include macroeconomic conditions, industry and market considerations, overall financial performance, entity and reporting unit specific events, and capital markets pricing. The Company considers the extent to which any identified adverse events and circumstances affect the comparison of a reporting unit's fair value with its carrying amount. The Company places more weight on the events and circumstances that most affect a reporting unit's fair value or the carrying amount of its net assets. The Company considers positive and mitigating events and circumstances that may affect its determination of whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount. The Company also considers recent valuations of its reporting units, including the difference between the most recent fair value estimate and the carrying amount. These factors are all considered by management in reaching its conclusion about whether a quantitative goodwill impairment test is necessary to estimate the fair value of its reporting units.

If the Company concludes that conducting a quantitative assessment is required, it performs the first step of a two-step goodwill impairment test. For the first step ("Step I"), the Company estimates the fair value of the reporting unit being evaluated utilizing a combination of three valuation techniques: discounted cash flow (income approach), market comparable method (market approach) and market capitalization (direct market data method). The income approach is based on management's operating plan and internal five-year forecast and utilizes forward-looking assumptions and projections, but considers factors unique to each reporting unit and related long-range plans that may not be comparable to other companies and that are not yet public. The market approach considers potentially comparable companies and transactions within the industries where the Company's reporting units participate, and applies their trading multiples to the Company's reporting units. This approach utilizes data from actual marketplace transactions, but reliance on its results is limited by difficulty in identifying companies that are specifically comparable to the Company's reporting units, considering the diversity of the Company's businesses, the relative sizes and levels of complexity. The Company also uses the direct market data method by comparing its book value and the estimates of fair value of the reporting units to the Company's market capitalization. Management uses this comparison as additional evidence of the fair value of the Company, as its market capitalization may be suppressed by other factors such as the control premium associated with a controlling shareholder, the Company's degree of leverage and the float of the Company's common stock. Management evaluates and weights the results based on a combination of the income and market approaches, and, in situations where the income approach results differ significantly from the market and direct data approaches, management re-evaluates and adjusts, if necessary, its assumptions.

Based on the Step I test, if it is determined that the carrying value of the reporting unit is higher than its fair value, there is an indication that an impairment may exist and the second step ("Step II") is performed to measure the amount of impairment loss, if any. In Step II, the Company determines the implied fair value of the reporting unit goodwill in the same manner as if the reporting unit was being acquired in a business combination and compares the implied fair value of the reporting unit goodwill to the carrying value of the goodwill. If the implied fair value of the goodwill is less than the carrying value, goodwill is impaired and is written down to the implied fair value amount.

Indefinite-Lived Intangibles. The Company assesses indefinite-lived intangible assets (primarily trademark/trade names) for impairment on an annual basis (October 1 test date) by reviewing relevant qualitative and quantitative factors. More frequent evaluations may be required if the Company experiences changes in its business climate or as a result of other triggering events that take place. If carrying value exceeds fair value, a possible impairment exists and further evaluation is performed.

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

In conducting a qualitative assessment, the Company considers relevant events and circumstances to determine whether it is more likely than not that the fair values of the indefinite-lived intangible assets are less than the carrying values. In addition to the events and circumstances that the Company considers above in its qualitative analysis for potential goodwill impairment, the Company also considers legal, regulatory and contractual factors that could affect the fair value or carrying amount of the Company's indefinite-lived intangible assets. The Company also considers recent valuations of its indefinite-lived intangible assets, including the difference between the most recent fair value estimates and the carrying amounts. These factors are all considered by management in reaching its conclusion about whether it is more likely than not that the fair values of the indefinite-lived intangible assets are less than the carrying values. If management concludes that further testing is required, the Company performs a quantitative valuation to estimate the fair value of its indefinite-lived intangible assets. In conducting the quantitative impairment analysis, the Company determines the fair value of its indefinite-lived intangible assets using the relief-from-royalty method. The relief-from-royalty method involves the estimation of appropriate market royalty rates for the indefinite-lived intangible assets and the application of these royalty rates to forecasted net sales attributable to the intangible assets. The resulting cash flows are then discounted to present value, using a rate appropriately reflecting the risks inherent in the cash flows, which then is compared to the carrying value of the assets. If the carrying value exceeds fair value, an impairment is recorded. See Note 7, "Goodwill and Other Intangible Assets," for further details regarding the Company's indefinite-lived intangible asset impairment testing.

High Deductible Insurance. The Company generally has high deductible insurance programs for losses and liabilities related to workers' compensation, health and welfare claims and comprehensive general, product and vehicle liability. The Company is generally responsible for up to \$0.8 million per occurrence under its retention program for workers' compensation, between \$0.3 million and \$1.5 million per occurrence under its retention programs for comprehensive general, product and vehicle liability, and has a \$0.4 million per occurrence stop-loss limit with respect to its group medical plan. Total insurance limits under these retention programs vary by year for comprehensive general, product and vehicle liability and extend to the applicable statutory limits for workers' compensation. Reserves for claims losses, including an estimate of related litigation defense costs, are recorded based upon the Company's estimates of the aggregate liability for claims incurred using actuarial assumptions about future events. Changes in assumptions for factors such as medical costs and actual experience could cause these estimates to change.

Pension Plans. The Company engages independent actuaries to compute the amounts of liabilities and expenses under defined benefit pension plans, subject to the assumptions that the Company determines are appropriate based on historical trends, current market rates and future projections. Assumptions used in the actuarial calculations could have a significant impact on plan obligations, and a lesser impact on current period expense. Annually, the Company reviews the actual experience compared to the more significant assumptions used and makes adjustments to the assumptions, if warranted. Discount rates are based on an expected benefit payments duration analysis and the equivalent average yield rate for high-quality fixed-income investments. Pension benefits are funded through deposits with trustees and the expected long-term rate of return on fund assets is based on actual historical returns and a review of other public company pension asset return data, modified for known changes in the market and any expected change in investment policy.

Revenue Recognition. Revenue is recognized when control of promised goods is transferred to customers, which generally occurs when products are shipped from the Company's facilities to its customers. The amount of revenue recorded reflects the consideration the Company expects to be entitled to receive in exchange for transferring those goods. Net sales are comprised of gross revenues, based on observed stand-alone selling prices, less estimates of expected returns, trade discounts and customer allowances, which include incentives such as volume and other discounts in connection with various supply programs. Such deductions are estimated and recorded during the period the related revenue is recognized. The Company may adjust these estimates when the expected amount of consideration changes based on sales volumes or other contractual terms. Sales and other consumption taxes the Company collects from customers and remits to government agencies are excluded from revenue. The Company accounts for freight and shipping costs that occur after control of the related goods transfer to the customer as a fulfillment cost within cost of sales. The nature and timing of the Company's revenue transactions are similar, as substantially all revenue is based on point-in-time transactions with customers under industry-standard payment terms. The Company may require shortened payment terms, including cash-in-advance, on an individual customer basis depending on its assessment of the customer's credit risk.

Cost of Sales. Cost of sales includes material, labor and overhead costs incurred in the manufacture of products sold in the period. Material costs include raw material, purchased components, outside processing and freight costs. Overhead costs consist of variable and fixed manufacturing costs, wages and fringe benefits, and purchasing, receiving and inspection costs.

Selling, General and Administrative Expenses. Selling, general and administrative expenses include the following: costs related to the advertising, sale, marketing and distribution of the Company's products, amortization of customer intangible assets, costs of finance, human resources, legal functions, executive management costs and other administrative expenses.

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Income Taxes. The Company computes income taxes using the asset and liability method, whereby deferred income taxes using current enacted tax rates are provided for the temporary differences between the financial reporting basis and the tax basis of assets and liabilities and for operating loss and tax credit carryforwards. The Company determines valuation allowances based on an assessment of positive and negative evidence on a jurisdiction-by-jurisdiction basis and records a valuation allowance to reduce deferred tax assets to the amount more likely than not to be realized. The Company recognizes the effect of income tax positions only if those positions are more likely than not of being sustained. Recognized income tax positions are measured at the largest amount that is greater than 50% likely of being realized. Changes in recognition or measurement are reflected in the period in which the change in judgment occurs. The Company records interest and penalties related to unrecognized tax benefits in income tax expense.

On December 22, 2017, the Tax Cuts and Jobs Act ("Tax Reform Act") was signed into law. The primary impact to the Company was a reduction in effective tax rate, substantially due to the reduction in the Federal statutory corporate income tax rate from 35% to 21%. While the Tax Reform Act also introduced new global intangible and base-erosion provisions, neither of these provisions has had a significant impact on the Company's financial statements. The continued impact from the Tax Reform Act may differ from current estimates due to the issuance and finalization of future regulatory guidance.

See Note 20, "Income Taxes," for further information.

Foreign Currency Translation. The financial statements of subsidiaries located outside of the United States are measured using the currency of the primary economic environment in which they operate as the functional currency. When translating into U.S. dollars, income and expense items are translated at average monthly exchange rates and assets and liabilities are translated at exchange rates in effect at the balance sheet date. Adjustments resulting from translating the functional currency into U.S. dollars are deferred as a component of accumulated other comprehensive income (loss) ("AOCI") in the consolidated statement of shareholders' equity. Net foreign currency transaction gains (losses) were approximate gains of \$0.3 million and \$1.0 million for the years ended December 31, 2019 and December 31, 2018, respectively, and a loss of \$0.9 million for the year ended December 31, 2017, and are included in other expense, net in the accompanying consolidated statement of income.

Derivative Financial Instruments. The Company records derivative financial instruments at fair value on the balance sheet as either assets or liabilities, and changes in their fair values are immediately recognized in earnings if the derivatives do not qualify as effective hedges. If a derivative is designated as a fair value hedge, then changes in the fair value of the derivative are offset against the changes in the fair value of the underlying hedged item. If a derivative is designated as a cash flow hedge, then the effective portion of the changes in the fair value of the derivative is recognized as a component of other comprehensive income until the underlying hedged item is recognized in earnings or the forecasted transaction is no longer probable of occurring. If a derivative is designated as a net investment hedge, then the effective portion of the changes in the fair value of the derivative is recognized in other comprehensive income and will be subsequently reclassified to earnings when the hedged net investment is either sold or substantially liquidated. The Company formally documents hedging relationships for all derivative transactions and the underlying hedged items, as well as its risk management objectives and strategies for undertaking the hedge transactions. See Note 12, "Derivative Instruments," for further information on the Company's financial instruments.

Fair Value of Financial Instruments. In accounting for and disclosing the fair value of financial instruments, the Company uses the following hierarchy:

- Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities that the Company has the ability to access at the measurement date;
- Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly; and
- Level 3 inputs are unobservable inputs for the asset or liability.

Valuation of the Company's interest rate swaps and cross-currency swaps are based on the income approach, which uses observable inputs such as interest rate yield curves and forward currency exchange rates, as applicable.

The carrying value of financial instruments reported in the balance sheet for current assets and current liabilities approximates fair value due to the short maturity of these instruments.

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Business Combinations. The Company records assets acquired and liabilities assumed from acquisitions at fair value. The fair value of working capital accounts generally approximates book value. The valuation of inventory, property, plant and equipment, and intangible assets requires significant assumptions. Inventory is recorded at fair value based on the estimated selling price less costs to sell, including completion, disposal and holding period costs with a reasonable profit margin. Property and equipment is recorded at fair value using a combination of both the cost and market approaches for both the real and personal property acquired. Under the cost approach, consideration is given to the amount required to construct or purchase a new asset of equal value at current prices, with adjustments in value for physical deterioration, as well as functional and economic obsolescence. Under the market approach, recent transactions for similar types of assets are used as the basis for estimating fair value. For trademark/trade names and technology and other intangible assets, the estimated fair value is based on projected discounted future net cash flows using the relief-from-royalty method. For customer relationship intangible assets, the estimated fair value is based on projected discounted future cash flows using the excess earnings method. The relief-from-royalty and excess earnings method are both income approaches that utilize key assumptions such as forecasts of revenue and expenses over an extended period of time, royalty rate percentages, tax rates, and estimated costs of debt and equity capital to discount the projected cash flows.

Stock-based Compensation. The Company recognizes compensation expense related to equity awards based on their fair values as of the grant date. For awards with only a service condition, expense is recognized ratably over the vesting period. Performance based equity awards may have targets tied to performance and/or market-based conditions. Market-based conditions are taken into consideration in determining the grant date fair value, and the related compensation expense is recognized regardless of whether the market condition is satisfied, provided the requisite service has been provided. For performance condition components, the Company periodically updates the probability that the performance conditions will be achieved and adjusts expense accordingly, reflecting the change from prior estimate, if any, in current period non-cash stock compensation expense. The disclosed number of awards granted considers only the targeted number of units until such time that the performance condition has been satisfied. If the performance conditions are not achieved, no award is earned.

Other Comprehensive Income (Loss). The Company refers to other comprehensive income (loss) as revenues, expenses, gains and losses that under accounting principles generally accepted in the United States of America are included in comprehensive income (loss) but are excluded from net earnings as these amounts are recorded directly as an adjustment to stockholders' equity. Other comprehensive income (loss) is comprised of foreign currency translation adjustments, amortization of prior service costs and unrecognized gains and losses in actuarial assumptions for pension and postretirement plans and changes in unrealized gains and losses on derivatives.

Reclassifications. Certain prior year amounts have been reclassified to conform with the current year presentation.

4. Acquisitions

In April 2019, the Company acquired Taplast S.p.A. ("Taplast"), a designer and manufacturer of dispensers, closures and containers for the beauty and personal care, household, and food and beverage packaging end markets, for an aggregate amount of approximately \$44.7 million, net of cash acquired. Through its operating facilities in Italy and Slovakia, Taplast serves end markets in Europe and North America and historically generated approximately \$32 million in annual revenue. Taplast is included in the Company's Packaging reportable segment.

In January 2019, the Company acquired Plastic Srl, a manufacturer of single-bodied and assembled polymeric caps and closures for use in home care product applications, for an aggregate amount of approximately \$22.4 million, net of cash acquired. Located in Forli, Italy, Plastic Srl serves the home care market in Italy and other European countries and historically generated approximately \$12 million in annual revenue. Plastic Srl is included in the Company's Packaging reportable segment.

In connection with these acquisitions, the Company recorded approximately \$1.2 million of non-cash purchase accounting-related expenses during 2019, of which approximately \$0.9 million was recognized within selling, general and administrative expenses, primarily related to the write-off of the Plastic Srl trade name acquired that will not be used. In addition, approximately \$0.3 million was recognized within cost of sales during 2019 related to the step-up in value and subsequent sale of inventory.

5. Discontinued Operations

On December 20, 2019, the Company completed the sale of Lamons to two wholly-owned subsidiaries of an investment fund sponsored by First Reserve, pursuant to an Asset and Stock Purchase Agreement dated as of November 1, 2019 (the "Purchase Agreement"), for a purchase price of \$135 million, subject to certain adjustments as set forth in the Purchase Agreement which the Company expects to be finalized in the first quarter of 2020.

TRIMAS CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

The Company recognized net cash proceeds of approximately \$110.9 million, which represents the purchase price, less estimated tax payments of approximately \$20.9 million and transaction costs of approximately \$3.2 million. The Company recorded a pre-tax gain on sale of approximately \$38.9 million, which includes the recognition of previously deferred non-cash foreign currency translation losses of approximately \$12.4 million.

The Company determined that Lamons met the criteria to be classified as a discontinued operation. As a result, the historical results for Lamons are shown in the accompanying consolidated statement of income as a discontinued operation and the assets and liabilities have been retrospectively reclassified to assets and liabilities of discontinued operations in the consolidated balance sheet.

The carrying value of the assets and liabilities of Lamons held in discontinued operations were as follows:

	December 31, 2018
Assets	
Current assets:	
Receivables, net	\$ 25,940
Inventories	45,960
Prepaid expenses and other current assets	530
Total current assets	72,430
Property and equipment, net	15,850
Other intangibles, net	6,640
Other assets	450
Total assets	\$ 95,370
Liabilities	
Current liabilities:	
Accounts payable	\$ 26,010
Accrued liabilities	4,410
Total current liabilities	30,420
Deferred income taxes	2,230
Total liabilities	\$ 32,650

Results of discontinued operations are summarized as follows (dollars in thousands):

	Year ended December 31,		
	2019	2018	2017
Net sales	\$ 182,590	\$ 172,110	\$ 161,580
Cost of sales	(138,100)	(128,100)	(131,470)
Gross profit	44,490	44,010	30,110
Selling, general and administrative expenses	(32,920)	(30,590)	(29,240)
Net gain (loss) on dispositions of assets	38,900	(160)	(4,420)
Operating profit (loss)	50,470	13,260	(3,550)
Interest expense	—	—	(10)
Other income (expense), net	(30)	360	(110)
Other income (expense), net	(30)	360	(120)
Income (loss) from discontinued operations, before income taxes	50,440	13,620	(3,670)
Income tax expense	(13,760)	(4,030)	(1,330)
Income (loss) from discontinued operations, net of tax	\$ 36,680	\$ 9,590	\$ (5,000)

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

6. Revenue

The following table presents the Company's disaggregated net sales by primary end market served (dollars in thousands):

Customer End Markets	Year ended December 31,		
	2019	2018	2017
Consumer	\$ 307,640	\$ 276,740	\$ 259,470
Aerospace	194,110	185,920	184,310
Industrial	221,780	242,370	212,380
Total net sales	\$ 723,530	\$ 705,030	\$ 656,160

The Company's Packaging reportable segment earns revenues from the consumer (which includes end markets such as health, beauty and home care, and food and beverage) and industrial end markets. The Aerospace reportable segment earns revenues from the aerospace end market. The Specialty Products reportable segment earns revenues from the industrial and aerospace end markets.

7. Goodwill and Other Intangible Assets*Goodwill*

The Company performed a Step Zero qualitative assessment as part of its 2019, 2018 and 2017 annual impairment tests for all reporting units, which included a review of the Company's market capitalization. For purposes of the 2019 and 2018 annual impairment tests, based on the Step Zero assessment, the Company determined there were no indications that the fair value of a reporting unit was less than its carrying amount. Therefore, the Company determined that the Step I and Step II tests were not required. For purposes of the 2017 annual impairment test, for all reporting units with goodwill other than the Aerospace reporting unit, based on the Step Zero assessment, the Company determined that there were no indications that the fair value of a reporting unit was less than its carrying amount. Therefore, the Company determined that the Step I and Step II tests were not required for these reporting units.

For purposes of the 2017 annual impairment test for the Company's Aerospace reporting unit, management elected to perform a Step I quantitative assessment in consideration of the partial goodwill impairment charge recorded during 2016. In preparing the Step I analysis, the Company utilized both income and market-based approaches, placing a 50% weighting on each. Significant management assumptions used under the income approach were a weighted average cost of capital ("WACC") of 9.5% and an estimated residual growth rate of 3%. In determining the WACC, management considered the level of risk inherent in the cash flow projections based on reducing previously utilized sales growth and margin expansion assumptions, as well as historical attainment of its projections and current market conditions. The use of these unobservable inputs resulted in the fair value estimate being classified as a Level 3 measurement within the fair value hierarchy. Upon completion of the Step I test, the Company determined that the fair value of the Aerospace reporting unit exceeded its carrying value by more than 15%.

During the three months ended March 31, 2019, in an effort to better align the Company's machining competencies and resources, the Company began reporting its machined products operations within the Specialty Products reportable segment. These operations were previously reported in the Company's Aerospace reportable segment. As a result of the reporting structure change, the Company's previous Aerospace reporting unit was split into two new reporting units, Machined Products and Aerospace. The Company reallocated the goodwill attributed to the previous Aerospace reporting unit on a relative fair value basis between the Machined Products and the new Aerospace reporting units, resulting in an allocation of goodwill of \$12.7 million and \$133.7 million, respectively.

After the reallocation of goodwill, the Company performed a Step I quantitative assessment for both the Machined Products and the new Aerospace reporting units. As part of this assessment, the Company determined that the fair value of the Aerospace reporting unit exceeded its carrying value by more than 34% and the fair value of the Machined Products reporting unit exceeded its carrying value by more than 13%.

TRIMAS CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Changes in the carrying amount of goodwill for the years ended December 31, 2019 and 2018 are as follows (dollars in thousands):

	Packaging	Aerospace	Specialty Products	Total
Balance, December 31, 2017	\$ 166,400	\$ 146,430	\$ 6,560	\$ 319,390
Foreign currency translation and other	(2,740)	—	—	(2,740)
Balance, December 31, 2018	\$ 163,660	\$ 146,430	\$ 6,560	\$ 316,650
Goodwill from acquisitions	18,400	—	—	18,400
Goodwill reassigned in segment realignment	—	(12,740)	12,740	—
Foreign currency translation and other	(410)	—	—	(410)
Balance, December 31, 2019	<u>\$ 181,650</u>	<u>\$ 133,690</u>	<u>\$ 19,300</u>	<u>\$ 334,640</u>

Other Intangible Assets

For the purposes of the Company's 2019 and 2018 indefinite-lived intangible asset impairment tests, the Company performed a qualitative assessment to determine whether it was more likely than not that the fair values of the indefinite-lived intangible assets were less than the carrying values. Based on the qualitative assessment performed, the Company does not believe that it is more likely than not that the fair values of each of its indefinite-lived intangible assets are less than the carrying values; therefore, a fair value calculation of the indefinite-lived intangible assets was not required for the 2019 and 2018 annual indefinite-lived intangible asset impairment tests.

In 2017, the Company performed a qualitative assessment as part of its annual impairment test to determine whether it was more likely than not that the fair values of the indefinite-lived intangible assets were less than the carrying values. Based on the assessment, the Company determined that there were no indications that the fair values of any of its indefinite-lived intangible assets were less than the carrying values. However, in consideration of the impairment charge recorded during 2016, the Company performed a quantitative assessment for its indefinite-lived intangible assets recorded on its balance sheet as of October 1, 2017 within the Aerospace reportable segment to supplement its qualitative assessment. Using the relief-from-royalty method with a discount rate of 9.5% and an estimated residual growth rate of 3%, the Company determined each of its Aerospace-related trade names had a fair value that exceeded carrying values by more than 9%. The use of unobservable inputs resulted in the fair value estimates being classified as a Level 3 measurement within the fair value hierarchy.

The gross carrying amounts and accumulated amortization of the Company's other intangibles as of December 31, 2019 and 2018 are summarized below (dollars in thousands):

Intangible Category by Useful Life	As of December 31, 2019		As of December 31, 2018	
	Gross Carrying Amount	Accumulated Amortization	Gross Carrying Amount	Accumulated Amortization
Finite-lived intangible assets:				
Customer relationships, 5 - 12 years	\$ 73,860	\$ (49,910)	\$ 66,370	\$ (42,580)
Customer relationships, 15 - 25 years	122,280	(56,010)	122,280	(49,560)
Total customer relationships	196,140	(105,920)	188,650	(92,140)
Technology and other, 1 - 15 years	52,430	(29,790)	52,420	(27,010)
Technology and other, 17 - 30 years	43,300	(37,620)	43,300	(35,600)
Total technology and other	95,730	(67,410)	95,720	(62,610)
Indefinite-lived intangible assets:				
Trademark/Trade names	42,850	—	38,270	—
Total other intangible assets	<u>\$ 334,720</u>	<u>\$ (173,330)</u>	<u>\$ 322,640</u>	<u>\$ (154,750)</u>

TRIMAS CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Amortization expense related to intangible assets as included in the accompanying consolidated statement of income is summarized as follows (dollars in thousands):

	Year ended December 31,		
	2019	2018	2017
Technology and other, included in cost of sales	\$ 4,780	\$ 4,890	\$ 5,140
Customer relationships, included in selling, general and administrative expenses	13,850	13,370	13,400
Total amortization expense	\$ 18,630	\$ 18,260	\$ 18,540

Estimated amortization expense for the next five fiscal years beginning after December 31, 2019 is as follows (dollars in thousands):

Year ended December 31,	Estimated Amortization Expense
2020	\$ 18,280
2021	\$ 16,310
2022	\$ 12,760
2023	\$ 10,860
2024	\$ 9,360

8. Inventories

Inventories consist of the following components (dollars in thousands):

	December 31, 2019	December 31, 2018
Finished goods	\$ 68,350	\$ 64,560
Work in process	30,560	28,420
Raw materials	33,750	34,180
Total inventories	\$ 132,660	\$ 127,160

9. Property and Equipment, Net

Property and equipment consists of the following components (dollars in thousands):

	December 31, 2019	December 31, 2018
Land and land improvements	\$ 19,110	\$ 15,580
Building and building improvements	84,880	69,800
Machinery and equipment	326,990	287,260
	430,980	372,640
Less: Accumulated depreciation	216,650	200,690
Property and equipment, net	\$ 214,330	\$ 171,950

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Depreciation expense as included in the accompanying consolidated statement of income is as follows (dollars in thousands):

	Year ended December 31,		
	2019	2018	2017
Depreciation expense, included in cost of sales	\$ 23,700	\$ 20,890	\$ 20,110
Depreciation expense, included in selling, general and administrative expense	1,170	1,340	1,660
Total depreciation expense	\$ 24,870	\$ 22,230	\$ 21,770

10. Accrued Liabilities

Accrued liabilities consist of the following components (dollars in thousands):

	December 31, 2019	December 31, 2018
Accrued payroll	\$ 16,390	\$ 17,950
High deductible insurance	5,720	6,080
Other	19,910	19,860
Total accrued liabilities	\$ 42,020	\$ 43,890

11. Long-term Debt

The Company's long-term debt consists of the following (dollars in thousands):

	December 31, 2019	December 31, 2018
4.875% Senior Notes due October 2025	\$ 300,000	\$ 300,000
Debt issuance costs	(5,310)	(6,440)
Long-term debt, net	\$ 294,690	\$ 293,560

Senior Notes

In September 2017, the Company issued \$300.0 million aggregate principal amount of 4.875% senior notes due October 15, 2025 ("Senior Notes") at par value in a private placement under Rule 144A of the Securities Act of 1933, as amended. The Company used the proceeds from the offering to fully repay the \$250.9 million principal, plus \$0.4 million related interest, outstanding on its former senior secured term loan A facility due 2020 ("Term Loan A Facility"), repay approximately \$41.7 million of outstanding obligations under the Company's accounts receivable facility, pay fees and expenses of \$5.0 million related to the Senior Notes offering, pay fees and expenses of \$1.1 million related to amending its existing credit agreement, with the remaining amount retained as cash on its consolidated balance sheet. Of the \$5.0 million of fees and expenses related to the Senior Notes, approximately \$4.9 million was capitalized as debt issuance costs and approximately \$0.1 million was recorded as debt financing and related expenses in the accompanying consolidated statement of income.

The Senior Notes accrue interest at a rate of 4.875% per annum, payable semi-annually in arrears on April 15 and October 15, commencing on April 15, 2018. The payment of principal and interest is jointly and severally guaranteed, on a senior unsecured basis, by certain subsidiaries of the Company (each a "Guarantor" and collectively the "Guarantors"). The Senior Notes are *pari passu* in right of payment with all existing and future senior indebtedness and subordinated to all existing and future secured indebtedness to the extent of the value of the assets securing such indebtedness.

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Prior to October 15, 2020, the Company may redeem up to 35% of the principal amount of the Senior Notes at a redemption price of 104.875% of the principal amount, plus accrued and unpaid interest, if any, to the redemption date, with the net cash proceeds of one or more equity offerings provided that each such redemption occurs within 90 days of the date of closing of each such equity offering. In addition, the Company may redeem all or part of the Senior Notes at a redemption price equal to 100% of the principal amount thereof, plus accrued and unpaid interest, if any, to the redemption date, plus a "make whole" premium. On or after October 15, 2020, the Company may redeem all or part of the Senior Notes at the redemption prices (expressed as percentages of principal amount) set forth below, plus accrued and unpaid interest, if any, to the redemption date, if redeemed during the twelve-month period beginning on October 15 of the years indicated below:

Year	Percentage
2020	102.438%
2021	101.219%
2022 and thereafter	100.000%

Credit Agreement

The Company is party to a credit agreement ("Credit Agreement") consisting of a \$300.0 million senior secured revolving credit facility, which permits borrowings denominated in specific foreign currencies, subject to a \$125.0 million sub limit, matures on September 20, 2022 and is subject to interest at London Interbank Offered Rate ("LIBOR") plus 1.50%. The interest rate spread is based upon the leverage ratio, as defined, as of the most recent determination date.

The Credit Agreement also provides incremental revolving credit facility commitments in an amount not to exceed the greater of \$200.0 million and an amount such that, after giving effect to such incremental commitments and the incurrence of any other indebtedness substantially simultaneously with the making of such commitments, the senior secured net leverage ratio, as defined, is no greater than 3.00 to 1.00. The terms and conditions of any incremental revolving credit facility commitments must be no more favorable than the existing credit facility.

The Company amended its existing credit agreement in 2017 in connection with the Senior Notes offering and extended the maturity date, increased the permitted borrowings denominated in specific foreign currencies, removed the Term Loan A Facility and resized the revolving credit facility. The Company incurred fees and expenses of approximately \$1.1 million related to the amendment, all of which was capitalized as debt issuance costs. The Company also recorded approximately \$2.0 million non-cash expense related to the write-off of previously capitalized deferred financing fees within debt financing and related expenses in the accompanying consolidated statement of income.

The Company's revolving credit facility allows for the issuance of letters of credit, not to exceed \$40.0 million in aggregate. At December 31, 2019, the Company had no amounts outstanding under its revolving credit facility and had \$283.9 million potentially available after giving effect to approximately \$16.1 million of letters of credit issued and outstanding. At December 31, 2018, the Company had no amounts outstanding under its revolving credit facility and had \$284.9 million potentially available after giving effect to approximately \$15.1 million of letters of credit issued and outstanding. The Company's borrowing capacity was not reduced by leverage restrictions contained in the Credit Agreement as of December 31, 2019 and December 31, 2018.

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

The debt under the Credit Agreement is an obligation of the Company and certain of its domestic subsidiaries and is secured by substantially all of the assets of such parties. Borrowings under the \$125.0 million (equivalent) foreign currency sub limit of the \$300.0 million senior secured revolving credit facility are secured by a cross-guarantee amongst, and a pledge of the assets of, the foreign subsidiary borrowers that are a party to the agreement. The Credit Agreement also contains various negative and affirmative covenants and other requirements affecting the Company and its subsidiaries, including the ability to, subject to certain exceptions and limitations, incur debt, liens, mergers, investments, loans, advances, guarantee obligations, acquisitions, assets dispositions, sale-leaseback transactions, hedging agreements, dividends and other restricted payments, transactions with affiliates, restrictive agreements and amendments to charters, bylaws, and other material documents. The terms of the Credit Agreement also require the Company and its restricted subsidiaries to meet certain restrictive financial covenants and ratios computed quarterly, including a maximum total net leverage ratio (total consolidated indebtedness plus outstanding amounts under the accounts receivable securitization facility, less the aggregate amount of certain unrestricted cash and unrestricted permitted investments, as defined, over consolidated EBITDA, as defined), a maximum senior secured net leverage ratio (total consolidated senior secured indebtedness, less the aggregate amount of certain unrestricted cash and unrestricted permitted investments, as defined, over consolidated EBITDA, as defined) and a minimum interest expense coverage ratio (consolidated EBITDA, as defined, over the sum of consolidated cash interest expense, as defined, and preferred dividends, as defined). At December 31, 2019, the Company was in compliance with the financial covenants contained in the Credit Agreement.

Receivables Facility

In March 2018, the Company terminated its accounts receivable facility previously utilized through TSPC, Inc. ("TSPC"), a wholly-owned subsidiary. The facility was used to sell trade accounts receivable of substantially all of the Company's domestic business operations. Under this facility, TSPC, from time to time, could sell an undivided fractional ownership interest in the pool of receivables up to \$75.0 million to a third-party multi-seller receivables funding company. The cost of funds under this facility consisted of a 1-month LIBOR-based rate plus a usage fee of 1.00% and a fee on the unused portion of the facility of 0.35%. Aggregate costs incurred under the facility were \$0.1 million and \$1.0 million for the years ended December 31, 2018 and 2017, respectively, and are included in interest expense in the accompanying consolidated statement of income.

Long-term Debt Maturities

Future maturities of the face value of long-term debt at December 31, 2019 are as follows (dollars in thousands):

Year Ending December 31:	Future Maturities	
2020	\$	—
2021		—
2022		—
2023		—
2024		—
Thereafter		300,000
Total	\$	300,000

Fair Value of Debt

The valuations of the Senior Notes and revolving credit facility were determined based on Level 2 inputs under the fair value hierarchy, as defined. The carrying amounts and fair values were as follows (dollars in thousands):

	December 31, 2019		December 31, 2018	
	Carrying Amount	Fair Value	Carrying Amount	Fair Value
Senior Notes	\$ 300,000	\$ 309,000	\$ 300,000	\$ 282,750

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Debt Issuance Costs

The Company's unamortized debt issuance costs approximated \$5.3 million and \$6.4 million at December 31, 2019 and 2018, respectively, and are included as a direct reduction from the related debt liability in the accompanying consolidated balance sheet. These amounts consisted primarily of legal, accounting and other transaction advisory fees as well as facility fees paid to the lenders. Amortization expense for these items was approximately \$1.1 million, \$1.3 million and \$1.3 million in 2019, 2018 and 2017, respectively, and is included in interest expense in the accompanying consolidated statement of income.

12. Derivative Instruments*Derivatives Designated as Hedging Instruments*

In October 2018, the Company entered into cross-currency swap agreements to hedge its net investment in Euro-denominated assets against future volatility in the exchange rate between the U.S. dollar and the Euro. By doing so, the Company synthetically converted a portion of its U.S. dollar-based long-term debt into Euro-denominated long-term debt. The agreements have a five year tenor at notional amounts declining from \$125.0 million to \$75.0 million over the contract period. Under the terms of the swap agreements, the Company is to receive net interest payments at a fixed rate of approximately 2.9% of the notional amount. At inception, the cross-currency swaps were designated as net investment hedges.

In October 2018, immediately prior entering into the new cross-currency swap agreements, the Company terminated its existing cross-currency swap agreements, de-designating the swaps as net investment hedges and receiving approximately \$1.1 million of cash. The cross-currency swap agreements were entered into in October 2017 and hedged the Company's net investment in Euro-denominated assets against future volatility in the exchange rate between the U.S. dollar and the Euro. The agreements had a five year tenor at notional amounts declining from \$150.0 million to \$75.0 million over the contract period. Under the terms of the swap agreements, the Company was to receive net interest payments at a fixed rate of approximately 2.1% of the notional amount.

The Company has historically utilized interest rate swap agreements to fix the LIBOR-based variable portion of the interest rate on its long-term debt. Prior to its debt refinancing in September 2017, the Company had interest rate swap agreements in place that hedged a declining notional value of debt ranging from approximately \$238.4 million to approximately \$192.7 million, amortizing consistent with future scheduled debt principal payments. The interest rate swap agreements required the Company to receive a variable interest rate and pay a fixed interest rate in a range of 0.74% to 2.68% with various expiration terms extending to June 30, 2020. At inception, the interest rate swaps were designated as cash flow hedges.

In September 2017, immediately following the debt refinancing, the Company determined the likelihood of the hedged transactions occurring was not probable and de-designated the interest rate swaps as cash flow hedges and terminated the interest rate swaps for a cash payment of approximately \$4.7 million. There were no interest rate swaps outstanding as of December 31, 2017. The cash flows associated with the cash flow hedges are reported in net cash provided by operating activities in the accompanying consolidated statement of cash flows. Up to the date of the termination, the Company utilized hedge accounting, which allows for the effective portion of the interest rate swaps to be recorded in AOCI in the accompanying consolidated balance sheet. At the date the Company de-designated the swaps as effective hedges, there was approximately \$2.9 million (net of tax of \$1.8 million) of unrealized losses remaining in AOCI, which were reclassified into debt financing and related expenses in the accompanying consolidated statement of income during 2017.

As of December 31, 2019 and 2018, the fair value carrying amount of the Company's derivatives designated as hedging instruments are recorded as follows (dollars in thousands):

Derivatives designated as hedging instruments	Balance Sheet Caption	Asset / (Liability) Derivatives	
		December 31, 2019	December 31, 2018
Net Investment Hedges			
Cross-currency swaps	Other assets	\$ 4,460	\$ 130

TRIMAS CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

The following table summarizes the income recognized in AOCI on derivative contracts designated as hedging instruments as of December 31, 2019 and 2018, and the amounts reclassified from AOCI into earnings for the years ended December 31, 2019, 2018 and 2017 (dollars in thousands):

	Amount of Income Recognized in AOCI on Derivative (Effective Portion, net of tax)		Location of Loss Reclassified from AOCI into Earnings (Effective Portion)	Amount of Loss Reclassified from AOCI into Earnings		
	As of December 31,			Year ended December 31,		
	2019	2018		2019	2018	2017
Net Investment Hedges						
Cross-currency swaps	\$ 4,230	\$ 940	Other expense, net	\$ —	\$ —	\$ —
Cash Flow Hedges						
Interest rate swaps	\$ —	\$ —	Interest expense	\$ —	\$ —	\$ (320)
			Debt financing and related expenses	\$ —	\$ —	\$ (4,680)

Over the next 12 months, the Company does not expect to reclassify any pre-tax deferred amounts from AOCI into earnings.

Derivatives Not Designated as Hedging Instruments

As of December 31, 2019, the Company was party to foreign currency exchange forward contracts to economically hedge changes in foreign currency rates with notional amounts of approximately \$104.2 million. The Company uses foreign exchange contracts to mitigate the risk associated with fluctuations in currency rates impacting cash flows related to certain of its receivables, payables and intercompany transactions denominated in foreign currencies. The foreign exchange contracts primarily mitigate currency exposures between the U.S. dollar and the Euro, British pound and the Chinese yuan, and have various settlement dates through March 2020. These contracts are not designated as hedging instruments; therefore, gains and losses on these contracts are recognized each period directly into the consolidated statement of income.

The following table summarizes the effects of derivatives not designated as hedging instruments on the Company's consolidated statement of income (dollars in thousands):

	Location of Loss Recognized in Earnings on Derivatives	Amount of Loss Recognized in Earnings on Derivatives		
		Year ended December 31,		
		2019	2018	2017
Derivatives not designated as hedging instruments				
Foreign exchange contracts	Other income (expense), net	\$ (600)	\$ —	\$ —

TRIMAS CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)
Fair Value of Derivatives

The fair value of the Company's derivative instruments are estimated using an income approach based on valuation techniques to convert future amounts to a single, discounted amount. Estimates of the fair value of the Company's cross-currency swaps use observable inputs such as interest rate yield curves and forward currency exchange rates. Fair value measurements and the fair value hierarchy level for the Company's assets and liabilities measured at fair value on a recurring basis as of December 31, 2019 and 2018 are as follows (dollars in thousands):

Description	Frequency	Asset / (Liability)	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
December 31, 2019					
Cross-currency swaps	Recurring	\$ 4,460	\$ —	\$ 4,460	\$ —
Foreign exchange contracts	Recurring	\$ (770)	\$ —	\$ (770)	\$ —
December 31, 2018					
Cross-currency swaps	Recurring	\$ 130	\$ —	\$ 130	\$ —

13. Leases

The Company leases certain equipment and facilities under non-cancelable operating leases. Leases with an initial term of 12 months or less are not recorded on the balance sheet; expense related to these leases is recognized on a straight-line basis over the lease term.

The components of lease expense are as follows (dollars in thousands):

	Year ended December 31, 2019
Operating lease cost	\$ 6,380
Short-term, variable and other lease costs	1,140
Total lease cost	\$ 7,520

Maturities of lease liabilities are as follows (dollars in thousands):

Year ended December 31,	Operating Leases ^(a)
2020	\$ 7,600
2021	6,520
2022	5,640
2023	4,210
2024	3,210
Thereafter	9,320
Total lease payments	36,500
Less: Imputed interest	(8,300)
Present value of lease liabilities	\$ 28,200

^(a) The maturity table excludes cash flows associated with exited lease facilities. Liabilities for exited lease facilities are included in accrued liabilities and other long-term liabilities in the accompanying consolidated balance sheet.

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

The weighted-average remaining term of the Company's operating leases as of December 31, 2019 is approximately 6.0 years. The weighted-average discount rate as of December 31, 2019 is approximately 5.0%.

Cash paid for amounts included in the measurement of operating lease liabilities during the year ended December 31, 2019 was approximately \$6.4 million, and is included in cash flows provided by operating activities in the consolidated statement of cash flows.

Right-of-use assets obtained in exchange for lease liabilities during the year ended December 31, 2019 was approximately \$1.4 million.

Rental expense for operating leases as classified under prior authoritative lease guidance for the Company was approximately \$5.8 million in 2018 and \$9.5 million in 2017. Minimum payments for operating leases having initial or remaining non-cancelable lease terms in excess of one year at December 31, 2018 as classified under prior authoritative lease guidance were as follows (dollars in thousands):

Year ended December 31,	Minimum Payments	
2019	\$	8,800
2020		8,770
2021		8,030
2022		6,260
2023		5,290
Thereafter		11,690
Total	\$	48,840

14. Commitments and Contingencies

Environmental

The Company is subject to increasingly stringent environmental laws and regulations, including those relating to air emissions, wastewater discharges and chemical and hazardous waste management and disposal. Some of these environmental laws hold owners or operators of land or businesses liable for their own and for previous owners' or operators' releases of hazardous or toxic substances or wastes. Other environmental laws and regulations require the obtainment and compliance with environmental permits. To date, costs of complying with environmental, health and safety requirements have not been material. However, the nature of the Company's operations and the long history of industrial activities at certain of the Company's current or former facilities, as well as those acquired, could potentially result in material environmental liabilities.

While the Company must comply with existing and pending climate change legislation, regulation and international treaties or accords, current laws and regulations have not had a material impact on the Company's business, capital expenditures or financial position. Future events, including those relating to climate change or greenhouse gas regulation, could require the Company to incur expenses related to the modification or curtailment of operations, installation of pollution control equipment or investigation and cleanup of contaminated sites.

Asbestos

As of December 31, 2019, the Company was a party to 346 pending cases involving an aggregate of 4,759 claimants primarily alleging personal injury from exposure to asbestos containing materials formerly used in gaskets (both encapsulated and otherwise) manufactured or distributed by certain of its subsidiaries for use primarily in the petrochemical refining and exploration industries. The following chart summarizes the number of claimants, number of claims filed, number of claims dismissed, number of claims settled, the average settlement amount per claim and the total defense costs, excluding amounts reimbursed under the Company's primary insurance, at the applicable date and for the applicable periods:

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

	Claims pending at beginning of period	Claims filed during period	Claims dismissed during period	Claims settled during period	Claims pending at end of period	Average settlement amount per claim during period	Total defense costs during period
Fiscal year ended December 31, 2019	4,820	143	172	32	4,759	\$ 16,616	\$ 2,251,704
Fiscal year ended December 31, 2018	5,256	171	564	43	4,820	\$ 7,191	\$ 2,260,000
Fiscal year ended December 31, 2017	5,339	173	231	25	5,256	\$ 8,930	\$ 2,280,000

In addition, the Company acquired various companies to distribute its products that had distributed gaskets of other manufacturers prior to acquisition. The Company believes that many of the pending cases relate to locations at which none of its gaskets were distributed or used.

The Company may be subjected to significant additional asbestos-related claims in the future, the cost of settling cases in which product identification can be made may increase, and the Company may be subjected to further claims in respect of the former activities of its acquired gasket distributors. The Company is unable to make a meaningful statement concerning the monetary claims made in the asbestos cases given that, among other things, claims may be initially made in some jurisdictions without specifying the amount sought or by simply stating the requisite or maximum permissible monetary relief, and may be amended to alter the amount sought. The large majority of claims do not specify the amount sought. Of the 4,759 claims pending at December 31, 2019, 56 set forth specific amounts of damages (other than those stating the statutory minimum or maximum). At December 31, 2019, of the 56 claims that set forth specific amounts, there was one claim seeking more than \$5 million for punitive damages. Below is a breakdown of the amount sought for those claims seeking specific amounts:

Range of damages sought (in millions)	Compensatory		
	\$0.0 to \$0.6	\$0.6 to \$5.0	\$5.0+
Number of claims	—	10	46

In addition, relatively few of the claims have reached the discovery stage and even fewer claims have gone past the discovery stage.

Total settlement costs (exclusive of defense costs) for all such cases, some of which were filed over 25 years ago, have been approximately \$9.4 million. All relief sought in the asbestos cases is monetary in nature. To date, approximately 40% of the Company's costs related to settlement and defense of asbestos litigation have been covered by its primary insurance. Effective February 14, 2006, the Company entered into a coverage-in-place agreement with its first level excess carriers regarding the coverage to be provided to the Company for asbestos-related claims when the primary insurance is exhausted. The coverage-in-place agreement makes asbestos defense costs and indemnity insurance coverage available to the Company that might otherwise be disputed by the carriers and provides a methodology for the administration of such expenses. The Company's primary insurance exhausted in November 2018, and the Company is solely responsible for defense costs and indemnity payments prior to the commencement of coverage under this agreement, the duration of which would be subject to the scope of damage awards and settlements paid.

Based on the settlements made to date and the number of claims dismissed or withdrawn for lack of product identification, the Company believes that the relief sought (when specified) does not bear a reasonable relationship to its potential liability. Based upon the Company's experience to date, including the trend in annual defense and settlement costs incurred to date, and other available information (including the availability of excess insurance), the Company does not believe that these cases will have a material adverse effect on its financial position and results of operations or cash flows.

Metaldyne Corporation

Prior to 2002, the Company was wholly-owned by Metaldyne Corporation ("Metaldyne"). In connection with the reorganization between TriMas and Metaldyne in 2002, TriMas assumed certain liabilities and obligations of Metaldyne, mainly comprised of contractual obligations to former TriMas employees, tax related matters, benefit plan liabilities and reimbursements to Metaldyne of normal course payments to be made on TriMas' behalf.

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

In 2007, Metaldyne merged into a subsidiary of Asahi Tec Corporation (“Asahi”) whereby Metaldyne became a wholly-owned subsidiary of Asahi, and in 2009, Metaldyne and its U.S. subsidiaries filed voluntary petitions in the United States Bankruptcy Court under Chapter 11 of the U.S. Bankruptcy Code.

In January 2018, the U.S. Bankruptcy Court entered a final decree to close all remaining cases and finalize the Metaldyne bankruptcy distribution trust, effectively terminating any potential obligation by TriMas to Metaldyne. In consideration of the final decree, the Company removed the obligation from its balance sheet during the first quarter of 2018, resulting in an approximate \$8.2 million non-cash reduction in selling, general and administrative expenses in the accompanying consolidated statement of income.

Claims and Litigation

The Company is subject to other claims and litigation in the ordinary course of business, but does not believe that any such claim or litigation will have a material adverse effect on its financial position and results of operations or cash flows.

15. Employee Benefit Plans*Pension and Profit-Sharing Benefits*

The Company provides a defined contribution profit sharing plan for the benefit of substantially all the Company's domestic salaried and non-union hourly employees. The plan contains both contributory and noncontributory profit sharing arrangements, as defined. Aggregate charges included in the accompanying consolidated statement of income under this plan for both continuing and discontinued operations were approximately \$4.6 million, \$4.2 million and \$3.8 million in 2019, 2018 and 2017, respectively. Certain of the Company's non-U.S. and union hourly employees participate in defined benefit pension plans.

Plan Assets, Expenses and Obligations

Net periodic pension benefit expense recorded in the Company's consolidated statement of income for defined benefit pension plans include the following components (dollars in thousands):

	Pension Benefit		
	2019	2018	2017
Service cost	\$ 1,050	\$ 1,120	\$ 1,150
Interest cost	1,070	1,100	1,290
Expected return on plan assets	(1,400)	(1,520)	(1,480)
Settlements and curtailments	—	2,620	—
Amortization of net loss	580	860	1,010
Net periodic benefit expense	<u>\$ 1,300</u>	<u>\$ 4,180</u>	<u>\$ 1,970</u>

The service cost component of net periodic benefit expense is recorded in cost of goods sold and selling, general and administrative expenses, while non-service cost components are recorded in other expense, net in the accompanying consolidated statement of income.

During 2018, the Company recognized one-time settlement and curtailment charges of approximately \$2.6 million, of which approximately \$2.5 million was due to the purchase of an annuity contract to transfer certain U.S. retiree defined benefit obligations to an insurance company. The annuity contract was funded by plan assets.

The estimated net actuarial loss and prior service cost for defined benefit pension plans that is expected to be amortized from AOCI into net periodic benefit expense in 2020 is approximately \$0.9 million.

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Actuarial valuations of the Company's defined benefit pension plans were prepared as of December 31, 2019, 2018 and 2017. Weighted average assumptions used in accounting for the U.S. defined benefit pension plans are as follows:

	Pension Benefit		
	2019	2018	2017
Discount rate for obligations	3.41%	4.50%	3.76%
Discount rate for benefit costs	4.50%	4.37%	4.35%
Rate of increase in compensation levels	N/A	N/A	N/A
Expected long-term rate of return on plan assets	7.13%	7.13%	7.13%

The Company utilizes a high-quality (Aa or greater) corporate bond yield curve as the basis for its domestic discount rate for its pension benefit plans. Management believes this yield curve removes the impact of including additional required corporate bond yields (potentially considered in the above-median curve) resulting from the uncertain economic climate that does not necessarily reflect the general trend in high-quality interest rates.

Weighted average assumptions used in accounting for the non-U.S. defined benefit pension plans are as follows:

	Pension Benefit		
	2019	2018	2017
Discount rate for obligations	2.10%	3.00%	2.60%
Discount rate for benefit costs	3.00%	2.60%	2.80%
Rate of increase in compensation levels	3.00%	3.30%	3.30%
Expected long-term rate of return on plan assets	4.60%	4.60%	4.60%

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

The following provides a reconciliation of the changes in the Company's defined benefit pension plans' projected benefit obligations and fair value of assets for each of the years ended December 31, 2019 and 2018 and the funded status as of December 31, 2019 and 2018 (dollars in thousands):

	Pension Benefit	
	2019	2018
Changes in Projected Benefit Obligations		
Benefit obligations at January 1	\$ (30,300)	\$ (39,030)
Service cost	(1,050)	(1,120)
Interest cost	(1,070)	(1,100)
Participant contributions	(60)	(60)
Actuarial gain (loss)	(4,190)	3,020
Benefit payments	900	1,200
Annuity purchase	—	5,480
Settlements and curtailments	—	210
Change in foreign currency	(810)	1,100
Projected benefit obligations at December 31	<u>\$ (36,580)</u>	<u>\$ (30,300)</u>
Changes in Plan Assets		
Fair value of plan assets at January 1	\$ 24,650	\$ 31,760
Actual return on plan assets	3,630	(1,520)
Employer contributions	1,930	2,440
Participant contributions	60	60
Benefit payments	(900)	(1,200)
Annuity purchase	—	(5,480)
Settlements	—	(210)
Change in foreign currency	890	(1,200)
Fair value of plan assets at December 31	<u>\$ 30,260</u>	<u>\$ 24,650</u>
Funded status at December 31	<u>\$ (6,320)</u>	<u>\$ (5,650)</u>
	Pension Benefit	
	2019	2018
Amounts Recognized in Balance Sheet		
Prepaid benefit cost	\$ 1,690	\$ 1,350
Current liabilities	(330)	(340)
Noncurrent liabilities	(7,680)	(6,660)
Net liability recognized at December 31	<u>\$ (6,320)</u>	<u>\$ (5,650)</u>
	Pension Benefit	
	2019	2018
Amounts Recognized in Accumulated Other Comprehensive Loss		
Unrecognized prior service cost	\$ 190	\$ 190
Unrecognized net loss	13,240	11,610
Total accumulated other comprehensive loss recognized at December 31	<u>\$ 13,430</u>	<u>\$ 11,800</u>

TRIMAS CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

	Accumulated Benefit Obligations		Projected Benefit Obligations	
	2019	2018	2019	2018
Benefit Obligations at December 31,				
Total benefit obligations	\$ (34,460)	\$ (28,410)	\$ (36,580)	\$ (30,300)
Plans with benefit obligations exceeding plan assets				
Benefit obligations	\$ (14,840)	\$ (12,050)	\$ (14,910)	\$ (12,080)
Plan assets	\$ 6,890	\$ 5,090	\$ 6,890	\$ 5,090

The assumptions regarding discount rates and expected return on plan assets can have a significant impact on amounts reported for benefit plans. A 25 basis point change in benefit obligation discount rates or 50 basis point change in expected return on plan assets would have the following effect (dollars in thousands):

	Pension Benefit	
	December 31, 2019 Benefit Obligation	2019 Expense
Discount rate		
25 basis point increase	\$ (1,400)	\$ (100)
25 basis point decrease	\$ 1,510	\$ 110
Expected return on assets		
50 basis point increase	N/A	\$ (150)
50 basis point decrease	N/A	\$ 150

The Company expects to make contributions of approximately \$2.4 million to fund its pension plans during 2020.

Plan Assets

The Company's overall investment goal is to provide for capital growth with a moderate level of volatility by investing assets in targeted allocation ranges. Specific long term investment goals include total investment return, diversity to reduce volatility and risk, and to achieve an asset allocation profile that reflects the general nature and sensitivity of the plans' liabilities. Investment goals are established after a comprehensive review of current and projected financial statement requirements, plan assets and liability structure, market returns and risks as well as special requirements of the plans. The Company reviews investment goals and actual results annually to determine whether stated objectives are still relevant and the continued feasibility of achieving the objectives.

The actual weighted average asset allocation of the Company's domestic and foreign pension plans' assets at December 31, 2019 and 2018 and target allocations by class, were as follows:

	Domestic Pension			Foreign Pension		
	Target	Actual		Target	Actual	
		2019	2018		2019	2018
Equity securities	60%	62%	58%	33%	30%	29%
Fixed income	36%	34%	39%	45%	46%	47%
Diversified growth ^(a)	—%	—%	—%	22%	23%	24%
Cash and other	4%	4%	3%	—	1%	—%
Total	100%	100%	100%	100%	100%	100%

^(a) Diversified growth funds invest in a broad range of asset classes including equities, investment grade and high yield bonds, commodities, property, private equity, infrastructure and currencies.

TRIMAS CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Actual allocations to each asset vary from target allocations due to periodic investment strategy changes, market value fluctuations and the timing of benefit payments and contributions. The expected long-term rate of return for both the domestic and foreign plans' total assets is based on the expected return of each of the above categories, weighted based on the target allocation for each class. Actual allocation is reviewed regularly and investments are rebalanced to their targeted allocation range when deemed appropriate.

In managing the plan assets, the Company reviews and manages risk associated with the funded status risk, interest rate risk, market risk, liquidity risk and operational risk. Investment policies reflect the unique circumstances of the respective plans and include requirements designed to mitigate these risks by including quality and diversification standards.

The following table summarizes the level under the fair value hierarchy (see Note 3, "Summary of Significant Accounting Policies") that the Company's pension plan assets are measured, on a recurring basis as of December 31, 2019 (dollars in thousands):

	Total	Level 1	Level 2	Level 3
Plan assets subject to leveling				
Investment funds				
Equity securities	\$ 4,300	\$ 4,300	\$ —	\$ —
Fixed income	2,320	2,320	—	—
Cash and cash equivalents	150	150	—	—
Plan assets measured at net asset value^(a)				
Investment funds				
Equity securities	7,040			
Fixed income	10,890			
Diversified growth	5,200			
Cash and cash equivalents	360			
Total	<u>\$ 30,260</u>	<u>\$ 6,770</u>	<u>\$ —</u>	<u>\$ —</u>

^(a) Certain investments that are measured at fair value using the net asset value per share as a practical expedient have not been classified in the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the amount presented in the fair value of plan assets.

The following benefit payments, which reflect expected future service, as appropriate, are expected to be paid during the following years (dollars in thousands):

	Pension Benefit
2020	\$ 1,010
2021	1,130
2022	1,110
2023	1,210
2024	1,370
Years 2025-2029	7,770

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

16. Equity Awards

The Company maintains the following long-term equity incentive plans (collectively, the "Plans"):

Plan Names	Shares Approved for Issuance
TriMas Corporation 2017 Equity and Incentive Compensation Plan	2,000,000
TriMas Corporation Director Retainer Share Election Program	100,000

The Company previously maintained the 2006 Long Term Equity Incentive Plan, which expired in 2016, and the 2011 Omnibus Incentive Compensation Plan, which was replaced by the TriMas Corporation 2017 Equity and Incentive Compensation Plan in 2017, such that, while existing grants remain outstanding until exercised, vested or canceled, no new shares may be issued under these plans.

Stock Options

The Company did not grant any stock options during 2019, 2018 and 2017.

Information related to stock options as of and for the year ended December 31, 2019 is as follows:

	Number of Stock Options	Weighted Average Option Price	Average Remaining Contractual Life (Years)	Aggregate Intrinsic Value
Outstanding at January 1, 2019	206,854	\$ 13.19		
Granted	—	—		
Exercised	(56,854)	0.86		
Cancelled	—	—		
Expired	—	—		
Outstanding at December 31, 2019	150,000	\$ 17.87	6.6	\$ 2,031,000

As of December 31, 2019, all 150,000 stock options outstanding were exercisable under the Plans. Stock options of 50,000 vested during each of 2019, 2018 and 2017, respectively.

The Company recognized approximately \$0.1 million, \$0.2 million and \$0.5 million of stock-based compensation expense related to stock options during 2019, 2018 and 2017, respectively. The stock-based compensation expense is included in selling, general and administrative expenses in the accompanying consolidated statement of income.

Restricted Stock Units

During 2019, 2018 and 2017, the Company issued 139,575, 141,203, and 189,062 RSUs, respectively, to certain employees which are subject only to a service condition and vest ratably over three years so long as the employee remains with the Company.

During 2019, 2018 and 2017, the Company granted 25,872, 25,830 and 30,429 RSUs, respectively, to its non-employee independent directors, which vest one year from date of grant so long as the director and/or Company does not terminate their service prior to the vesting date.

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

During 2019, the Company awarded 95,882 performance-based RSUs to certain Company key employees which vest three years from the grant date as long as the employee remains with the Company. These awards are earned 50.0% based upon the Company's achievement of earnings per share compound annual growth rate ("EPS CAGR") metrics over a period beginning January 1, 2019 and ending December 31, 2021. The remaining 50.0% of the awards are earned based on the Company's total shareholder return ("TSR") relative to the TSR of the common stock of a pre-defined industry peer-group, measured over the performance period. TSR is calculated as the Company's average closing stock price for the 20-trading days at the end of the performance period plus Company dividends, divided by the Company's average closing stock price for the 20-trading days prior to the start of the performance period. The Company estimated the grant-date fair value and term of the awards subject to a market condition using a Monte Carlo simulation model, using the following weighted average assumptions: risk-free interest rate of 2.29% and annualized volatility of 26.7%. Depending on the performance achieved for these two metrics, the amount of shares earned, if any, can vary from 0% of the target award to a maximum of 200% of the target award for the EPS CAGR metric and 0% of the target award to a maximum of 200% of the target award for the TSR metric. The Company awarded 104,532 and 111,761 of similar performance-based RSUs in 2018 and 2017, respectively. For similar performance-based RSUs awarded in 2016, the Company attained 139.0% of the target on a weighted average basis, resulting in an increase of 38,315 shares during 2019.

The Company allows for its non-employee independent directors to make an annual election to defer all or a portion of their director fees and to receive the deferred amount in cash or equity. Certain of the Company's directors have elected to defer all or a portion of their director fees and to receive the amount in Company common stock at a future date. The Company issued 4,494, 7,263 and 12,912 shares in 2019, 2018 and 2017, respectively, related to director fee deferrals.

Information related to restricted shares as of and for the year ended December 31, 2019 is as follows:

	Number of Unvested Restricted Shares	Weighted Average Grant Date Fair Value	Average Remaining Contractual Life (Years)	Aggregate Intrinsic Value
Outstanding at January 1, 2019	663,128	\$ 26.67		
Granted	304,138	31.14		
Vested	(315,555)	22.58		
Cancelled	(29,183)	30.06		
Outstanding at December 31, 2019	622,528	\$ 30.77	1.0	\$ 19,553,604

As of December 31, 2019, there was approximately \$7.7 million of unrecognized compensation cost related to unvested restricted shares that is expected to be recorded over a weighted average period of 2.0 years.

The Company recognized stock-based compensation expense related to restricted shares of approximately \$5.7 million, \$6.9 million and \$6.2 million in 2019, 2018 and 2017, respectively. The stock-based compensation expense is included in selling, general and administrative expenses in the accompanying statement of income.

17. Earnings per Share

Net income is divided by the weighted average number of common shares outstanding during the year to calculate basic earnings per share. Diluted earnings per share is calculated to give effect to stock options and RSUs. The following table summarizes the dilutive effect of restricted shares and options to purchase common stock:

	Year ended December 31,		
	2019	2018	2017
Weighted average common shares—basic	45,303,659	45,824,555	45,682,627
Dilutive effect of restricted share awards	224,946	242,204	241,974
Dilutive effect of stock options	66,549	103,705	65,651
Weighted average common shares—diluted	45,595,154	46,170,464	45,990,252

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

In November 2019, the Company announced that its Board of Directors increased the Company's common stock share repurchase authorization to \$150 million. The initial authorization, approved in November 2015, authorized up to \$50 million in the aggregate of its common stock. During 2019 and 2018, the Company purchased 1,230,050 and 442,632 shares of its outstanding common stock for approximately \$36.7 million and \$12.1 million, respectively. The Company did not purchase any shares of its outstanding common stock during 2017.

18. Other Comprehensive Income

Changes in AOCI by component for the year ended December 31, 2019 are summarized as follows, net of tax (dollars in thousands):

	Defined Benefit Plans	Derivative Instruments	Foreign Currency Translation	Total
Balance, December 31, 2018	\$ (7,200)	\$ 940	\$ (10,590)	\$ (16,850)
Net unrealized gains (losses) arising during the period ^(a)	(1,870)	3,300	(2,060)	(630)
Less: Net realized losses reclassified to net income ^(b)	(400)	—	(12,350)	(12,750)
Net current-period other comprehensive income (loss)	(1,470)	3,300	10,290	12,120
Reclassification of stranded tax effects	(1,260)	(10)	—	(1,270)
Balance, December 31, 2019	<u>\$ (9,930)</u>	<u>\$ 4,230</u>	<u>\$ (300)</u>	<u>\$ (6,000)</u>

^(a) Defined benefit plans, net of income tax of \$0.5 million. See Note 15, "Employee Benefit Plans," for additional details. Derivative instruments, net of income tax of \$1.0 million. See Note 12, "Derivative Instruments," for further details.

^(b) Defined benefit plans, net of income tax of \$0.1 million. See Note 15, "Employee Benefit Plans," for additional details.

Changes in AOCI by component for the year ended December 31, 2018 are summarized as follows, net of tax (dollars in thousands):

	Defined Benefit Plans	Derivative Instruments	Foreign Currency Translation	Total
Balance, December 31, 2017	\$ (10,450)	\$ (3,170)	\$ (3,710)	\$ (17,330)
Net unrealized gains (losses) arising during the period ^(a)	—	4,110	(6,880)	(2,770)
Less: Net realized losses reclassified to net income ^(b)	(3,250)	—	—	(3,250)
Net current-period other comprehensive income (loss)	3,250	4,110	(6,880)	480
Balance, December 31, 2018	<u>\$ (7,200)</u>	<u>\$ 940</u>	<u>\$ (10,590)</u>	<u>\$ (16,850)</u>

^(a) Derivative instruments, net of income tax expense of \$1.2 million. See Note 12, "Derivative Instruments," for further details.

^(b) Defined benefit plans, net of income tax of \$0.9 million. See Note 15, "Employee Benefit Plans," for additional details.

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

19. Segment Information

TriMas is organized into three reportable segments: Packaging, Aerospace and Specialty Products. Each of these segments has discrete financial information that is regularly evaluated by TriMas' president and chief executive officer (chief operating decision maker) in determining resource, personnel and capital allocation, as well as assessing strategy and performance. The Company utilizes its proprietary TriMas Business Model as a standardized set of processes to manage and drive results and strategy across its multi-industry businesses.

Within the Company's reportable segments, there are no individual products or product families for which reported net sales accounted for more than 10% of the Company's consolidated net sales. See below for more information regarding the types of products and services provided within each reportable segment:

Packaging – The Packaging segment, which consists primarily of the Rieke[®], Taplast and Stolz brands, develops and manufactures a broad array of dispensing products (such as foaming pumps, mist pumps, lotion pumps, and trigger sprayers), polymeric and steel caps and closures, and polymeric jar products for a variety of end markets including, but not limited to, health, beauty and home care, food and beverage, and industrial.

Aerospace – The Aerospace segment, which includes the Monogram Aerospace Fasteners[™], Allfast Fastening Systems[®] and Mac Fasteners[™] brands, develops, qualifies and manufactures highly-engineered, precision fasteners and machined products to serve the aerospace market.

Specialty Products – The Specialty Products segment, which includes the Norris Cylinder[™], Arrow[®] Engine and Martinic Engineering[™] brands, designs, manufactures and distributes highly-engineered steel cylinders, machined metallic components, and wellhead engines and compression systems for use within the industrial and aerospace end markets.

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Segment activity is as follows (dollars in thousands):

	Year ended December 31,		
	2019	2018	2017
Net Sales			
Packaging	\$ 392,340	\$ 368,200	\$ 344,570
Aerospace	164,840	156,380	154,050
Specialty Products	166,350	180,450	157,540
Total	<u>\$ 723,530</u>	<u>\$ 705,030</u>	<u>\$ 656,160</u>
Operating Profit (Loss)			
Packaging	\$ 80,770	\$ 84,590	\$ 80,610
Aerospace	28,400	24,930	24,960
Specialty Products	16,550	23,350	17,280
Corporate	(34,500)	(24,060)	(30,130)
Total	<u>\$ 91,220</u>	<u>\$ 108,810</u>	<u>\$ 92,720</u>
Capital Expenditures			
Packaging	\$ 16,400	\$ 13,590	\$ 17,140
Aerospace	6,280	820	2,800
Specialty Products	6,920	4,120	4,310
Corporate ^(a)	70	4,890	9,460
Total	<u>\$ 29,670</u>	<u>\$ 23,420</u>	<u>\$ 33,710</u>
Depreciation and Amortization			
Packaging	\$ 24,650	\$ 21,620	\$ 21,630
Aerospace	13,700	13,900	13,290
Specialty Products	4,870	4,690	5,210
Corporate	280	280	180
Total	<u>\$ 43,500</u>	<u>\$ 40,490</u>	<u>\$ 40,310</u>
Total Assets			
Packaging	\$ 546,950	\$ 435,140	\$ 431,680
Aerospace	354,500	357,640	365,120
Specialty Products	116,010	117,110	112,460
Corporate	175,240	95,260	31,860
Subtotal from continuing operations	1,192,700	1,005,150	941,120
Discontinued operations	—	95,370	92,080
Total	<u>\$ 1,192,700</u>	<u>\$ 1,100,520</u>	<u>\$ 1,033,200</u>

^(a) Corporate capital expenditures for the years ended December 31, 2018 and 2017, respectively, are primarily related to purchases of machinery and equipment formerly held under operating leases. These purchased assets were subsequently transferred from Corporate to the reportable segment utilizing the assets.

TRIMAS CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

The following table presents the Company's net sales for each of the years ended December 31 and long-lived assets at each year ended December 31, attributed to each subsidiary's continent of domicile (dollars in thousands).

	As of December 31,					
	2019		2018		2017	
	Net Sales	Long-lived Assets	Net Sales	Long-lived Assets	Net Sales	Long-lived Assets
Non-U.S.						
Europe	\$ 87,420	\$ 110,530	\$ 54,920	\$ 53,770	\$ 55,290	\$ 54,090
Asia Pacific	37,920	40,720	38,920	44,230	28,200	49,800
Other Americas	6,290	18,430	6,170	7,500	6,570	7,560
Total non-U.S.	131,630	169,680	100,010	105,500	90,060	111,450
Total U.S.	591,900	540,680	605,020	550,990	566,100	567,600
Total	\$ 723,530	\$ 710,360	\$ 705,030	\$ 656,490	\$ 656,160	\$ 679,050

The Company's export sales from the U.S. approximated \$74.1 million, \$69.9 million and \$72.3 million in 2019, 2018 and 2017, respectively.

20. Income Taxes

The Company's income before income taxes and income tax expense, each by tax jurisdiction, consists of the following (dollars in thousands):

	Year ended December 31,		
	2019	2018	2017
Income before income taxes:			
Domestic	\$ 52,190	\$ 64,670	\$ 46,180
Foreign	26,070	27,690	23,700
Total income before income taxes	\$ 78,260	\$ 92,360	\$ 69,880
Current income tax expense:			
Federal	\$ 3,530	\$ 4,410	\$ 10,990
State and local	1,280	2,060	1,640
Foreign	7,070	6,200	6,010
Total current income tax expense	11,880	12,670	18,640
Deferred income tax expense (benefit):			
Federal	4,890	4,570	15,200
State and local	500	1,310	1,280
Foreign	(950)	100	(1,200)
Total deferred income tax expense	4,440	5,980	15,280
Income tax expense	\$ 16,320	\$ 18,650	\$ 33,920

TRIMAS CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

The components of deferred taxes are as follows (dollars in thousands):

	December 31, 2019	December 31, 2018
Deferred tax assets:		
Accounts receivable	\$ 480	\$ 590
Inventories	4,390	3,040
Accrued liabilities and other long-term liabilities	12,210	14,470
Operating lease liability	6,790	—
Tax loss and credit carryforwards	9,200	5,740
Other, principally deferred income	340	330
Gross deferred tax asset	33,410	24,170
Valuation allowances	(8,310)	(4,330)
Net deferred tax asset	25,100	19,840
Deferred tax liabilities:		
Property and equipment	(20,650)	(14,620)
Right of use asset	(6,700)	—
Goodwill and other intangible assets	(13,250)	(6,420)
Investment in foreign affiliates, including withholding tax	(830)	(1,050)
Gross deferred tax liability	(41,430)	(22,090)
Net deferred tax liability	\$ (16,330)	\$ (2,250)

The following is a reconciliation of income tax expense computed at the U.S. federal statutory rate to income tax expense allocated to income before income taxes (dollars in thousands):

	Year ended December 31,		
	2019	2018	2017
U.S. federal statutory rate	21%	21%	35%
Tax at U.S. federal statutory rate	\$ 16,440	\$ 19,390	\$ 24,460
State and local taxes, net of federal tax benefit	970	2,730	2,170
Differences in statutory foreign tax rates	(870)	490	(1,060)
Change in recognized tax benefits	(920)	(560)	(90)
Nontaxable income	(570)	(940)	(250)
Research and manufacturing incentives	(1,160)	(1,740)	(1,510)
Net change in valuation allowance	3,580	280	(250)
Tax Reform Act	—	(400)	12,660
Other, net	(1,150)	(600)	(2,210)
Income tax expense	\$ 16,320	\$ 18,650	\$ 33,920

The Company has recorded deferred tax assets on \$34.0 million of various state operating loss carryforwards and \$27.0 million of various foreign operating loss carryforwards. The majority of the state tax loss carryforwards expire between 2026 and 2032 and the majority of the foreign losses have indefinite carryforward periods.

The Company has not made a provision for U.S. or additional foreign withholding taxes related to investments in foreign subsidiaries that are indefinitely reinvested since any excess of the amount for financial reporting over the tax basis in these investments is not significant as of December 31, 2019.

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Tax Reform

In December 2017, the Tax Reform Act was signed into law, and, among the provisions, reduced the Federal statutory corporate income tax rate from 35% to 21% effective January 1, 2018, and implemented a territorial tax system, imposing a one-time tax on the deemed repatriation of undistributed earnings of non-U.S. subsidiaries ("Transition Tax"). The Transition Tax is payable over eight years beginning in 2019.

The Company recorded provisional expenses in 2017 related to the Transition Tax and finalized the measurement of the provisional expenses in 2018. In 2018, the Company recognized an approximate \$1.1 million income tax benefit in connection with finalizing the revaluation of its net deferred tax assets following the filing of the Company's 2017 corporate income tax return, and recognized an approximate \$0.7 million income tax expense related to finalizing the Transition Tax, resulting in a \$0.4 million net reduction in 2018 to the \$12.7 million provisional tax expense recorded in 2017.

As of December 31, 2019, the U.S Internal Revenue Service ("IRS") is still in the process of issuing guidance to taxpayers to address changes enacted in the Tax Reform Act. The Company has prepared the income tax provision for years ended December 31, 2019 and 2018 based on available guidance. However, if final guidance is issued that modifies the existing temporary guidance issued by the IRS or if the final guidance contradicts positions taken by the Company in the absence of any IRS guidance, this could have a significant impact on the Company's consolidated financial statements.

Unrecognized Tax Benefits

The Company had approximately \$2.3 million and \$3.0 million of unrecognized tax benefits ("UTBs") as of December 31, 2019 and 2018, respectively. If the UTBs were recognized, the impact to the Company's effective tax rate would be to reduce reported income tax expense for the years ended December 31, 2019 and 2018 by approximately \$1.9 million and \$2.5 million, respectively.

A reconciliation of the change in the UTBs for the years ended December 31, 2019 and 2018 is as follows (dollars in thousands):

	Unrecognized Tax Benefits
Balance at December 31, 2017	\$ 3,370
Tax positions related to current year:	
Additions	60
Tax positions related to prior years:	
Additions	390
Reductions	—
Settlements	—
Lapses in the statutes of limitations	(800)
Balance at December 31, 2018	\$ 3,020
Tax positions related to current year:	
Additions	110
Tax positions related to prior years:	
Additions	—
Reductions	—
Settlements	—
Lapses in the statutes of limitations	(880)
Balance at December 31, 2019	\$ 2,250

In addition to the UTBs summarized above, the Company has recorded approximately \$1.4 million and \$1.8 million in potential interest and penalties associated with uncertain tax positions as of December 31, 2019 and 2018, respectively.

The Company is subject to U.S. federal, state and local, and certain non-U.S. income tax examinations for tax years 2013 through 2019. In addition, there are currently several state and foreign income tax examinations in process. The Company does not believe that the results of these examinations will have a significant impact on the Company's tax position or its effective tax rate.

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Management monitors changes in tax statutes and regulations and the issuance of judicial decisions to determine the potential impact to UTBs and is not aware of, nor does it anticipate, any subsequent events that could have a significant impact on the Company's financial position during the next twelve months.

21. Summary Quarterly Financial Data

The Company's unaudited quarterly financial data is as follows (dollars in thousands, except for per share data):

	As of December 31, 2019			
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Net sales	\$ 173,370	\$ 190,830	\$ 188,410	\$ 170,920
Gross profit	46,790	53,790	48,990	44,330
Income from continuing operations	14,550	18,720	15,240	13,430
Income from discontinued operations, net of income taxes	4,540	3,300	3,870	24,970
Net income	19,090	22,020	19,110	38,400
Earnings per share—basic:				
Continuing operations	\$ 0.32	\$ 0.41	\$ 0.34	\$ 0.30
Discontinued operations	0.10	0.07	0.08	0.56
Net income per share	\$ 0.42	\$ 0.48	\$ 0.42	\$ 0.86
Weighted average shares—basic	45,578,815	45,592,075	45,175,244	44,868,503
Earnings per share—diluted:				
Continuing operations	\$ 0.32	\$ 0.41	\$ 0.34	\$ 0.30
Discontinued operations	0.10	0.07	0.08	0.55
Net income per share	\$ 0.42	\$ 0.48	\$ 0.42	\$ 0.85
Weighted average shares—diluted	45,992,182	45,828,315	45,415,767	45,144,353

	As of December 31, 2018			
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Net sales	\$ 171,150	\$ 181,690	\$ 182,100	\$ 170,090
Gross profit	47,850	53,020	51,570	47,670
Income from continuing operations	20,560	17,280	20,930	14,940
Income from discontinued operations, net of income taxes	3,760	2,320	1,740	1,770
Net income	24,320	19,600	22,670	16,710
Earnings per share—basic:				
Continuing operations	\$ 0.45	\$ 0.38	\$ 0.45	\$ 0.33
Discontinued operations	0.08	0.05	0.04	0.04
Net income per share	\$ 0.53	\$ 0.43	\$ 0.49	\$ 0.37
Weighted average shares—basic	45,779,966	45,920,307	45,850,288	45,747,659
Earnings per share—diluted:				
Continuing operations	\$ 0.45	\$ 0.37	\$ 0.46	\$ 0.32
Discontinued operations	0.08	0.05	0.03	0.04
Net income per share	\$ 0.53	\$ 0.42	\$ 0.49	\$ 0.36
Weighted average shares—diluted	46,229,337	46,200,757	46,166,558	46,085,202

TRIMAS CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

22. Subsequent Events

On February 19, 2020, the Company announced that it has signed an agreement to acquire the Rapak® brand, including certain bag-in-box product lines and assets ("Rapak") from Liqui-Box, for a purchase price of \$12 million. As a regulatory condition, the acquisition is subject to Liqui-Box's successful completion of its acquisition of DS Smith's Plastic Division. Annual net sales related to the acquired products is approximately \$30 million. The transaction is expected to close in the first half of 2020, at which time Rapak will become part of the Packaging reportable segment.

On January 30, 2020, the Company announced that it has signed an agreement to acquire RSA Engineered Products ("RSA") for a purchase price of \$85 million, subject to customary closing conditions. RSA is a manufacturer of complex, highly-engineered and proprietary ducting, connectors and related products for air management systems used in aerospace and defense applications, and has annual net sales of approximately \$30 million. The transaction is expected to close during the first quarter of 2020, at which time RSA will become part of the Aerospace reportable segment.

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

Not applicable.

Item 9A. Controls and Procedures

Evaluation of disclosure controls and procedures

As of December 31, 2019, an evaluation was carried out by management, with the participation of our Chief Executive Officer and Chief Financial Officer, of the effectiveness of our disclosure controls and procedures (as such term is defined in Rule 13a-15(e) and Rule 15d-15(e) of the Securities Exchange Act of 1934 (the "Exchange Act")), pursuant to Rule 13a-15 of the Exchange Act. Our disclosure controls and procedures are designed only to provide reasonable assurance that they will meet their objectives. Based upon that evaluation, the Chief Executive Officer and Chief Financial Officer concluded that as of December 31, 2019, the Company's disclosure controls and procedures were effective to provide reasonable assurance that they would meet their objectives.

Management's Annual Report on Internal Control Over Financial Reporting

Management is responsible for the preparation and fair presentation of the consolidated financial statements included in this annual report. The consolidated financial statements have been prepared in conformity with United States generally accepted accounting principles and reflect management's judgments and estimates concerning events and transactions that are accounted for or disclosed.

Management is also responsible for establishing and maintaining effective internal control over financial reporting. The Company's internal control over financial reporting includes those policies and procedures that pertain to the Company's ability to record, process, summarize, and report reliable financial data. Management recognizes that there are inherent limitations in the effectiveness of any internal control and effective internal control over financial reporting can provide only reasonable assurance with respect to financial statement preparation. Additionally, because of changes in conditions, the effectiveness of internal control over financial reporting may vary over time.

In order to ensure that the Company's internal control over financial reporting is effective, management regularly assesses such controls and did so most recently for its financial reporting as of December 31, 2019. Management's assessment was based on criteria for effective internal control over financial reporting described in Internal Control—Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this assessment, management asserts that the Company has maintained effective internal control over financial reporting as of December 31, 2019.

Deloitte & Touche LLP, an independent registered public accounting firm, who audited the Company's consolidated financial statements, has also audited the effectiveness of the Company's internal control over financial reporting as of December 31, 2019, as stated in their report below.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the shareholders and the Board of Directors of TriMas Corporation

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of TriMas Corporation and subsidiaries (the "Company") as of December 31, 2019, 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 Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements and financial statement schedule as of and for the year ended December 31, 2019 of the Company and our report dated February 27, 2020, expressed an unqualified opinion on those financial statements and financial statement schedule.

Basis for Opinion

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

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

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

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

/s/ Deloitte & Touche LLP

Detroit, Michigan
February 27, 2020

Changes in disclosure controls and procedures

There have been no changes in the Company's internal control over financial reporting during the quarter ended December 31, 2019 that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

Item 9B. Other Information

Not applicable.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

Information regarding our executive officers is included in Part I of this Form 10-K under the heading “*Information about our Executive Officers.*”

The Company's Code of Ethics and Business Conduct is applicable to its directors, officers and employees. The Code of Ethics and Business Conduct is available on the "Investors" portion of the Company's website under the "Corporate Governance" link. The Company's website address is www.trimascorp.com.

The information required by this item is incorporated by reference from our definitive proxy statement for the 2020 Annual Meeting of Shareholders.

Item 11. Executive Compensation

The information required by this item is incorporated by reference from our definitive proxy statement for the 2020 Annual Meeting of Shareholders.

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

The information required by this item is incorporated by reference from our definitive proxy statement for the 2020 Annual Meeting of Shareholders.

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

The information required by this item is incorporated by reference from our definitive proxy statement for the 2020 Annual Meeting of Shareholders.

Item 14. Principal Accountant Fees and Services

The information required by this item is incorporated by reference from our definitive proxy statement for the 2020 Annual Meeting of Shareholders.

PART IV

Item 15. Exhibits and Financial Statement Schedules

(a) Listing of Documents

(1) Financial Statements

The Company's Financial Statements included in Item 8 hereof, as required at December 31, 2019 and December 31, 2018, and for the periods ended December 31, 2019, December 31, 2018 and December 31, 2017, consist of the following:

Balance Sheet
Statement of Income
Statement of Comprehensive Income
Statement of Cash Flows
Statement of Shareholders' Equity
Notes to Financial Statements

(2) Financial Statement Schedules

Financial Statement Schedule of the Company appended hereto, as required for the periods ended December 31, 2019, December 31, 2018 and December 31, 2017, consists of the following:

Valuation and Qualifying Accounts

All other schedules are omitted because they are not applicable, not required, or the information is otherwise included in the financial statements or the notes thereto.

(3) Exhibits

- 2.1(p) [Separation and Distribution Agreement, dated as of June 30, 2015, by and between Horizon Global Corporation and TriMas Corporation.**](#)
- 2.2(w) [Asset and Stock Purchase Agreement, dated as of November 1, 2019, by and between TriMas Company LLC and LGC US Holdings, LLC and LGC US Finco, LLC.**](#)
- 3.1(d) [Fourth Amended and Restated Certificate of Incorporation of TriMas Corporation.](#)
- 3.2(i) [Third Amended and Restated By-laws of TriMas Corporation.](#)
- 4.1(u) [Indenture, dated as of September 20, 2017, among TriMas Corporation, the Guarantors named therein and Wells Fargo Bank, National Association, as Trustee \(including the Form of Note\).](#)
- 4.2 [Description of Securities of TriMas Corporation.](#)
- 10.1(a) [Stock Purchase Agreement dated as of May 17, 2002, among Heartland Industrial Partners, L.P., TriMas Corporation and Metaldyne Company LLC.](#)
- 10.2(c) [Amendment No. 1 to Stock Purchase Agreement dated as of August 31, 2006, among Heartland Industrial Partners, L.P., TriMas Corporation and Metaldyne Corporation.](#)
- 10.3(e) [Amendment No. 2 to Stock Purchase Agreement dated as of November 27, 2006, among Heartland Industrial Partners, L.P., TriMas Corporation and Metaldyne Corporation.](#)
- 10.4(b) [Asset Purchase Agreement dated as of May 9, 2003, among TriMas Corporation, Metaldyne Corporation and Metaldyne Company LLC.](#)
- 10.5(m) [Credit Agreement, dated October 16, 2013, by and among TriMas Corporation, TriMas Company LLC and JPMorgan Chase bank, N.A., as Administrative Agent and Collateral Agent, and the various lenders from time to time thereto.](#)
- 10.6(o) [Incremental Facility Agreement and Amendment dated as of October 17, 2014, among TriMas Company LLC, the other Loan Parties party thereto, JPMorgan Chase Bank, N.A., as administrative agent, the Incremental Tranche A Term Lenders and the other Lenders party thereto.](#)
- 10.7(p) [Replacement Facility Amendment, dated as of June 30, 2015, among TriMas Company LLC, the other Loan Parties party thereto, JPMorgan Chase Bank, N.A., as administrative agent, and the Lenders party thereto.](#)
- 10.8(s) [Foreign Subsidiary Borrowing Agreement and Amendment dated as of January 10, 2017, among TriMas Company LLC, TriMas Corporation, TriMas Corporation Limited, JPMorgan Chase Bank, N.A., as administrative agent for the Lenders \(as defined therein\) and as Fronting Lender, JPMorgan Chase Bank, N.A., Bank of America, N.A. and Wells Fargo Bank, National Association, J.P. Morgan Europe Limited, in its capacity as Foreign Currency Agent, and the Revolving Lenders party hereto.](#)

- 10.9(s) [Amendment, dated as of March 8, 2017 to the Credit Agreement, dated as of October 16, 2013 \(as amended, amended and restated, supplemented or otherwise modified from time to time\), among TriMas Corporation, TriMas Company LLC, the subsidiary borrowers from time to time parties thereto, the Lenders party thereto, JPMorgan Chase Bank, N.A., as administrative agent, and the other agents party thereto.](#)
- 10.10(u) [Replacement Facility Amendment, dated as September 20, 2017, among TriMas Company LLC, the other Loan Parties party thereto, JPMorgan Chase Bank, N.A., as administrative agent, and the Lenders party thereto.**](#)
- 10.11(h) [TriMas Corporation 2006 Long Term Equity Incentive Plan Composite Plan Document.*](#)
- 10.12(f) [TriMas Corporation Long Term Equity Incentive Plan Non-Qualified Stock Option Agreement.*](#)
- 10.13(g) [Flexible Cash Allowance Policy.*](#)
- 10.14(j) [2011 TriMas Corporation Omnibus Incentive Compensation Plan.*](#)
- 10.15(k) [Amendment No. 1 to the TriMas Corporation 2011 Omnibus Incentive Compensation Plan.*](#)
- 10.16(t) [TriMas Corporation 2017 Equity and Incentive Compensation Plan.*](#)
- 10.17(l) [Executive Severance / Change of Control Policy.*](#)
- 10.24(r) [Form of Non-Qualified Stock Option Agreement under the 2011 Omnibus Incentive Compensation Plan.*](#)
- 10.25(s) [Form of Performance Stock Units Agreement \(Three-Year-Vest\) - 2017 LTI - under the 2011 Omnibus Incentive Compensation Plan.*](#)
- 10.26(s) [Form of Restricted Stock Units Agreement \(Three-Year Vest\) - 2017 LTI - under the 2011 Omnibus Incentive Compensation Plan.*](#)
- 10.27(v) [Form of Performance Stock Units Agreement \(Three-Year-Vest\) - 2018 LTI - under the 2017 Equity and Incentive Compensation Plan.*](#)
- 10.28(v) [Form of Restricted Stock Units Agreement \(Three-Year Vest\) - 2018 LTI - under the 2017 Equity and Incentive Compensation Plan.*](#)
- 10.29(v) [Form of Restricted Stock Units Agreement \(Board Of Directors\)\(One-Year Vest\) - 2018 LTI - under the 2017 Equity and Incentive Compensation Plan.*](#)
- 10.30(n) [2013 Form of Indemnification Agreement.*](#)
- 10.31(p) [Tax Sharing Agreement, dated as of June 30, 2015, by and between Horizon Global Corporation and TriMas Corporation.](#)
- 10.32(p) [Noncompetition and Nonsolicitation Agreement, dated as of June 30, 2015, by and between Horizon Global Corporation and TriMas Corporation.](#)
- 10.33(r) [Offer Letter between TriMas Corporation and Thomas A. Amato dated July 23, 2016.](#)
- 10.34(x) [Form of Restricted Stock Units Agreement \(Board of Directors\)\(One-Year Vest\) - 2019 LTI - under the 2017 Equity and Incentive Compensation Plan.*](#)
- 10.35(x) [Form of Performance Stock Units Agreement - 2019 LTI - under the 2017 Equity and Incentive Compensation Plan.*](#)
- 10.36(x) [Form of Restricted Stock Units Agreement \(Three-Year Vest\) - 2019 LTI - under the 2017 Equity and Incentive Compensation Plan.*](#)
- 10.37 [Form of Special Performance Stock Units Agreement - 2019 LTI - under the 2017 Equity and Incentive Compensation Plan.*](#)
- 21.1 [TriMas Corporation Subsidiary List.](#)
- 23.1 [Consent of Independent Registered Public Accounting Firm.](#)
- 31.1 [Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.](#)
- 31.2 [Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.](#)
- 32.1 [Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.](#)
- 32.2 [Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.](#)

101	The following materials from TriMas Corporation's Annual Report on Form 10-K for the fiscal year ended December 31, 2019, formatted in Inline XBRL (eXtensible Business Reporting Language): (i) the Consolidated Balance Sheet, (ii) the Consolidated Statement of Income, (iii) the Consolidated Statement of Comprehensive Income, (iv) the Consolidated Statement of Cash Flows, (v) the Consolidated Statement of Shareholders' Equity, (vi) Notes to Consolidated Financial Statements, and (vii) document and entity information.
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

*Management contracts and compensatory plans or arrangements required to be filed as an exhibit pursuant to Item 15(b) of Form 10-K.

** Certain exhibits and schedules have been omitted and the Company agrees to furnish supplementally to the Securities and Exchange Commission a copy of any omitted exhibits and schedules upon request.

- (a) Incorporated by reference to the Exhibits filed with our Registration Statement on Form S-4 filed on October 4, 2002 (File No. 333-100351).
- (b) Incorporated by reference to the Exhibits filed with our Registration Statement on Form S-4 filed June 9, 2003 (File No. 333-105950).
- (c) Incorporated by reference to the Exhibits filed with Amendment No. 1 to our Registration Statement on Form S-1 filed on September 19, 2006 (File No. 333-136263).
- (d) Incorporated by reference to the Exhibits filed with our Quarterly Report on Form 10-Q filed on August 3, 2007 (File No. 001-10716).
- (e) Incorporated by reference to the Exhibits filed with our Quarterly Report on Form 10-Q filed on August 7, 2008 (File No. 001-10716).
- (f) Incorporated by reference to the Exhibits filed with our Report on Form 8-K filed on March 6, 2009 (File No. 001-10716).
- (g) Incorporated by reference to the Exhibits filed with our Report on Form 8-K filed on December 10, 2009 (File No. 001-10716).
- (h) Incorporated by reference to the Exhibits filed with our Report on Form 8-K filed on March 26, 2010 (File No. 001-10716).
- (i) Incorporated by reference to the Exhibits filed with our Report on Form 8-K filed on December 18, 2015 (File No. 001-10716).
- (j) Incorporated by reference to the Exhibits filed with our Report on Form 8-K filed on April 4, 2011 (File No. 001-10716).
- (k) Incorporated by reference to Appendix A filed with our Definitive Proxy Statement on Schedule 14A filed on April 5, 2013 (File No. 001-10716).
- (l) Incorporated by reference to the Exhibits filed with our Report on Form 8-K filed on March 7, 2019 (File No. 001-10716).
- (m) Incorporated by reference to the Exhibits filed with our Report on Form 8-K filed on October 21, 2013 (File No. 001-10716).
- (n) Incorporated by reference to the Exhibits filed with our Report on Form 8-K filed on November 13, 2013 (File No. 001-10716).
- (o) Incorporated by reference to the Exhibits filed with our Current Report on Form 8-K filed on October 20, 2014 (File No. 001-10716).
- (p) Incorporated by reference to the Exhibits filed with our Current Report on Form 8-K filed on July 6, 2015 (File No. 001-10716).
- (r) Incorporated by reference to the Exhibits filed with our Quarterly Report on Form 10-Q filed on October 27, 2016 (File No. 001-10716).
- (s) Incorporated by reference to the Exhibits filed with our Quarterly Report on Form 10-Q filed on April 27, 2017 (File No. 001-10716).
- (t) Incorporated by reference to the Exhibits filed with our Quarterly Report on Form 10-Q filed on July 27, 2017 (File No. 001-10716).
- (u) Incorporated by reference to the Exhibits filed with our Current Report on Form 8-K filed on September 20, 2017 (File No. 001-10716).
- (v) Incorporated by reference to the Exhibits filed with our Quarterly Report on Form 10-Q filed on August 7, 2018 (File No. 001-10716).

- (w) Incorporated by reference to the Exhibits filed with our Report on Form 8-K filed on December 20, 2019 (File No. 001-10716).
- (x) Incorporated by reference to the Exhibits filed with our Quarterly Report on Form 10-Q filed on July 30, 2019 (File No. 001-10716).

Item 16. Form 10-K Summary

None.

SIGNATURES

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

TRIMAS CORPORATION
(Registrant)

DATE: February 27, 2020

BY: /s/ THOMAS A. AMATO
Name: Thomas A. Amato
Title: *President and Chief Executive Officer*

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

<u>Name</u>	<u>Title</u>	<u>Date</u>
<u>/s/ THOMAS A. AMATO</u> Thomas A. Amato	President and Chief Executive Officer (Principal Executive Officer) and Director	February 27, 2020
<u>/s/ ROBERT J. ZALUPSKI</u> Robert J. Zalupski	Chief Financial Officer (Principal Financial Officer)	February 27, 2020
<u>/s/ PAUL A. SWART</u> Paul A. Swart	Vice President Business Planning, Controller and Chief Accounting Officer (Principal Accounting Officer)	February 27, 2020
<u>/s/ SAMUEL VALENTI III</u> Samuel Valenti III	Chairman of the Board of Directors	February 27, 2020
<u>/s/ HOLLY M. BOEHNE</u> Holly M. Boehne	Director	February 27, 2020
<u>/s/ TERESA M. FINLEY</u> Teresa M. Finley	Director	February 27, 2020
<u>/s/ JEFFREY M. GREENE</u> Jeffrey M. Greene	Director	February 27, 2020
<u>/s/ EUGENE A. MILLER</u> Eugene A. Miller	Director	February 27, 2020
<u>/s/ HERBERT K. PARKER</u> Herbert K. Parker	Director	February 27, 2020
<u>/s/ NICK L. STANAGE</u> Nick L. Stanage	Director	February 27, 2020
<u>/s/ DANIEL P. TREDWELL</u> Daniel P. Tredwell	Director	February 27, 2020

SCHEDULE II
PURSUANT TO ITEM 15(a)(2)
OF FORM 10-K VALUATION AND QUALIFYING ACCOUNTS FOR THE YEARS ENDED
December 31, 2019, 2018 AND 2017

DESCRIPTION	BALANCE AT BEGINNING OF PERIOD	ADDITIONS		DEDUCTIONS ^(A)	BALANCE AT END OF PERIOD
		CHARGED TO COSTS AND EXPENSES	CHARGED (CREDITED) TO OTHER ACCOUNTS		
Allowance for doubtful accounts deducted from accounts receivable in the balance sheet					
Year ended December 31, 2019	\$ 2,790,000	\$ 810,000	\$ 490,000	\$ 2,030,000	\$ 2,060,000
Year ended December 31, 2018	\$ 3,370,000	\$ 1,440,000	\$ 240,000	\$ 2,260,000	\$ 2,790,000
Year ended December 31, 2017	\$ 3,040,000	\$ 2,630,000	\$ (130,000)	\$ 2,170,000	\$ 3,370,000

^(A) Deductions, representing uncollectible accounts written-off, less recoveries of amounts reserved in prior years.

DESCRIPTION OF SECURITIES REGISTERED UNDER
SECTION 12 OF THE SECURITIES EXCHANGE ACT OF 1934

The following summary description of the common stock, par value \$0.01 per share (“common stock”), of TriMas Corporation, a Delaware corporation (the “Company”), is based on the provisions of the General Corporation Law of the State of Delaware (“DGCL”) and the Company’s certificate of incorporation and bylaws. This description is only a summary and does not purport to be complete; therefore, it is subject to and is qualified in its entirety by reference to the terms of the Company’s certificate of incorporation and bylaws, which are incorporated by reference herein and attached as exhibits to the Company’s most recent Annual Report on Form 10-K filed with the Securities and Exchange Commission, and to applicable provisions of the DGCL.

The Company’s certificate of incorporation authorizes it to issue 400,000,000 shares of common stock and 100,000,000 shares of preferred stock, par value \$0.01 per share (“preferred stock”).

Common Stock

The holders of common stock are entitled to one vote per share on all matters to be voted on by the stockholders. Accordingly, holders of a majority of the shares of common stock entitled to vote in any election of directors may elect all of the directors standing for election. Holders of common stock are entitled to receive ratably such dividends as may be declared by the Company’s Board of Directors (the “Board”) out of funds legally available therefor. In the event of the Company’s liquidation, dissolution or winding up, holders of common stock are entitled to share ratably in all assets remaining after payment of liabilities and the liquidation preferences of any outstanding shares of preferred stock. Holders of common stock have no preemptive, subscription, redemption or conversion rights. There are no redemption or sinking fund provisions applicable to the common stock.

Preferred Stock

The Company’s certificate of incorporation authorizes the Board of Directors, subject to limitations prescribed by law, to issue up to 100,000,000 shares of preferred stock in one or more series and to fix the rights, preferences, privileges, qualifications and restrictions granted to or imposed upon such preferred stock, including dividend rights, dividend rates, conversion rights, voting rights (which may be greater than one vote per share), rights and terms of redemption, sinking fund provisions for the redemption or purchase of the shares and liquidation preference, any or all of which may be greater than the rights of the common stock. The issuance of preferred stock could:

- adversely affect the voting power of holders of common stock and reduce the likelihood that such holders will receive dividend payments and payments upon liquidation;
- decrease the market price of the common stock; or
- delay, deter or prevent a change in control of the Company.

Anti-Takeover Effects of Delaware Law and the Company’s Certificate of Incorporation and Bylaws

Delaware Law

The Company has elected to opt out of the provisions of Section 203 of the DGCL. In general, Section 203 prohibits a public Delaware corporation from engaging in a “business combination” with an “interested stockholder” for a period of three years after the date of the transaction in which the person became an interested stockholder, unless either the person becoming an interested stockholder or the business combination is approved in a prescribed manner. A “business combination” includes mergers, asset sales or other transactions resulting in a financial benefit to the stockholder. An “interested stockholder” is a person who, together with affiliates and associates, owns, or within three years, did own, 15.0% or more of the corporation’s voting stock.

Certificate of Incorporation and Bylaw Provisions

Certain provisions of the Company’s certificate of incorporation and bylaws may have the effect of making it more difficult for a third party to acquire, or of discouraging a third party from attempting to acquire, control of the Company. Such

provisions could limit the price that certain investors might be willing to pay in the future for shares of common stock and may limit the ability of stockholders to remove current management or directors or approve transactions that stockholders may deem to be in their best interest and, therefore, could adversely affect the price of the common stock.

Classified Board. The Company's certificate of incorporation provides that the Board will be divided into three classes of directors, with the classes to be as nearly equal in number as possible. As a result, approximately one-third of the Board will be elected each year. The classification of directors will have the effect of making it more difficult for stockholders to change the composition of the Board. The Company's certificate of incorporation and bylaws provide that subject to any rights of holders of preferred stock to elect additional directors under specified circumstances, the number of directors will be fixed from time to time exclusively pursuant to a resolution adopted by the Board, but must consist of not less than three or more than fifteen directors.

Under the DGCL, unless otherwise provided in a corporation's certificate of incorporation, directors serving on a classified board may be removed by the stockholders only for cause. The Company's certificate of incorporation does not provide otherwise.

No Cumulative Voting. The DGCL provides that stockholders are not entitled to the right to cumulate votes in the election of directors unless a corporation's certificate of incorporation provides otherwise. The Company's certificate of incorporation does not expressly provide for cumulative voting. Under cumulative voting, a majority stockholder holding a sufficient percentage of a class of shares may be able to ensure the election of one or more directors.

Advance Notice Requirements for Stockholder Proposals and Director Nominations. The Company's bylaws provide that stockholders seeking to nominate candidates for election as directors or to bring business before an annual meeting of stockholders must provide timely notice of their proposal in writing to the corporate secretary. Generally, to be timely, a stockholder's notice must be received at our principal executive offices not less than 90 nor more than 120 days prior to the first anniversary of the previous year's annual meeting. The Company's bylaws also specify requirements as to the form and content of a stockholder's notice. These provisions may impede stockholders' ability to bring matters before an annual meeting of stockholders or make nominations for directors at an annual meeting of stockholders.

No Action by Written Consent; Special Meeting. The Company's certificate of incorporation provides that any action required or permitted to be taken by the stockholders must be effected at a duly called annual or special meeting of stockholders and may not be effected by any consent in writing. In addition, The Company's bylaws provide that special meetings of stockholders may be called only by the Board or the chairman of the Board.

Authorized but Undesignated Stock. The authorization of undesignated preferred stock makes it possible for the Board to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to change control of the Company or otherwise render more difficult or discourage an attempt to obtain control of the Company by means of a merger, tender offer, proxy contest or otherwise, and thereby protect the continuity of the Company's management and possibly deprive the stockholders of opportunities to sell their shares of common stock at prices higher than prevailing market prices.

Exclusive Forum Provision. The Company's bylaws provide that unless the Company consents in writing to the selection of an alternative forum, the sole and exclusive forum for any derivative action or proceeding brought on behalf of the Company, any action asserting a claim of breach of a fiduciary duty owed by any director, officer or other employee of the Company to the Company or the Company's stockholders, any action asserting a claim against the Company or any director or officer or other employee of the Company arising pursuant to any provision of the DGCL or the Company's certificate of incorporation or bylaws, or any action asserting a claim against the Company or any director or officer or other employee of the Company governed by the internal affairs doctrine shall be the Court of Chancery of the State of Delaware (or, if the Court of Chancery of the State of Delaware does not have jurisdiction, the Superior Court of the State of Delaware, or, if the Superior Court of the State of Delaware does not have jurisdiction, the United States District Court for the District of Delaware), in all cases subject to such court having personal jurisdiction over the indispensable parties named as defendants.

TRIMAS CORPORATION

2017 EQUITY AND INCENTIVE COMPENSATION PLAN

SPECIAL PERFORMANCE STOCK UNITS AGREEMENT

TriMas Corporation (the “Company”), as permitted by the TriMas Corporation 2017 Equity and Incentive Compensation Plan (“Plan”), and as approved by the Committee, has granted to the individual listed below (“Grantee”), the opportunity to earn performance-based Restricted Stock Units (“PSUs”) in the amount designated in this Special Performance Stock Units Agreement (“Agreement”), subject to the terms and conditions of the Plan and this Agreement.

Unless otherwise defined in this Agreement or in one or more Appendices to this Agreement, the terms used in this Agreement have the same meanings as defined in the Plan.

I. NOTICE OF PSU award

Grantee:	[specify Grantee’s name]
Date of Agreement:	As of [enter date]
Date of Grant:	March 1, 2020
Number of PSUs in Award:	[number of PSUs] (“Target”), subject to addition or subtraction as set forth on Appendix A depending on achievement of applicable Management Objectives
Performance Period:	<i>Beginning on January 1, 2020, and continuing through December 31, 2022</i>
Settlement Date	March 1, 2023
Settlement Method:	Earned and vested PSUs will generally be settled by delivery of one share of Common Stock for each PSU being settled

II. AGREEMENT

A. Grant of PSUs. The Company has granted to Grantee (who, pursuant to this award is a Participant in the Plan) the opportunity to earn the number of PSUs described above, subject to the terms of this Agreement (this “Award”). Except as otherwise provided in Section II.A.6(e)(1), the PSUs evidenced by this Agreement are payable only in shares of Common Stock as described in this Agreement. Notwithstanding anything to the contrary anywhere else in this Agreement, the PSUs subject to this Award are subject to the terms and provisions of the Plan, which are incorporated by reference into this Agreement.

1. Vesting. Except as otherwise designated in this Agreement, Grantee must be a Service Provider on the Settlement Date (as such term is defined in Section II.A.7 below) to be eligible to earn and receive payment for any PSUs, and any PSUs subject to this Award will be canceled and forfeited if Grantee terminates as a Service Provider prior to the Settlement Date. Any PSUs that remain unearned after the “Determination Date” (as such term is defined in Appendix A) will be cancelled and forfeited.

2. **Performance Goals to Earn PSUs.** Grantee will only receive shares of Common Stock related to, and to the extent that such shares are earned pursuant to, the Management Objectives and goals specified in Appendix A to this Agreement (“Performance Goals”).

3. **Dividend Equivalent Rights.** Grantee shall be credited with cash per PSU equal to the amount of each cash dividend paid by the Company (if any) to holders of Common Stock generally with a record date occurring on or after the Date of Grant and prior to the time when the PSUs are earned and/or vest and are settled in accordance with Section II.A.7 hereof. Any amounts credited pursuant to the immediately preceding sentence shall be subject to the same applicable terms and conditions (including earning, vesting, payment, and forfeitability) as apply to the PSUs based on which the dividend equivalents were credited, and such amounts shall be paid in either cash or Common Stock, as determined by the Committee in its sole discretion, at the same time as the PSUs to which they relate. If such amounts are paid in Common Stock, the number of shares so paid shall be rounded down to the nearest whole number and shall be determined by dividing such credited amounts by the Market Value per Share on the payment date.

4. **Rights as a Stockholder.** This Award does not entitle Grantee to any ownership interest in any actual shares of Common Stock unless and until such shares of Common Stock are issued to Grantee pursuant to the terms of the Plan. Except as otherwise provided in Section II.A.3 hereof, unless and until shares of Common Stock are issued to Grantee in settlement of earned PSUs under this Award, Grantee will have none of the rights of a stockholder of the Company with respect to the shares of Common Stock issuable in settlement of the PSUs, including the right to vote the shares of Common Stock. Shares of Common Stock issuable in settlement of PSUs will be delivered to Grantee on the Settlement Date in book entry form or in such other manner as the Committee may determine.

5. **Adjustments.** The PSUs covered by this Award will be subject to adjustment as provided in Section 11 of the Plan.

6. **Termination of Service; Forfeiture.**

(a) **Voluntary Termination; Termination by Company; Breach of Other Obligations.** Any PSUs subject to this Award will be canceled and forfeited if, prior to the Settlement Date, Grantee voluntarily terminates as a Service Provider (other than for Good Reason as provided below), if Grantee’s status as a Service Provider is terminated by the Company or a Subsidiary for any reason (other than death, Disability, or Retirement if such Retirement occurs more than 18 months after the Date of Grant), or if Grantee violates the provisions of Section II.B.4 below.

(b) **Qualifying Termination Prior to a Change in Control.** Notwithstanding the foregoing, and except as set forth in subsection (e) of this Section II.A.6, if Grantee ceases to be a Service Provider prior to the Settlement Date as a result of Grantee’s Qualifying Termination, Grantee shall vest in a pro-rata portion of the number of PSUs, if any, that are earned under Section II.A.2 due to the achievement of the performance measures specified in Appendix A during the performance period specified in the table above (the “Performance Period”). The pro-rata percentage of the number of PSUs to be earned and settled under Section II.A.7 shall be equal to (x) the amount determined under Section II.A.2 above at the end of the Performance Period, multiplied by (y) a fraction (not greater than 1), the numerator of which is the number of whole calendar months Grantee was employed or rendering services from the beginning of the Performance Period through the date of Grantee’s Qualifying Termination, and the denominator of which is 36.

(c) **Death or Disability.** Notwithstanding the foregoing, if Grantee dies or becomes Disabled prior to the Settlement Date, Grantee shall become vested as of the date of such death or

Disability in the number of PSUs that would be earned due to the achievement of the performance measures specified in Appendix A if the last day of the Performance Period were the date Grantee died or became Disabled.

(d) **Retirement.** If Grantee ceases to be a Service Provider as a result of Grantee's Retirement more than 18 months after the Date of Grant, Grantee shall vest in a pro-rata amount of PSUs, with the pro-rata amount determined in accordance with subsection (b) of this Section II.A.6.

(e) **Change in Control.** In the event of a Change in Control that occurs prior to the Settlement Date, the PSUs will vest in accordance with this Section II.A.6(e).

(1) Notwithstanding anything set forth herein to the contrary, if at any time before the Settlement Date or forfeiture of the PSUs, and while Grantee is continuously a Service Provider, a Change in Control occurs, then (A) the Committee, as constituted immediately before such Change in Control, shall determine and certify the number of earned PSUs in accordance with Appendix A to this Agreement as if the last day of the Performance Period were the date of such Change in Control (the "Change in Control Payout Level") and (B) the PSUs will vest (except to the extent that a Replacement Award is provided to Grantee in accordance with Section II.A.6(e)(2) to continue, replace or assume the PSUs covered by this Agreement (the "Replaced Award")) as follows: the number of PSUs subject to this Award that shall become vested and non-forfeitable shall equal (x) the number of PSUs earned at the Change in Control Payout Level, less (y) the number of PSUs that had already become vested as of the date of such Change in Control, but in no event may negative discretion be exercised with respect to the number of PSUs vested. If the securities otherwise deliverable to Grantee with respect to PSUs that become vested pursuant to this subsection (e)(1) would not be publicly traded on an established securities market at the time of such delivery, then, notwithstanding anything in Section II.A.7 or otherwise herein to the contrary, such PSUs will be settled in cash in an amount equal to the product (as reasonably determined by the Committee as constituted immediately prior to the Change in Control) of (I) the number of shares of Common Stock covered by the PSUs immediately prior to the Change in Control at the Change in Control Payout Level multiplied by (II) the dollar value of the consideration per share of Common Stock received in the Change in Control by Stockholders generally. Any PSUs that are not earned and do not vest in accordance with the foregoing sentence shall terminate and be forfeited.

(2) For purposes of this Agreement, a "Replacement Award" means an award (A) of service-based restricted stock units, (B) that has a value immediately after the Change in Control at least equal to the value, immediately prior to the Change in Control, of the PSUs earned at the Change in Control Payout Level, (C) that relates to publicly traded equity securities of the Company or its successor in the Change in Control or another entity that is affiliated with the Company or its successor following the Change in Control, (D) if Grantee holding the Replaced Award is subject to U.S. federal income tax under the Code, the tax consequences of which to such Grantee under the Code are not less favorable to such Grantee than the tax consequences of the Replaced Award, and (E) the other terms and conditions of which are not less favorable to Grantee holding the Replaced Award than the terms and conditions of the Replaced Award (including the provisions that would apply in the event of a subsequent Change in Control). A Replacement Award may be granted only to the extent it does not result in the Replaced Award or Replacement Award failing to comply with or be exempt from Section 409A of the Code. Without limiting the generality of the foregoing, the Replacement Award may take the form of a continuation of the Replaced Award if the

requirements of the two preceding sentences are satisfied. The determination of whether the conditions of this Section II.A.6(e)(2) are satisfied will be made by the Committee, as constituted immediately before the Change in Control, in its sole discretion.

(3) If, after receiving a Replacement Award, Grantee experiences a Qualifying Termination with the Company or a Subsidiary (or any of their successors) (as applicable, the “Successor”) within a period of two years after the Change in Control and prior to the Settlement Date, the Replacement Award shall become fully vested. Any portion of the Replacement Award that does not vest in accordance with the foregoing sentence shall terminate and be forfeited.

Any PSUs that are not earned and do not vest in accordance with this Section II.A.6. shall terminate and be forfeited as of the date Grantee ceases to be a Service Provider. However, in particular, this Award is subject to Section 18(c) of the Plan.

7. Determination of PSUs Earned and Vested; Settlement.

(a) **General.** Subject to Section II.A.7(b), upon the Committee’s certification of achievement of the Performance Goals, and Grantee’s satisfaction of the vesting requirements in Section II.A.1 and Section II.A.6 above, as applicable, this Award shall be settled by issuing to Grantee the number of shares of Common Stock determined pursuant to Appendix A (subject to pro-rata as described in Section II.A.6, if applicable), and Grantee’s name shall be entered as the shareholder of record on the books of the Company with respect to such shares. This settlement shall occur on March 1, 2023 (the “Settlement Date”).

(b) **Other Payment Events.** Notwithstanding Section II.A.7(a), to the extent that the PSUs are vested on the dates set forth below, payment with respect to the PSUs will be made as follows:

(1) to the extent the PSUs are vested as a result of Section II.A.6 (and have not previously been settled) on the date of Grantee’s death or Disability such vested PSUs will be settled by issuing to Grantee one share of Common Stock for each such vested PSU within 30 days of Grantee’s death or Disability, and Grantee’s name shall be entered as the shareholder of record on the books of the Company with respect to such shares; and

(2) to the extent the PSUs are vested as a result of Section II.A.6 (and have not previously been settled) on the date of a Change in Control, such vested PSUs will be settled by issuing to Grantee one share of Common Stock for each such vested PSU within 30 days of the Change in Control, and Grantee’s name shall be entered as the shareholder of record on the books of the Company with respect to such shares; provided, however, that if such Change in Control would not constitute a “change in the ownership,” “change in effective control,” and/or “change in the ownership of a substantial portion of assets” of the Company as those terms are defined under Treasury Regulation Section 1.409A-3(i)(5) (a “409A Change in Control”), and where Section 409A of the Code applies to such distribution, Grantee is entitled to receive the corresponding payment on the earliest of the dates that would have otherwise applied pursuant to Sections II.A.7(a) or II.A.7(b) as though such Change in Control had not occurred. If a Replacement Award is provided and the Change in Control is a 409A Change in Control, notwithstanding anything in this Agreement to the contrary, to the extent necessary to comply with Section 409A of the Code, any outstanding PSUs that at the time of the Change in Control are not subject to a “substantial risk of forfeiture” (within the meaning of Section 409A of the Code) will be paid within 30 days after the Change in Control; and

(3) if Grantee experiences a separation from service (within the meaning of Section 409A of the Code) with the Company and its Subsidiaries within two years after a Change in Control that is a 409A Change in Control, to the extent any PSUs at the time of such separation from service are not subject to a “substantial risk of forfeiture” (within the meaning of Section 409A of the Code) (because of the application of Section II.A.6(d) or II.A.6(e)(3) or otherwise), such PSUs will be settled by issuing to Grantee one share of Common Stock for each vested PSU within 30 days after such separation from service, and Grantee’s name shall be entered as the shareholder of record on the books of the Company with respect to such shares.

(c) Any unearned PSUs at the end of the Performance Period, or if earlier, the time of settlement, will be canceled and forfeited. In all circumstances, the number of PSUs earned or vested will be rounded down to the nearest whole PSU, unless otherwise determined by the Committee.

B. Other Terms and Conditions.

1. Non-Transferability of Award. Except as described below, this Award and the PSUs subject to this Award may not be sold, pledged, assigned, hypothecated, transferred, or disposed of in any manner other than by will or by the laws of descent or distribution. The terms of this Award are binding on the executors, administrators, heirs, successors and assigns of Grantee.

2. Withholding. To the extent that the Company is required to withhold federal, state, local or foreign taxes or other amounts in connection with any payment made or benefit realized by Grantee under this Agreement, and the amounts available to the Company for such withholding are insufficient, it shall be a condition to the receipt of such payment or the realization of such benefit that Grantee make arrangements satisfactory to the Company for payment of the balance of such taxes or other amounts required to be withheld. If Grantee’s benefit is to be received in the form of shares of Common Stock, then (a) if Grantee is subject to Section 16 of the Exchange Act, Grantee agrees that the Company will withhold shares of Common Stock having a value equal to the amount required to be withheld, and (b) if Grantee is not subject to Section 16 of the Exchange Act, Grantee may elect that all or any part of such withholding requirement be satisfied by the retention by the Company of a portion of the Common Stock to be delivered to Grantee, by delivering to the Company other Common Stock held by Grantee, or by tendering sufficient funds in cash or cash equivalent to the Company. The shares of Common Stock used for tax or other withholding will be valued at an amount equal to the fair market value of such shares of Common Stock on the date the benefit is to be included in Grantee’s income. In no event will the fair market value of the shares of Common Stock to be withheld and/or delivered pursuant to this Section II.B.2 to satisfy applicable withholding taxes or other amounts in connection with the benefit exceed (x) the maximum amount that could be required to be withheld or (y) if so determined by the Committee after the date hereof, the minimum amount required to be withheld.

3. Dispute Resolution. Grantee and the Company agree that any disagreement, dispute, controversy, or claim arising out of or relating to this Agreement, its interpretation, validity, or the alleged breach of this Agreement, will be settled exclusively and, consistent with the procedures specified in this Section II.B.3, irrespective of its magnitude, the amount in controversy, or the nature of the relief sought, in accordance with the following:

(a) **Negotiation.** Grantee and the Company will use their best efforts to settle the dispute, claim, question or disagreement. To this effect, they will consult and negotiate with each other in good faith and, recognizing their mutual interests, attempt to reach a just and equitable solution satisfactory to both parties.

(b) **Arbitration.** If Grantee and the Company do not reach a solution within a period of 30 days from the date on which the dispute, claim, disagreement, or controversy arises, then, upon written notice by Grantee to the Company or the Company to Grantee, all disputes, claims, questions, controversies, or differences will be submitted to arbitration administered by the American Arbitration Association (the “AAA”) in accordance with the provisions of its Employment Arbitration Rules and Mediation Procedures (the “Arbitration Rules”).

(1) **Arbitrator.** The arbitration will be conducted by one arbitrator skilled in the arbitration of executive employment matters. The parties to the arbitration will jointly appoint the arbitrator within 30 days after initiation of the arbitration. If the parties fail to appoint an arbitrator as provided above, an arbitrator with substantial experience in executive employment matters will be appointed by the AAA as provided in the Arbitration Rules. The Company will pay all of the reasonable fees, if any, and expenses of the arbitrator and the arbitration, unless otherwise determined by the arbitrator. Each party to the arbitration will be responsible for his/its respective attorneys’ fees or other costs of representation.

(2) **Location.** The arbitration will be conducted in Oakland County, Michigan.

(3) **Procedure.** At any oral hearing of evidence in connection with the arbitration, each party or its legal counsel will have the right to examine its witnesses and cross-examine the witnesses of any opposing party. No evidence of any witness may be presented in any form unless the opposing party or parties has the opportunity to cross-examine the witness, except under extraordinary circumstances in which the arbitrator determines that the interests of justice require a different procedure.

(4) **Decision.** Any decision or award of the arbitrator is final and binding on the parties to the arbitration proceeding. The parties agree that the arbitration award may be enforced against the parties to the arbitration proceeding or their assets wherever they may be found and that a judgment upon the arbitration award may be entered in any court having jurisdiction.

(5) **Power.** Nothing contained in this Agreement may be deemed to give the arbitrator any authority, power, or right to alter, change, amend, modify, add to, or subtract from any of the provisions of this Agreement.

The provisions of this Section II.B.3 survive the termination or expiration of this Agreement, are binding on the Company’s and Grantee’s respective successors, heirs, personal representatives, designated beneficiaries and any other person asserting a claim described above, and may not be modified without the consent of the Company. To the extent arbitration is required, no person asserting a claim has the right to resort to any federal, state or local court or administrative agency concerning the claim unless expressly provided by federal statute, and the decision of the arbitrator is a complete defense to any action or proceeding instituted in any tribunal or agency with respect to any dispute, unless precluded by federal statute.

4. **Restrictive Covenants.**

(a) **Generally.** The Company would not be providing PSUs or Common Stock to Grantee without Grantee’s agreement to abide by the restrictive covenants described herein. The provisions herein are appropriate in light of the position that Grantee has with the Company and the relationships and confidential and trade secret information that Grantee has been and will be exposed to because of Grantee’s position. Notwithstanding anything herein to the contrary, if Grantee is subject to the

restrictive covenants set forth in Section 7 (or any successor provision) of the TriMas Corporation Executive Severance/Change of Control Policy (or any successor policy), then (1) such restrictive covenants, rather than the restrictive covenants in this Section II.B.4, shall apply to Grantee, and (2) Grantee's violation of such restrictive covenants shall be treated as a violation of the restrictive covenants in this Section II.B.4 for purposes of this Agreement.

(b) **Confidentiality.** Recognizing Grantee's fiduciary duties to the Company, as a condition of this Agreement, Grantee agrees that he or she shall not, at any time before or after termination of employment, in any fashion, form or manner, either directly or indirectly, use, divulge, disclose or communicate, or cause or permit any other person or entity to use, divulge, disclose or communicate, to any person, firm, company or entity, in any manner whatsoever, any Confidential Information (as defined below) of the Company except with the prior written consent of the Board or to the extent specifically required to be disclosed by applicable law. Grantee agrees to notify the Company as soon as reasonably possible after being subpoenaed or otherwise requested by any third party to disclose any Confidential Information. This Section II.B.4 shall not result in the forfeiture of PSUs or any clawback or recoupment of the Award for the disclosure of a trade secret if that disclosure (1) is made in confidence to a federal, state or local government official or to an attorney for the sole purpose of reporting or investigating a suspected violation of law or (2) is made in a complaint or other document filed in a lawsuit or other proceeding, if such filing is made under seal. Nothing in this Agreement is intended to conflict with 18 U.S.C. § 1833(b). Notwithstanding anything in this Agreement to the contrary, nothing in this Agreement prevents Grantee from providing, without prior notice to the Company, information to governmental authorities regarding possible legal violations or otherwise testifying or participating in any investigation or proceeding by any governmental authorities regarding possible legal violations, and for purpose of clarity Grantee is not prohibited from providing information voluntarily to the Securities and Exchange Commission pursuant to Section 21F of the Exchange Act.

(c) **Covenants Against Competition and Solicitation.** Grantee agrees that, while Grantee is employed by the Company, and for 12 months thereafter, Grantee shall not engage, either directly or indirectly, as a principal for Grantee's own account or jointly with others, or as a stockholder in any corporation or joint stock association, or as a partner or member of a general or limited liability entity, or as an employee, officer, director, agent, consultant or in any other advisory capacity in any Competitive Business that designs, develops, manufactures, distributes, sells or markets the type of products or services sold, distributed or provided by the Company, during the one-year period prior to the date of employment termination and with which Grantee was involved and/or oversaw (the "Business"); provided that nothing herein shall prevent Grantee from owning, directly or indirectly, not more than five percent of the outstanding shares of, or any other equity interest in, any entity engaged in the Business and listed or traded on a national securities exchange or in an over-the-counter securities market.

Grantee further understands and agrees that during and within 12 months after being employed by the Company, Grantee shall not directly or indirectly: (1) employ or solicit, or receive or accept the performance of services by, any then-current employee of the Company who is employed primarily in connection with the Business or any former employee of the Company who was employed by the Company primarily in connection with the Business at any time within the 12-month period immediately prior to such employment, solicitation, receipt or acceptance, except in connection with general, non-targeted recruitment efforts such as advertisements and job listings, or directly or indirectly induce any employee of the Company to leave the Company, or assist in any of the foregoing; or (2) solicit business (relating to the Business) from; attempt to entice away from the Company; or

interfere with the Company's relationship with any entity that is a client or customer of the Company at the time of such solicitation, enticement, or interference; or that was or was identified or solicited as a client or customer of the Company during the time that Grantee performed services for the Company, unless such entity shall have ceased to have been such a customer for a period of at least six months as of the time of such solicitation.

(d) **Determination by the Board.** Upon entering into this Agreement, Grantee understands and agrees that a determination of the Board shall be final and binding on the issue of whether Grantee's actions are or will be in violation of this Section II.B.4. Grantee may request in writing from the Board an advance determination as to whether Grantee's proposed actions will violate this Section II.B.4.

(e) **Certain Definitions.** The following definitions shall apply solely with respect to this Section II.B.4:

(1) "*Company*" means (A) during the Grantee's employment with the Company, the Company and any and all direct and indirect subsidiary, parent, affiliated or related companies of the Company for which the Grantee has worked or had responsibility during the Grantee's employment with the Company, and (B) after the Grantee's termination of employment with the Company, the Company and any and all direct and indirect subsidiary, parent, affiliated or related companies of the Company for which Grantee worked or had responsibility at the time of the Grantee's termination of employment and at any time during the one-year period prior to such termination of employment.

(2) "*Competitive Business*" means a person or entity that engages in any business engaged in by the Company, and that does so in a geographic area in which the Company engage(s) in that business, and "engages" includes actively planning to engage in the business.

(3) "*Confidential Information*" means trade secrets of the Company and all other confidential or proprietary information that relates to any aspect of the Company's businesses that cannot freely and readily be obtained from sources outside of the Company. Confidential Information is meant to encompass the broadest enforceable definition of the Company's intellectual property, and includes but is not limited to: financial and business information; customer and potential customer lists; customer contact information; pricing policies; vendor lists and information; third-party agreements and relationships; contractual, business, and financial information relating to the Company's customers or other third parties which the Company is obligated to hold in confidence and/or not disclose; personnel, medical, compensation, and benefits information relating to employees, former employees, and persons affiliated with the Company; systems, login identifications and passwords, processes, methods, and policies; company strategies and plans; databases, company data, and technologies related to the Company's business; and marketing and advertising materials which have not been published. "Confidential Information" shall not include information that Grantee can establish was already in the public domain at the time of disclosure through no fault of Grantee.

(f) **Separate Covenants.** Each of the covenants contained in this Section II.B.4 are separate and distinct covenants of Grantee.

5. Section 409A of the Code. To the extent applicable, it is intended that this Agreement and the Plan comply with or be exempt from the provisions of Section 409A of the Code. This Agreement

and the Plan shall be administered in a manner consistent with this intent, and any provision that would cause this Agreement or the Plan to fail to satisfy Section 409A of the Code shall have no force or effect until amended to comply with or be exempt from Section 409A of the Code (which amendment may be retroactive to the extent permitted by Section 409A of the Code and may be made by the Company without the consent of the Grantee).

6. No Continued Right as Service Provider. Nothing in the Plan or in this Agreement confers on Grantee any right to continue as a Service Provider, or interferes with or restricts in any way the rights of the Company or any Subsidiary, which are hereby expressly reserved, to discharge Grantee at any time for any reason whatsoever, with or without Cause, except to the extent expressly provided otherwise in a written employment agreement between Grantee and the Company or any Subsidiary.

7. Effect on Other Benefits. In no event will the value, at any time, of the PSUs or any other payment or right to payment under this Agreement be included as compensation or earnings for purposes of any other compensation, retirement, or benefit plan offered to employees of, or other Service Providers to, the Company or any Subsidiary unless otherwise specifically provided for in such plan.

8. Third-Party Beneficiaries. If Grantee is or was employed by a subsidiary of the Company, then such subsidiary is intended to be a third-party beneficiary of this Agreement and shall have the right to enforce this Agreement, including, but not limited to, the provisions of Section II.B.4.

9. Unfunded and Unsecured General Creditor. Grantee, as a holder of PSUs and rights under this Agreement has no rights other than those of a general creditor of the Company. The PSUs represent an unfunded and unsecured obligation of the Company, subject to the terms and conditions of this Agreement and the Plan.

10. Severability. If any provision of this Agreement or the application of any provision hereof to any person or circumstances is held invalid or unenforceable, the remainder of this Agreement and the application of such provision to any other person or circumstances shall not be affected, and the provisions so held to be invalid or unenforceable shall be reformed to the extent (and only to the extent) necessary to make it enforceable and valid.

11. Electronic Delivery. The Company may, in its sole discretion, deliver any documents related to the PSUs and Grantee's participation in the Plan, or future awards that may be granted under the Plan, by electronic means or request Grantee's consent to participate in the Plan by electronic means. Grantee hereby consents to receive such documents by electronic delivery and, if requested, agrees to participate in the Plan through an on-line or electronic system established and maintained by the Company or another third party designated by the Company.

12. Nature of Grant. In accepting this Award, Grantee acknowledges that:

- (a) the Plan is established voluntarily by the Company, it is discretionary in nature and it may be modified, amended, suspended or terminated by the Company at any time unless otherwise provided in the Plan or this Agreement;
- (b) the grant of this Award is voluntary and occasional and does not create any contractual or other right to receive future grants of awards, or benefits in lieu of awards, even if awards have been granted repeatedly in the past,
- (c) all decisions with respect to future grants, if any, will be at the sole discretion of the Committee;

(d) Grantee is voluntarily participating in the Plan;

(e) the PSUs and the Common Stock subject to the PSUs are an extraordinary item that does not constitute compensation of any kind for services of any kind rendered to the Company or Grantee's employer, and which is outside the scope of Grantee's employment contract, if any;

(f) the PSUs and the Common Stock subject to the PSUs are not intended to replace any pension rights or compensation;

(g) the future value of the underlying Common Stock is unknown and cannot be predicted with certainty;

(h) Awards and resulting benefits are not part of normal or expected compensation or salary for any purposes, including, but not limited to, calculating any severance, resignation, termination, redundancy, end of service payments, bonuses, long-service awards, pension or retirement benefits or similar payments insofar as permitted by law;

(i) in consideration of the grant of the PSUs, no claim or entitlement to compensation or damages shall arise from forfeiture of the PSUs resulting from termination of Grantee's employment with the Company or Grantee's employer (for any reason whatsoever and whether or not in breach of local labor laws) and Grantee irrevocably releases the Company and Grantee's employer from any such claim that may arise; if, notwithstanding the foregoing, any such claim is found by a court of competent jurisdiction to have arisen, Grantee shall be deemed irrevocably to have waived any entitlement to pursue such claim; and

(j) in the event Grantee ceases to be a Service Provider (whether or not in breach of local labor laws), Grantee's right to vest in the PSUs under the Plan, if any, will terminate effective as of the date that Grantee is no longer a Service Provider and will not be extended by any notice period mandated under local law (e.g., active service would not include a period of "garden leave" or similar period pursuant to local law); the Committee shall have the exclusive discretion to determine when Grantee is no longer a Service Provider for purposes of the PSUs.

13. Addenda for Certain Participants.

(a) **Non-U.S. Participants.** Notwithstanding any provisions in this Agreement, the PSUs shall also be subject to the special terms and conditions set forth in the Non-U.S. Addendum attached as Appendix C to this Agreement for Grantee's country. Moreover, if Grantee relocates to one of the countries included in the Non-U.S. Addendum, the special terms and conditions for such country will apply to Grantee to the extent the Company determines that the application of such terms and conditions are necessary or advisable in order to comply with local law or facilitate the administration of the Plan. The Non-U.S. Addendum attached hereto as Appendix C constitutes part of this Agreement.

(b) **California Participants.** Notwithstanding any provisions in this Agreement, the PSUs shall also be subject to the special terms and conditions set forth in the California Addendum attached as Appendix D to this Agreement if Grantee is employed and/or resides in California or if the Company determines that the application of such terms and conditions is necessary or advisable in order to comply with applicable law. The California Addendum attached hereto as Appendix D constitutes part of this Agreement.

14. Amendments. Any amendment to the Plan shall be deemed to be an amendment to this Agreement to the extent that the amendment is applicable hereto; provided, however, that (a) no amendment shall materially adversely affect the rights of Grantee under this Agreement without Grantee's written consent, and (b) Grantee's consent shall not be required to an amendment that is deemed necessary by the Company to ensure compliance with Section 409A of the Code or Section 10D of the Exchange Act.

15. Relation to Plan. This Agreement is subject to the terms and conditions of the Plan. In the event of any inconsistency between the provisions of this Agreement and the Plan, the Plan shall govern. The Committee acting pursuant to the Plan, as constituted from time to time, shall, except as expressly provided otherwise herein or in the Plan, have the right to determine any questions which arise in connection with this Agreement.

16. Governing Law. This Agreement is governed by and construed in accordance with the laws of the State of Delaware, notwithstanding conflict of law provisions.

17. Clawback Policy.

(a) Any shares of Common Stock issued to Grantee in settlement of the PSUs (plus dividend equivalent payments) shall be subject to the terms of this Agreement and the Company's recoupment policy, if any, as in effect from time to time. Further, notwithstanding anything in this Agreement to the contrary, Grantee acknowledges and agrees that (a) this Agreement and this Award described herein (and any settlement thereof) are subject to the terms and conditions of such policy, or any other form of Company recoupment (or similar) policy (if any) as may be in effect from time to time including specifically to implement Section 10D of the Exchange Act and any applicable rules or regulations promulgated thereunder (including applicable rules and regulations of any national securities exchange on which the Common Stock may be traded) (the "Compensation Recovery Policy"), and (b) applicable provisions of this Agreement shall be deemed superseded by and subject to the terms and conditions of the Compensation Recovery Policy from and after the effective date thereof.

(b) Without limiting the foregoing, violation of Section II.B.4 of this Agreement prior to the Settlement Date and thereafter, as determined by the Board, shall result in the forfeiture of the PSUs, and clawback and recoupment of any shares of Common Stock issued or transferred to Grantee in settlement of the PSUs (plus dividend equivalent payments).

(Signature Page Follows)

This Agreement may be executed in two or more counterparts, each of which is deemed an original and all of which constitute one document.

TRIMAS CORPORATION

By: _____

Name: Joshua A. Sherbin

Title: Senior Vice President and General Counsel

Dated as of: *[grant date]*

GRANTEE ACKNOWLEDGES AND AGREES THAT NOTHING IN THIS AGREEMENT, NOR IN THE PLAN, CONFERS ON GRANTEE ANY RIGHT WITH RESPECT TO CONTINUATION AS A SERVICE PROVIDER OF THE COMPANY OR ANY PARENT OR SUBSIDIARY, NOR INTERFERES IN ANY WAY WITH GRANTEE'S RIGHT OR THE COMPANY'S RIGHT TO TERMINATE GRANTEE'S SERVICE PROVIDER RELATIONSHIP AT ANY TIME, WITH OR WITHOUT CAUSE AND WITH OR WITHOUT PRIOR NOTICE.

BY CLICKING THE "ACCEPT" BUTTON, GRANTEE ACKNOWLEDGES RECEIPT OF A COPY OF THE PLAN AND REPRESENTS THAT GRANTEE IS FAMILIAR WITH THE TERMS AND PROVISIONS OF THE PLAN. GRANTEE ACCEPTS THIS PERFORMANCE-BASED RESTRICTED STOCK UNITS AWARD SUBJECT TO ALL OF THE TERMS AND PROVISIONS OF THIS AGREEMENT AND THE PLAN. GRANTEE HAS REVIEWED THE PLAN AND THIS AGREEMENT IN THEIR ENTIRETY. GRANTEE AGREES TO ACCEPT AS BINDING, CONCLUSIVE AND FINAL ALL DECISIONS OR INTERPRETATIONS OF THE COMMITTEE UPON ANY QUESTIONS ARISING UNDER THE PLAN OR THIS AWARD.

TriMas Corporation Significant⁽¹⁾ Subsidiary List

Allfast Fastening Systems, LLC (California limited liability company)

Monogram Aerospace Fasteners, Inc. (Delaware corporation)

Norris Cylinder Company (Delaware corporation)

Rieke Corporation (Indiana corporation)

Certain companies may also use trade names or other assumed names in the conduct of their business.

⁽¹⁾ As defined in Rule 1-02(w) of Regulation S-X, and other more significant operating companies as determined by management

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement Nos. 333-145815, 333-169321, 333-179761, 333-190665, 333-190666, and 333-218867 on Form S-8 of our reports dated February 27, 2020, relating to the consolidated financial statements and financial statement schedule of TriMas Corporation and subsidiaries, and the effectiveness of TriMas Corporation's internal control over financial reporting, appearing in the Annual Report on Form 10-K of TriMas Corporation for the year ended December 31, 2019.

/s/ Deloitte & Touche LLP

Detroit, Michigan
February 27, 2020

Certification
Pursuant to Section 302 of The Sarbanes-Oxley Act of 2002
(Chapter 63, Title 18 U.S.C. Section 1350(A) and (B))

I, Thomas A. Amato, certify that:

1. I have reviewed this annual report on Form 10-K of TriMas Corporation;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I am responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(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: February 27, 2020

/s/ THOMAS A. AMATO

Thomas A. Amato
Chief Executive Officer

Certification
Pursuant to Section 302 of The Sarbanes-Oxley Act of 2002
(Chapter 63, Title 18 U.S.C. Section 1350(A) and (B))

I, Robert J. Zalupski, certify that:

1. I have reviewed this annual report on Form 10-K of TriMas Corporation;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I am responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(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: February 27, 2020

/s/ ROBERT J. ZALUPSKI

Robert J. Zalupski
Chief Financial Officer

**Certification Pursuant to
18 U.S.C. Section 1350,
As Adopted Pursuant to
Section 906 of the Sarbanes-Oxley Act of 2002**

In connection with the Annual Report of TriMas Corporation (the "Company") on Form 10-K for the period ended December 31, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Thomas A. Amato, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

1. The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: February 27, 2020

/s/ THOMAS A. AMATO

Thomas A. Amato
Chief Executive Officer

**Certification Pursuant to
18 U.S.C. Section 1350,
As Adopted Pursuant to
Section 906 of the Sarbanes-Oxley Act of 2002**

In connection with the Annual Report of TriMas Corporation (the "Company") on Form 10-K for the period ended December 31, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Robert J. Zalupski, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

1. The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: February 27, 2020

/s/ ROBERT J. ZALUPSKI

Robert J. Zalupski
Chief Financial Officer