

ROGERS CORP
Form 10-K
February 21, 2017

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, 2016

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 No. 1-4347

ROGERS CORPORATION
(Exact name of Registrant as specified in its charter)
Massachusetts 06 0513860
(State or other jurisdiction of (I. R. S. Employer
incorporation or organization) Identification No.)

P.O. Box 188, One Technology Drive, Rogers, Connecticut 06263-0188 (Address
of principal executive offices)
Registrant's telephone number, including area code: (860) 774-9605

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

Title of Each Class	Name of Each Exchange on Which Registered
Common Stock, \$1 Par Value	New York Stock Exchange
Rights to Purchase Capital Stock	

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

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

10-K. "

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

Large accelerated filer ☐ Accelerated filer ☐ Non-accelerated filer ☐ Smaller reporting company ☐

(Do not check if a smaller reporting

company)

Indicate by checkmark 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 as of June 30, 2016, the last business day of the registrant's most recently completed second fiscal quarter, was approximately \$1,091,625,859. Rogers has no non-voting common equity.

The number of shares outstanding of common stock as of February 13, 2017 was 18,035,944.

Documents Incorporated by Reference:

Portions of Rogers' Definitive Proxy Statement for its 2017 Annual Meeting of Shareholders, currently scheduled for May 4, 2017, are incorporated by reference into Part III of this Form 10-K.

ROGERS CORPORATION
FORM 10-K

December 31, 2016

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Part I

Item 1. Business

In this Report, we use the terms “Company,” “Rogers,” “we,” “us,” and “our” unless otherwise indicated or the context otherwise requires, to refer to Rogers Corporation and its consolidated subsidiaries.

Forward-Looking Statements

This Annual Report on Form 10-K includes “forward-looking statements” within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. Such statements are generally accompanied by words such as “anticipate,” “assume,” “believe,” “could,” “estimate,” “expect,” “forecast,” “goal,” “intend,” “may,” “might,” “plan,” “potential,” “predict,” “project,” “should,” “seek,” “target” or similar expressions that indicate uncertainty as to future events or outcomes. Forward-looking statements are based on assumptions and beliefs that we believe to be reasonable; however, assumed facts almost always vary from actual results, and the differences between assumed facts and actual results could be material depending upon the circumstances. Among the factors that could cause our results to differ materially from those indicated by forward-looking statements are risks and uncertainties inherent in our business including, without limitation:

- failure to capitalize on, or volatility within, the Company’s growth drivers, including connectivity, clean energy, and safety and protection;
- uncertain business, economic and political conditions in the United States and abroad, particularly in China, South Korea, Germany, Hungary and Belgium, where we maintain significant manufacturing, sales or administrative operations;
- fluctuations in foreign currency exchange rates;
- our ability to develop innovative products and have them incorporated into end-user products and systems;
- the extent to which end-user products and systems incorporating our products achieve commercial success;
- the ability of our sole or limited source suppliers to deliver certain key raw materials to us in a timely manner;
- intense global competition affecting both our existing products and products currently under development;
- failure to realize, or delays in the realization of, anticipated benefits of acquisitions and divestitures due to, among other things, the existence of unknown liabilities or difficulty integrating acquired businesses;
- our ability to attract and retain management and skilled technical personnel;
- our ability to protect our proprietary technology from infringement by third parties and/or allegations that our technology infringes third party rights;
- changes in effective tax rates or tax laws and regulations in the jurisdictions in which we operate;
- failure to comply with financial and restrictive covenants in our credit agreement or restrictions on our operational and financial flexibility due to such covenants;
- the outcome of ongoing and future litigation, including our asbestos-related product liability litigation;
- changes in environmental laws and regulations applicable to our business;
- disruptions in, or breaches of, our information technology systems;
- asset impairment and restructuring charges; and
- changes in accounting standards promulgated by the Financial Accounting Standards Board (FASB) and the Securities and Exchange Commission (SEC).

Our forward-looking statements are expressly qualified by these cautionary statements, which you should consider carefully, along with the risks discussed under the heading “Item 1A Risk Factors” and “Item 7 Management’s Discussion and Analysis of Financial Condition and Results of Operations” and elsewhere in this report, that could cause actual results to differ materially from historical results or anticipated results. We undertake no obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, unless required by law.

Overview

Rogers Corporation (NYSE: ROG) designs, develops, manufactures and sells high-quality and high-reliability engineered materials and components for mission critical applications. We operate principally three strategic business segments - Advanced Connectivity Solutions (ACS), Elastomeric Material Solutions (EMS) and Power Electronics Solutions (PES). We have a history of innovation and established the Rogers Innovation Centers for our leading research and development activities. Rogers was founded in 1832 and incorporated in Massachusetts in 1927. In August 2016, we announced plans to relocate our global headquarters from Rogers, Connecticut to Chandler, Arizona. The move will build upon our presence in Arizona, where we have significant business and manufacturing operations.

Our growth strategy is based upon the following principles: (1) market-driven organization, (2) innovation leadership, (3) synergistic mergers and acquisitions, and (4) operational excellence. As a market-driven organization, we are focused on growth drivers, including connectivity, clean energy and safety and protection.

In November 2016, we acquired DeWAL Industries (DeWAL) for an aggregate purchase price of \$135.5 million. DeWAL is a leading manufacturer of polytetrafluoroethylene and ultra-high molecular weight polyethylene films, pressure sensitive tapes and specialty products for the industrial, aerospace, automotive, and electronics markets. We believe DeWAL's business is highly complementary to our EMS segment, and we expect the acquisition to result in an expansion of our product portfolio and technology capabilities in the aerospace and electronics markets and other attractive industry verticals.

In January 2017, we acquired the principal operating assets of Diversified Silicone Products, Inc. (DSP), a custom silicone product development and manufacturing business, serving a wide range of high reliability applications. We expect the acquisition to expand EMS' portfolio of cellular sponge and specialty extruded silicone profile technologies and to strengthen our existing expertise in precision-calendered silicone and silicone formulating and compounding.

Our Business Segments

We operate our business in three strategic business segments: ACS, EMS, and PES. The following table reflects the net sales of the reportable segments of the Company for the last three fiscal years:

(Dollars in thousands)	2016	2015	2014
ACS	\$277,787	\$267,630	\$240,864
EMS	203,181	180,898	173,671
PES	152,367	150,288	171,832
Other	22,979	42,627	24,544
Total	\$656,314	\$641,443	\$610,911

Additional financial information regarding each of our reportable segments, along with information regarding our revenues and long-lived assets by geographic area, is available in Note 16, "Business Segment and Geographic Information," in "Item 8 Financial Statements and Supplementary Data."

Advanced Connectivity Solutions

Our ACS segment designs, develops, manufactures and sells circuit materials and solutions enabling high-performance and high-reliability connectivity for applications in wireless communications infrastructure (e.g., power amplifiers, antennas, small cells and distributed antenna systems), automotive (e.g., active safety, advanced driver assistance systems, telematics and thermal management), connected devices, (e.g., mobile internet devices and Internet of Things), wired infrastructure (e.g., computing, servers and storage), consumer electronics and aerospace/defense. We sell our circuit materials under various trade names, including RO3000®, RO4000®, RT/duroid®, AD Series™ and CLTE Series™.

Our ACS segment has manufacturing and administrative facilities in Chandler, Arizona; Rogers, Connecticut; Bear, Delaware; Evergem, Belgium; and Suzhou, China.

Elastomeric Material Solutions

Our EMS segment designs, develops, manufactures and sells elastomeric material solutions for critical cushioning, sealing, impact protection and vibration management applications including general industrial, portable electronics (e.g., mobile internet devices), consumer goods (e.g., protective sports equipment), automotive, mass transportation, construction and printing applications. We sell our elastomeric materials under various trade names, including DeWAL™, ARLO®, PORON®, XRD®, BISCO® and eSORBA®. As noted above, we acquired DeWAL and DSP in November 2016 and January 2017, respectively. We are in the process of integrating these businesses into our EMS segment.

Our EMS segment has manufacturing and administrative facilities in Woodstock, Connecticut; Rogers, Connecticut; Bear, Delaware; Carol Stream, Illinois; Narragansett, Rhode Island; Santa Fe Springs, California; Suzhou, China; and Ansan, Korea. We also own 50% of: (1) Rogers Inoac Corporation (RIC), a joint venture established in Japan to

design, develop, manufacture and sell PORON products predominantly for the Japanese market and (2) Rogers INOAC Suzhou Corporation (RIS), a joint venture established in China to design, develop, manufacture and sell PORON products primarily for RIC customers in various Asian countries. INOAC Corporation owns the remaining 50% of both RIC and RIS. RIC has manufacturing facilities at the INOAC facilities in Nagoya and Mie, Japan, and RIS has manufacturing facilities at Rogers' facilities in Suzhou, China.

Power Electronics Solutions

Our PES segment designs, develops, manufactures and sells ceramic substrate materials for power module applications (e.g., variable frequency drives, vehicle electrification and renewable energy), laminated bus bars for power inverter and high power interconnect applications (e.g., mass transit, hybrid-electric and electric vehicles, renewable energy and variable frequency drives), and micro-channel coolers (e.g., laser cutting equipment). We sell our ceramic substrate materials and micro channel coolers under the curamik® tradename, and our bus bars under the ROLINX® tradename.

Our PES segment has manufacturing and administrative facilities in Ghent, Belgium; Eschenbach, Germany; Budapest, Hungary; and Suzhou, China.

Other

Our Other businesses consist of elastomeric components for applications in ground transportation, office equipment, consumer and other markets; elastomeric floats for level sensing in fuel tanks, motors, and storage tanks; and inverters for portable communications and automotive markets. In 2015, the Other businesses included the Arlon polyimide and thermoset laminate operations, which was the non-core divestiture in December 2015.

Sales and Competition

We sell our materials and components primarily through direct sales channels positioned near major concentrations of our customers in North America, Europe and Asia. We sold to over 3,000 customers worldwide in 2016, primarily original equipment manufacturers (OEMs) and component suppliers. No individual customer represented more than 4.1% of our total net sales for 2016; however, there are concentrations of OEM customers in our ACS (Chinese telecommunications equipment manufacturers) and PES (semiconductor and automotive manufacturers) segments. Although the loss of all of the sales made to any one of our larger customers would require a period of adjustment during which the results of a particular operating segment would be adversely impacted, we believe that such events could be successfully mitigated over a period of time due to the diversity of our customer base.

We employ a technical sales and marketing approach pursuant to which we work collaboratively to provide design engineering, testing, product development and other technical support services to OEMs that incorporate our engineered materials and components in their products. Particularly in our ACS and EMS business segments, component suppliers convert, modify or otherwise incorporate our engineered materials and components into their components for these OEMs in accordance with their specifications. Accordingly, we provide similar technical support services to component suppliers.

We compete primarily with manufacturers of high-end materials, some of which are large, multi-national companies, principally on the basis of innovation, customer relationships, product quality and performance, technical service, breadth of product line, and manufacturing capabilities. We also compete with manufacturers of commodity materials, including smaller regional producers with lower overhead costs and profit requirements located in Asia that attempt to upsell their products based principally upon price, particularly for products that have matured in their life cycle. We believe that we have a competitive advantage because of our reputation for innovation, the quality and reliability of our materials and components and our demonstrated commitment to technical support and customer service.

Research and Development

We have a history of innovation, and innovation leadership is a key component of our overall business strategy. The markets we serve are typically characterized by rapid technological changes and advances. Accordingly, the success of our strategy is in part dependent on our ability to develop market-leading products, which is primarily driven by efforts in research and development. We are focused on identifying technologies and innovations related to both our current product portfolio as well as other long term initiatives targeted at further diversifying and growing our business. As part of this technology commitment, we established the Rogers Innovation Center at Northeastern University in Burlington, Massachusetts, and, in 2015, opened an innovation center at our facility in Suzhou, China. Our innovation centers focus on the earliest stages of technical and commercial development of new high-tech materials solutions in close alignment with market direction and needs.

Patents and Other Intellectual Property

We have many domestic and foreign patents, licenses and have additional patent applications pending related to each of our business segments. These patents and licenses vary in duration and provide some protection from competition.

We also own a number of registered and unregistered trademarks and have acquired and developed certain confidential and proprietary technology, including trade secrets that we believe to be of some importance to our business.

While we believe our patents and other intellectual property provide a competitive advantage to our business segments, we believe that a significant part of our competitive position and future success will be determined by factors such as the innovative skills, systems and process knowledge, and technological expertise of our personnel; the range and success of new products we develop; and our customer service and support.

Manufacturing and Raw Materials

The key raw materials used in our business are as follows: for our ACS segment, copper and polymer materials; for our EMS segment, polyurethane, polytetrafluoroethylene, polyethylene and silicone materials; and for our PES segment, copper and ceramic materials.

Some of the raw materials used in our business are available through single or limited-source suppliers. We have expanded our supplier base for certain key raw materials and components for efficiency, cost reduction and quality and have sought to limit the number of suppliers who act as the single-source supplier for a particular raw material. We seek to mitigate the impact of raw material supply disruptions by purchasing sufficient quantities of the particular raw material in advance to sustain production until alternative materials and production processes can be qualified with customers. However, this strategy may not be effective in all cases, and disruptions in our supply of raw materials could negatively impact our production and have a material adverse impact on our business.

Seasonality

Except for some minor seasonality for consumer products, which often aligns with year-end holidays and product launch cycles, the operations of our segments have not been seasonal.

Our Employees

As of December 31, 2016, we employed approximately 3,100 people, including DeWAL employees.

Backlog

Our backlog of firm orders was \$106.5 million as of December 31, 2016, as compared to \$63.3 million as of December 31, 2015. ACS, EMS, PES, and Other operating segments experienced year over year increases in backlog of \$13.2 million, \$15.8 million, \$13.8 million and \$0.4 million, respectively. Contributing to the year over year change in backlog was an improvement in general market conditions. Additionally, the 2016 backlog contains \$7.2 million related to the DeWAL business. The backlog of firm orders is expected to be filled within the next 12 months.

Executive Officers

Our executive officers as of February 21, 2017 were as follows:

Name	Age	Present Position	Year Appointed to Present Position	Other Positions Held During 2011-2017
Bruce D. Hoechner	57	President and Chief Executive Officer, Principal Executive Officer	2017	President and Chief Executive Officer, Rogers, from October 2011 to February 2017; President, Asia Pacific Region, Dow Advanced Materials Division, Rohm and Haas Company from 2009 to September 2011
Janice E. Stipp	57	Senior Vice President, Finance and Chief Financial Officer, Treasurer, Principal Financial Officer and Principal Accounting Officer	2017	Vice President, Finance, Chief Financial Officer and Corporate Treasurer, Principal Financial and Chief Accounting Officer, Rogers, from May 2016 to February 2017; Vice President, Finance, Chief Financial Officer and Corporate Treasurer, Rogers, from November 2015 to May 2016; Executive Vice President, Chief Financial Officer and Treasurer, Tecumseh Products Company from October 2011 to November 2015; Chief Financial Officer, Revstone Industries, LLC from January 2011 to August 2011
Robert C. Daigle	53	Senior Vice President and Chief Technology Officer	2009	
Gary M. Glandon	58	Senior Vice President and Chief Human Resources Officer	2017	Vice President and Chief Human Resources Officer, Rogers, from July 2012 to February 2017; Chief Human Resources Officer, Solutia Inc. from October 2010 to July 2012
Jeffrey M. Grudzien	55	Senior Vice President and General Manager, Advanced Connectivity Solutions	2017	Vice President, Advanced Connectivity Solutions, Rogers, from February 2012 to February 2017; Vice President, Sales and Marketing, Rogers, September 2007 to February 2012
Jay B. Knoll	53	Senior Vice President, Corporate Development, General Counsel and Secretary	2017	Vice President and General Counsel, Rogers, from November 2014 to February 2017; Senior Vice President, General Counsel PKC Group Oyj - North America from June 2012 to November 2014; Director and Chief Restructuring Officer, Energy Conversion Devices, Inc. from November 2011 to June 2012; Interim President, Energy Conversion Devices, Inc. from May 2011 to November 2011; Executive Vice President, General Counsel and Chief Administrative Officer, Energy Conversion Devices, Inc. from January 2011 to April 2011
Christopher R. Shadday	50	Senior Vice President and General Manager,	2017	Vice President and General Manager, Elastomeric Material Solutions, Rogers, from January 2016 to February 2017; Vice

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	Elastomeric Material Solutions		President of Marketing, Rogers, from November 2014 to December 2015; President, Viance, LLC from August 2011 to November 2014
Helen Zhang	52	Senior Vice President and General Manager, Power Electronics Solutions and President, Rogers Asia 2017	Vice President, Power Electronics Solutions and President, Rogers Asia, Rogers, from May 2012 to February 2017; Global General Manager of Interconnect Technology, Dow Chemical Company, Dow Electronic Materials from July 2010 to April 2012

Available Information

We make available on our website (<http://www.rogerscorp.com>), or through a link posted on our website, free of charge, our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, reports filed pursuant to Section 16 and amendments to those reports filed pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 as soon as reasonably practicable after we electronically file such material with, or furnish it to, the Securities and Exchange Commission (SEC). In addition, the SEC maintains an internet site that contains these reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC (<http://www.sec.gov>).

We also make available on our website, in a printable format, the charters for our Audit Committee, Compensation and Organization Committee, and Nominating and Governance Committee, in addition to our Corporate Governance Guidelines, Bylaws, Code of Business Ethics, Related Party Transactions Policy and Compensation Recovery Policy. Our website is not incorporated into or a part of this Form 10-K.

Item 1A. Risk Factors

Our business, financial condition and results of operations are subject to various risks, including those discussed below, which may affect the value of our stock. The risks discussed below are those that we believe are currently the most significant, although additional risks not presently known to us or that we currently deem less significant may also impact our business, financial condition and results of operations, perhaps materially.

Failure to capitalize on, or volatility within, the Company's growth drivers, including connectivity, clean energy and safety and protection, may adversely affect our business.

We derived approximately 32%, 25% and 11% of our net sales for the year ended December 31, 2016 from sales relating to the connectivity, clean energy, and safety and protection growth drivers, respectively. These growth drivers are served by our direct and indirect customers in a variety of end markets, including the transportation, industrial, consumer electronics and communications sectors. These growth drivers, as well as specific market and industry trends within them, may be volatile, cyclical and sensitive to a variety of factors, including general economic conditions, technology disruptions, consumer preferences and political priorities. Adverse or cyclical changes to and within these growth drivers has resulted in, and may continue to result in, reduced demand for certain of our products, production overcapacity, increased inventory levels and price erosion, ultimately leading to a decline in our revenues and gross margins.

We have extensive international operations, and events and circumstances that have general international consequence or specific impact in the countries in which we operate may materially adversely affect our business.

For the year ended December 31, 2016, approximately 75% of our net sales resulted from sales in foreign markets, with approximately 52% and 23% of such net sales occurring in Asia and Europe, respectively. We expect our revenues in foreign markets to continue to represent a substantial majority of our consolidated net sales. We maintain significant manufacturing and administrative operations in China, South Korea, Germany, Hungary and Belgium, and 62% of our employees are located outside the United States. Risks related to our extensive international operations include the following:

- foreign currency fluctuations, particularly in the value of the Euro, the Hungarian forint, the Japanese yen, the Chinese yuan and the South Korean won against the U.S. dollar;
- economic and political instability, due to regional or country-specific events or changes in relations between the U.S. and the countries in which we operate;
- accounts receivable practices across countries, including longer payment cycles;
- export control or customs matters and changes in trade policy, tariff regulations or other trade restrictions;
- complications in complying with a variety of foreign laws, including unexpected changes in the laws or regulations of the countries in which we operate;
- failure to comply with the U.S. Foreign Corrupt Practices Act or other applicable anti-corruption laws;
- greater difficulty protecting our intellectual property;
- employment regulations, work stoppages and labor and union disputes.

The foregoing risks may be particularly acute in emerging markets, such as China and India, where our operations are subject to greater uncertainty due to increased volatility associated with the developing nature of the economic, legal and governmental systems of these countries. In addition, our business has been - and may continue to be - adversely affected by the lack of development, or disruptions, of transportation or other critical infrastructure in emerging markets. If we are unable to successfully manage the risks associated with expanding our global business or to adequately manage operational fluctuations, it may materially adversely affect our business, financial condition and results of operations.

Our business is dependent upon our development of innovative products and our customers' incorporation of those products into end user products and systems that achieve commercial success.

As a manufacturer and supplier of engineered materials and components, our business depends upon our ability to innovate and sell our new and improved materials and components for inclusion in other products that are developed, manufactured and sold by our customers. We strive to differentiate our products and secure long-term demand through our engagement with our customers to design in our materials and components as part of their product development processes. The value of any design in largely depends upon the decision of our customers to manufacture their products or systems in production quantities, the commercial success of the ultimate product and the extent to which the design of our customers' products or systems could accommodate substitution of competitor products. A consistent failure to introduce new products in a timely manner, achieve design ins or achieve market acceptance on commercially reasonable terms could materially adversely affect our business, financial condition and results of operations. Also, the introduction of new products presents particularly significant business challenges in our business because product development commitments and expenditures must be made well in advance of product sales.

Our dependence on sole or limited source suppliers for certain of our raw materials could materially adversely affect our ability to manufacture products and materially increase our costs.

We rely on sole and limited source suppliers for certain of the raw materials that are critical to the manufacturing of our products. This reliance subjects us to risks related to our potential inability to obtain an adequate supply of required raw materials, particularly given our use of lean manufacturing and just-in-time inventory techniques, and our reduced control over pricing and timing of delivery of raw materials. Our operating results could be materially adversely affected if we were unable to obtain adequate supplies of these materials in a timely manner or if their cost increased significantly.

While we believe we could obtain and qualify alternative sources for most sole and limited source supplier materials, if necessary, the transition time could be long, particularly if the change requires us to redesign our systems. Ultimately, we may be unable to redesign our systems, which could further increase delays or prevent us from manufacturing our products at all. Even if a system redesign is feasible, increased costs associated with such a redesign would decrease our profit margins, perhaps materially, if we could not effectively pass such costs along to our customers. Further, it would likely result in production and delivery delays, which could lead to lost revenues and damage to our relationships with current and potential customers.

We face intense global competition, which could reduce demand for our products or create additional pricing pressure on our products.

We operate in a highly competitive global environment and compete with domestic and international companies principally on the basis of the following:

- innovation;
- historical customer relationships;
- product quality, reliability, performance and price;
- technical and engineering service and support;
- breadth of product line; and
- manufacturing capabilities.

Our competitors include commodity materials suppliers, which offer product substitutions based mostly on price, and suppliers of alternate solutions, which offer product substitutions or eliminations based mostly on disruptive technology. Certain of these competitors have greater financial and other resources than we have and, in some cases, these competitors are well established in specific product niches. We expect that our competitors will continue to improve the design and performance of their products, which could result in the development of products that offer price or performance features superior to our products. If we are unable to maintain our competitive advantage for any reason, demand for our products may be materially reduced, which may adversely affect our business, financial condition and results of operations.

We may acquire businesses, dispose of businesses or engage in other transactions for which we may not realize anticipated benefits, or it may take longer than expected to realize such benefits, which may materially adversely affect our business operating results and financial condition.

From time to time, we have explored and pursued transaction opportunities that we believe complement our core businesses, and we expect to do so again in the future. We also may consider divesting businesses or assets that we do not regard as part of our core businesses. These transaction opportunities may come in the form of acquisitions, joint ventures, investments, divestitures or other structures. There are risks associated with such transactions, including, without limitation, general business risk, integration risk, technology risk, market acceptance risk, litigation risk, environmental risk, regulatory approval risk and risks associated with the failure to complete announced transactions. In the case of acquisitions, we may not be able to discover, during the due diligence process or otherwise, all known and unknown risks associated with the business we are acquiring, including the existence of liabilities. In the case of

divestitures, we may agree to indemnify acquiring parties for known or unknown liabilities arising from the businesses we are divesting.

Acquisition and disposition transactions may not ultimately create value for us or our stockholders and may harm our reputation and materially adversely affect our business, financial condition and results of operations.

Our business may be materially adversely affected if we cannot protect our proprietary technology or if we infringe the proprietary rights of others.

Our proprietary technology supports our ability to compete effectively with other companies, and we seek to protect our intellectual property rights by obtaining U.S. and foreign patents, trademarks and copyrights and maintaining trade secrets for our manufacturing processes. It is possible, however, that our efforts to obtain such protection in the U.S. and abroad will be unsuccessful or that the protection afforded will not be sufficiently broad to protect our technology.

Even if U.S. and foreign laws do grant initial protection to our technology, our competitors or other third parties may subsequently obtain and unlawfully copy, use or disclose our technologies, products, and processes. We believe that the risk of piracy of our technology is particularly acute in the foreign countries in which we operate. In circumstances in which we conclude that our proprietary technology has been infringed, we may pursue litigation to enforce our rights. The defense and prosecution of intellectual property infringement suits are both costly and time consuming, even if the outcome is favorable to us. If we are not successful in protecting our proprietary technology or if the protection afforded to us is not sufficiently broad, our competitors may be able to manufacture and offer products substantially similar to our own, thereby reducing demand for our products and adversely affecting our results of operations and financial condition. We may also be adversely affected by, and subject to increased competition as a result of, the normal expiration of our issued patents.

Third parties may also assert infringement claims against us in the future. In addition to the significant costs associated with such suits, as noted above, an adverse outcome could subject us to significant liabilities to third parties and/or require us to license rights from third parties or cease selling our products. Any of these events may have a material adverse effect on our business, financial condition and results of operations.

The failure to attract and retain specialized technical and management personnel could impair our expected growth and future success.

We depend upon the continued services and performance of key executives, senior management and skilled technical personnel, particularly our sales engineers and other professionals with significant experience in the key industries we serve. Competition for these personnel from other companies, academic institutions and government entities is intense, and our expected growth and future success will depend, in large part, upon our ability to attract and retain these individuals.

Increases in our effective tax rates as a result of decisions to repatriate non-U.S. earnings or changes in the geographic mix of our earnings or in the tax laws and regulations applicable to us have adversely effected and may continue to materially adversely affect our results of operations and financial condition.

We are subject to income taxes in the U.S. and in various foreign jurisdictions, and any significant increase in our future effective tax rates could materially reduce our net income in future periods. Given the global nature of our business, a number of factors may increase our effective tax rates, including:

- decisions to repatriate non-U.S. earnings for which we have not previously provided for income taxes;
- changes in the geographic mix of our profits among jurisdictions with differing statutory income tax rates;
- changes in tax laws and regulations applicable to us, including the expiration, renewal or application of tax holidays.

For instance, our net income in 2016 was impacted by \$12.4 million of additional tax expense associated with distributions from China subsidiaries and a change in assertion that earnings would be permanently reinvested. This change resulted in payment of \$6.3 million in withholding taxes and accrual of \$6.1 million of foreign deferred taxes that will become payable upon future distributions. For additional information, see “Item 7, Management’s Discussion and Analysis of Financial Condition and Results of Operations.”

The terms of our credit agreement require us to satisfy financial ratios and comply with numerous covenants, and our failure to do so could lead to acceleration of our outstanding indebtedness.

Our credit agreement contains, and any future debt agreements into which we enter may contain, certain financial ratios and certain restrictive covenants that, among other things, limit our ability to incur indebtedness or liens, acquire other businesses, dispose of assets, or make investments. Our ability to make scheduled payments on these borrowings and to satisfy financial ratios may be adversely affected by changes in economic or business conditions beyond our control, while the restrictive covenants to which we are subject may limit our ability to take advantage of potential business opportunities as they arise. Failure to satisfy these financial ratios or to comply with the covenants

in our credit agreement would constitute a default. An uncured default with respect to one or more of our covenants could result in outstanding borrowings thereunder being declared immediately due and payable, which may also trigger an obligation to repay other outstanding indebtedness. Any such acceleration of our indebtedness would have a material adverse effect on our cash flows and financial condition.

We may be adversely affected by litigation stemming from product liability and other claims.

We are involved in various unresolved legal matters that arise in the ordinary course of our operations, including asbestos-related product liability claims related to our operations before the 1990s. See “Item 3 - Legal Proceedings” and Note 15 to “Item 8 - Financial Statements and Supplementary Data” for additional information. We maintain insurance coverage with respect to certain claims, but we cannot be certain that the policy coverage limits will be adequate or that the policies will cover any particular loss.

Costs associated with, among other things, the defense of, or settlements or judgments relating to, claims against us that are not covered by insurance or that result in recoveries in excess of insurance coverage may adversely affect our business, financial condition and results of operations. Irrespective of insurance coverage, claims against us could divert the attention of our senior management and/or result in reputational damage, thereby adversely affecting our business.

Projections on the potential exposure and expected insurance coverage are based on a number of assumptions, including the number of new claims to be filed each year, the average cost of disposing of such claims, the length of time it takes to dispose of such claims, coverage issues among insurers and the continuing solvency of various insurance companies. To the extent such assumptions are inaccurate, the net liabilities that we have recorded in our financial statements may fail to approximate the losses we could suffer in connection with such claims.

We are subject to many environmental laws and regulations that could adversely affect our business.

We are subject to a variety of federal, state, local and foreign laws, rules and regulations related to the use, storage, handling, discharge or disposal of certain toxic, volatile or otherwise hazardous chemicals, gases and other substances used in manufacturing our products. Some of these laws in the U.S. include the Federal Clean Water Act, Clean Air Act, Resource Conservation and Recovery Act, Comprehensive Environmental Response, Compensation, and Liability Act, Toxic Substances Control Act, and similar state statutes and regulations. In the European Union we are subject to the EU regulation on Registration, Evaluation, Authorization and Restriction of Chemicals. Compliance with these laws and regulations could require us to incur substantial expenses, including in connection with the acquisition of new equipment. Any failure to comply with present or future environmental laws, rules and regulations could result in fines, suspension of production or cessation of operations, any of which could have a material adverse effect on our business, financial condition and results of operations.

In addition, some environmental laws impose liability, sometimes without fault, for investigating and/or cleaning up contamination on, or emanating from, properties currently or formerly owned, leased or operated by us, as well as for damages to property or natural resources and for personal injury arising out of such contamination. Such liability may be joint and several, meaning that we could be held responsible for more than our share of the liability involved, or even the entire liability. See Note 15, “Commitments and Contingencies” in “Item 8 - Financial Statements and Supplementary Data” for additional information.

A significant disruption in, or breach in security of, our information technology systems could materially and adversely affect our business or reputation.

In the ordinary course of business, we collect and store confidential information, including proprietary business information belonging to us, our customers, business partners and suppliers and personally identifiable information of our employees. We rely on information technology systems to protect this information and to keep financial records, process orders, manage inventory, coordinate shipments to customers, and operate other critical functions. Our information technology systems may be susceptible to damage, disruptions or shutdowns due to power outages, hardware failures, telecommunication failures and user errors. If we experience a disruption in the information technology systems, it could result in the loss of sales and customers and significant incremental costs, which could adversely affect our business.

We may also be subject to security breaches caused by computer viruses, illegal break-ins or hacking, sabotage, or acts of vandalism by disgruntled employees or third parties. The risk of a security breach or disruption, particularly through cyberattack or cyber intrusion, including by computer hackers, foreign governments and cyber terrorists, has increased as the number, intensity and sophistication of attempted attacks and intrusions from around the world have increased. Our information technology network and systems have been and, we believe, continue to be under constant

attack. Accordingly, despite our security measures or those of our third party service providers, a security breach may occur but not be detected. Security breaches of our information technology systems could result in the misappropriation or unauthorized disclosure of confidential information belonging to us or to our customers, business partners, suppliers or employees, which could result in our suffering significant financial or reputational damage.

Employee benefit cost increases could reduce our profitability.

Our profitability is affected by employee benefit costs, particularly medical, pension and other employee benefits. In recent years, employee medical costs have increased due to factors such as the increase in health care costs in the U.S. These factors will continue to put pressure on our business and financial performance, as employee benefit costs continue to escalate. We may not succeed in limiting future cost increases. Continued employee benefit cost increases could have an adverse effect on our results of operations, cash flows and financial condition.

We also sponsor various defined benefit pension plans that cover certain employees. Our costs of providing defined benefit pension plans have risen dramatically in recent years, and are dependent upon a number of factors and assumptions that drive our projected liabilities and annual expenses, such as discount rates, the actual and projected rates of return on the plans' assets, governmental regulation, global equity prices, portfolio composition and our required and/or voluntary contributions to the plans. Changes in assumptions, the ability to grow our pension investments over time to increase the value of the plans' assets, and other factors relating to worldwide and domestic economic trends and financial market conditions, could all have a negative impact on our pension plans, which could result in an increase in our pension liabilities, a reduction in the funded status of our plan, increases in annual expense recognized related to the plans, and requirements to increase funding for some or all of our defined benefit pension plans, among other factors, all of which could negatively impact our operations and financial condition.

Item 1B. Unresolved Staff Comments

None.

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Item 2. Properties

We operate various manufacturing facilities and sales offices throughout the United States, Europe and Asia. In August 2016, we announced plans to relocate our headquarters from Rogers, Connecticut to Chandler, Arizona. The following table provides certain information about the principal general offices and manufacturing facilities used by our business segments:

Location	Floor Space (Sq Ft)	Type of Facility	Leased / Owned
United States			
Rogers, Connecticut	388,131	Manufacturing / Administrative Offices	Owned
Chandler, Arizona	147,000	Manufacturing	Owned
Chandler, Arizona	105,100	Manufacturing	Owned
Chandler, Arizona	75,000	Administrative Offices	Owned
Chandler, Arizona	17,000	Warehouse/Administrative Offices	Leased through 03/2020
Carol Stream, Illinois	216,600	Manufacturing	Owned
Woodstock, Connecticut	150,636	Manufacturing	Owned
Bear, Delaware	125,000	Manufacturing / Administrative Offices	Owned
Burlington, Massachusetts	4,000	R&D Lab and Office Space	Leased through 2/2018
Narragansett, Rhode Island	84,600	Manufacturing	Owned
North Kingston, Rhode Island	10,000	Warehouse	Leased through 3/2017
Santa Fe Springs, California*	42,000	Manufacturing / Administrative Offices	Leased through 7/2019
Europe			
Eschenbach, Germany	149,000	Manufacturing / Administrative Offices	Leased through 6/2021
Ghent, Belgium	114,000	Manufacturing	Owned
Evergem, Belgium	77,000	Manufacturing / Administrative Offices	Owned
Budapest, Hungary	42,000	Manufacturing	Leased through 2/2019
Asia			
Suzhou, China	821,000	Manufacturing / Administrative Offices	Owned
Ansan, Korea	40,000	Manufacturing	Leased through 10/2018
Tokyo, Japan	3,094	Sales Office	Leased through 2/2018
Taipei, Taiwan, R.O.C.	1,000	Sales Office	Leased through 7/2018
Anyang, Korea	500	Sales Office	Leased through 7/2018
Anyang, Korea	500	Sales Office	Leased through 12/2017
Singapore	1,000	Sales Office	Leased through 12/2018
Shanghai, China	1,000	Sales Office	Leased through 3/2017
Shenzhen, China	1,000	Sales Office	Leased through 5/2018
Beijing, China	1,000	Sales Office	Leased through 5/2018

* Early in 2017, we acquired the principal operating assets of Diversified Silicone Products, Inc. (DSP). This is the property that DSP utilizes and is a leased facility.

Item 3. Legal Proceedings

Asbestos products litigation

We were a defendant in 605 asbestos-related product liability cases as of December 31, 2016, compared to 489 cases as of December 31, 2015, with the change reflecting new cases, dismissals, settlements and other dispositions. We have never mined, milled, manufactured or marketed asbestos; rather, we made and provided to industrial users a limited number of products that contained encapsulated asbestos, but we stopped manufacturing these products in the late 1980s. In virtually all of the cases against us, the plaintiffs are seeking unspecified damages above a jurisdictional minimum against multiple defendants who may have manufactured, sold or used asbestos-containing products to which the plaintiffs were allegedly exposed and from which they purportedly suffered injury. Most of these cases are being litigated in Illinois, Maryland and Missouri, however we are also defending cases in other states. We intend to vigorously defend these cases, primarily on the basis of the plaintiffs' inability to establish compensable loss as a result of exposure to our products. As of December 31, 2016, the estimated liability and estimated insurance recovery for the ten-year period through 2026 were \$52.0 million and \$48.4 million, respectively.

The defense and settlement costs of our asbestos-related product liability litigation to date have been substantially covered by insurance, and we have recorded a \$3.6 million accrual for the amount by which estimated asbestos-related expenses exceed asbestos-related insurance coverage over a 10-year projection period. See Note 15, "Commitments and Contingencies" to "Item 8 - Financial Statements and Supplementary Data" for additional information regarding our asbestos-related product liability litigation.

Other matters

We are currently involved in a variety of other legal proceedings that we view as ordinary routine litigation incidental to our business, including commercial disputes, intellectual property matters, personal injury claims, tax claims and employment matters. Although the outcome of no legal matter can be predicted with certainty, we do not believe that the outcome of any of these legal proceedings, either individually or in the aggregate, will have a material adverse effect on our business, financial position, results of operations or cash flows. In addition, we are involved in certain environmental matters, principally investigations, that we do not view as material legal proceedings, either pending or known to be contemplated. See Note 15, "Commitments and Contingencies" to "Item 8 - Financial Statements and Supplementary Data" for additional information regarding these matters.

Item 4. Mine Safety Disclosures

Not applicable.

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Part II

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

Capital Stock Market Prices and Dividend Policy

Our capital stock is traded on the New York Stock Exchange under the symbol "ROG". As of the end of business on February 13, 2017, we had 347 shareholders of record. On the same date, the trading price of our capital stock closed at \$80.50 per share.

The following table sets forth the high and low prices during each quarter of the last two fiscal years on a per share basis:

	2016		2015	
	High	Low	High	Low
Fourth	\$78.35	\$51.98	\$57.15	\$46.23
Third	69.26	54.14	66.99	51.65
Second	67.91	56.67	83.85	66.07
First	61.64	41.92	84.92	73.19

We did not pay any dividends on our capital stock in fiscal 2016 and 2015. We expect to maintain a policy of emphasizing longer-term growth of capital rather than immediate dividend income and do not anticipate paying cash dividends in the foreseeable future. Our Third Amended Credit Agreement (as defined herein), entered into as of February 17, 2017, generally permits us to pay cash dividends to our shareholders, provided that (i) no default or event of default has occurred and is continuing or would result from the dividend payment and (ii) our leverage ratio does not exceed 2.75 to 1.00. If our leverage ratio exceeds 2.75 to 1.00, we may nonetheless make up to \$20.0 million in restricted payments, including cash dividends, during the fiscal year, provided that no default or event of default has occurred and is continuing or would result from the payments. Our leverage ratio did not exceed 2.75 to 1.00 as of February 17, 2017.

Issuer Purchases of Equity Securities

On August 6, 2015, we initiated a share repurchase program ("the Program") of up to \$100.0 million of the Company's capital stock. The Program has no expiration date, and may be suspended or discontinued at any time without notice. We initiated this program to mitigate potentially dilutive effects of stock options and shares of restricted stock granted by the Company, in addition to enhancing shareholder value.

All repurchases were made using cash from operations and cash on hand. As of December 31, 2016, \$52.0 million remained available to purchase under the program. See Note 9 "Share Repurchase" to "Item 8 Financial Statements and Supplementary Data" for information regarding dividends and share repurchases for the year.

There were no shares repurchased in the fourth quarter of 2016.

Item 6. Selected Financial Data

(Dollars in thousands, except per share amounts)	2016	2015	2014	2013	2012	
Financial Results						
Net sales	\$656,314	\$641,443	\$610,911	\$537,482	\$498,761	
Income before income taxes	\$82,280	\$66,173	\$81,224	\$49,722	\$23,273	
Net Income	\$48,283	\$46,320	\$53,412	\$38,203	\$67,473	
Per Share Data						
Basic	\$2.68	\$2.52	\$2.94	\$2.22	\$4.11	
Diluted	\$2.65	\$2.48	\$2.86	\$2.15	\$3.97	
Book value	\$35.28	\$32.55	\$31.91	\$31.38	\$25.93	
Financial Position						
Current assets	\$458,401	\$428,665	\$438,174	\$383,623	\$312,472	
Current liabilities	\$101,185	\$78,648	\$120,445	\$90,040	\$84,502	
Ratio of current assets to current liabilities	4.5 to 1	5.5 to 1	3.6 to 1	4.3 to 1	3.7 to 1	
Cash and cash equivalents	\$227,767	\$204,586	\$237,375	\$191,884	\$114,863	
Net working capital	\$357,216	\$350,017	\$317,729	\$293,583	\$227,970	
Property, plant and equipment, net	\$176,916	\$178,661	\$150,420	\$146,931	\$149,017	
Total assets	\$1,056,500	\$930,355	\$840,435	\$811,321	\$764,267	
Long-term debt	\$235,877	\$173,557	\$25,000	\$60,000	\$77,500	
Shareholders' equity	\$635,786	\$584,582	\$587,281	\$560,314	\$438,395	
Long-term debt as a percentage of shareholders' equity	37.1	% 29.7	% 4.3	% 10.7	% 17.7	%
Other Data						
Depreciation and amortization	\$37,847	\$34,054	\$26,268	\$26,351	\$27,130	
Research and development expenses	\$28,582	\$27,644	\$22,878	\$21,646	\$19,311	
Capital expenditures	\$18,136	\$24,837	\$28,755	\$16,859	\$23,774	
Number of employees (approximate)	3,100	2,800	2,800	2,500	2,441	
Net sales per employee	\$212	\$229	\$218	\$215	\$204	
Number of shares outstanding at year end	18,021	17,957	18,403	17,855	16,904	

Amounts disclosed above have been adjusted for the Company's 2015 change in accounting principle from the last in, first out (LIFO) cost method to the first in, first out (FIFO) cost method for valuing inventory for all operations that were using the LIFO cost method. The financial data included within the preceding table should be read in conjunction with our Management's Discussion and Analysis of Financial Condition and Results of Operations as well as the Financial Statements and Supplementary Data (Items 7 and 8 of this Form 10-K), and with our previously filed Forms 10-K.

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

The following discussion and analysis of our financial condition and results of operations should be read together with the Selected Financial Data and our Consolidated Financial Statements and the related notes that appear elsewhere in this Form 10-K.

In the following discussion and analysis, we sometimes provide financial measures that were not prepared in accordance with U.S. generally accepted accounting principles (GAAP), such as adjusted selling, general and administrative expense as a percentage of net sales or adjusted operating income as a percentage of net sales. Management believes that these non-GAAP financial measures provide meaningful supplemental information regarding the Company's performance by excluding certain expenses that are generally non-recurring or otherwise may not be indicative of the core business operating results. In general, the Company believes that the additional non-GAAP financial measures provided herein are useful to management and investors in analyzing trends in the Company's business and planning and forecasting future periods. However, non-GAAP financial measures have limitations as an analytical tool and should not be considered in isolation from, or solely as an alternative to, financial information prepared in accordance with GAAP. Where we provide non-GAAP financial measures in the following narrative, we have identified the most directly comparable GAAP financial measures and provided the most directly comparable GAAP financial measure, as well as the information necessary to reconcile the two measures.

Business Overview

Rogers Corporation designs, develops, manufactures and sells high-quality and high-reliability engineered materials and components for mission critical applications. We operate principally three strategic business segments: Advanced Connectivity Solutions (ACS), Elastomeric Material Solutions (EMS) and Power Electronics Solutions (PES). We are currently headquartered in Rogers, Connecticut, but we plan to relocate our headquarters to Chandler, Arizona, where we have major business and manufacturing operations, during 2017. We have a history of innovation and have established two Rogers Innovation Centers for our leading research and development activities, in Massachusetts and Suzhou, China.

Our growth strategy is based upon the following principles: (1) market-driven organization, (2) innovation leadership, (3) synergistic mergers and acquisitions, and (4) operational excellence. As a market-driven organization, we are focused on growth drivers, including, connectivity, clean energy, and safety and protection.

In executing on our growth strategy, we have completed three strategic acquisitions: (1) in January 2017, we acquired the principal operating assets of Diversified Silicone Products, Inc. (DSP), a custom silicone product development and manufacturing business, serving a wide range of high reliability applications, (2) in November 2016, we acquired DeWAL Industries (DeWAL), a leading manufacturer of polytetrafluoroethylene and ultra-high molecular weight polyethylene films, pressure sensitive tapes and specialty products for the industrial, aerospace, automotive, and electronics markets, and (3) in January 2015, we acquired Arlon LLC and its subsidiaries, other than Arlon India (Pvt) Limited (the acquired subsidiaries, collectively, Arlon), a leading manufacturer of high performance materials for the printed circuit board industry and silicone rubber-based materials.

2016 Executive Summary

In 2016 as compared to 2015, our net sales increased 2.3% to \$656.3 million, gross margin increased 130 bps to 38.0%, and operating income increased 10.0% to \$83.9 million. The following key factors should be considered when reviewing our results of operations, financial condition and liquidity for the periods discussed:

Our net sales increase in 2016 was attributable to sales increases in all of our strategic business segments, offset in part by a 2015 divestiture and a negative currency impact. Net sales in each of our strategic business segments increased (ACS: 3.8%, EMS: 12.3%; PES: 1.4%), while net sales in our Other segment declined 2.3% due to the 2015 divestiture of the non-core Arlon polyimide and thermoset business. Additionally, net sales in 2016 in each of our strategic business segments was negatively impacted by currency fluctuations. Net sales from DeWAL were

approximately \$5.4 million from the acquisition date through December 31, 2016. See “Segment Sales and Operations.”

Our gross margin improved 130 basis points and our operating margin increased 90 basis points in 2016 compared to 2015. Gross margin and operating margin were favorably impacted by the increase in net sales, combined with operational excellence initiatives across our business units. The increase in gross margin and operating margin were also driven by our divestiture of the lower margin Arlon polyimide and thermoset business during 2015. Operating results for 2016 included an increase of selling, general and administrative costs principally due to incentive compensation costs and costs associated with strategic projects. See “Results of Operations.”

Our net income was impacted by \$12.4 million of additional tax expense associated with distributions from China subsidiaries and a change in assertion that earnings would be permanently reinvested. We historically treated foreign earnings in China as permanently reinvested; however, we changed our assertion due to changes in our business circumstances and our long-term business plan. This change resulted in payment of \$6.3 million in withholding taxes and an accrual of \$6.1 million of foreign deferred taxes that will become payable upon future distributions. As a consequence, our effective tax rate for 2016 increased to 41.3%. See “Results of Operations.”

We acquired DeWAL (in late 2016) and DSP (in early 2017), as we continue to execute on our synergistic acquisition strategy. Acquisitions are a core part of our growth strategy, and these particular acquisitions extend the product portfolio and technology capabilities of our EMS segment, with complementary high-end, high performance elastomeric materials. DeWAL is a leading manufacturer of polytetrafluoroethylene and ultra-high molecular weight polyethylene films, pressure sensitive tapes and specialty products for the industrial, aerospace, automotive, and electronics markets, and DSP is a custom silicone product development and manufacturing business, serving a wide range of high reliability applications.

We financed our recent acquisitions with borrowings under our revolving credit facility and cash. We borrowed \$166.0 million under our credit facility during 2016 to finance part of the DeWAL and DSP acquisitions. As a result, outstanding borrowings under our credit facility increased to \$241.2 million as of December 31, 2016.

We are an innovation company and in 2016 spent 4.4% of our net sales on research and development, an increase from 4.3% in 2015. Research and development (R&D) expenses were \$28.6 million in 2016, an increase of 3.4% from \$27.6 million in 2015. The increased spending was due to increased investments that are targeted at developing new platforms and technologies. We have made concerted efforts to realign our R&D organization to better fit the future direction of our Company, including dedicating resources to focus on current product extensions and enhancements to meet our short term technology needs.

Results of Operations

The following table sets forth, for the periods indicated, selected operations data expressed as a percentage of net sales.

	2016		2015		2014	
Net sales	100.0	%	100.0	%	100.0	%
Gross margin	38.0	%	36.7	%	38.4	%
Selling, general and administrative expenses	20.8	%	20.5	%	20.5	%
Research and development expenses	4.4	%	4.3	%	3.7	%
Restructuring and impairment charges	0.1	%	—		0.9	%
Operating income	12.8	%	11.9	%	13.3	%
Equity income in unconsolidated joint ventures	0.6	%	0.5	%	0.7	%
Interest income (expense), net	(0.6)	)%	(0.7)	)%	(0.5))%
Other income (expense), net	(0.3)	)%	(1.3)	)%	(0.2))%
Income before income taxes	12.5	%	10.3	%	13.3	%
Income tax expense	5.2	%	3.1	%	4.6	%
Income from operations	7.4	%	7.2	%	8.7	%

2016 vs. 2015

Net Sales

(Dollars in thousands)	2016	2015	Percent Change
Net Sales	\$656,314	\$641,443	2.3%

Net sales increased by 2.3% in 2016 from 2015, driven primarily by the ACS and EMS operating segments. The ACS operating segment net sales increased 3.8%, including a negative currency impact of 1.0%. The EMS operating segment net sales increased 12.3%, including a negative currency impact of 1.8%. The PES operating segment net sales increased 1.4%, including a negative currency impact of 0.9%. In total, the increase in net sales in 2016 included a negative currency impact of 1.2%. Sales in 2016 were also negatively impacted by 2.9% for the sales related to the non-core divestiture of the Arlon polyimide and thermoset laminate business, which was sold in December 2015.

Gross Margin

(Dollars in thousands)	2016	2015	Percent Change
Gross Margin	\$249,485	\$235,362	6.0%
Percentage of sales	38.0	% 36.7	%

Gross margin as a percentage of net sales increased by 130 basis points to 38.0% in 2016 compared to 36.7% in 2015. In 2016, gross margin was favorably impacted by an increase in net sales and lower commodities pricing, combined with operational excellence initiatives across our business units and the divestiture of the lower margin Arlon polyimide and thermoset business in 2015. Our 2015 results included \$1.6 million of expense for a non-recurring purchase accounting fair value adjustment for inventory related to the Arlon acquisition.

Selling, General and Administrative Expenses

(Dollars in thousands)	2016	2015	Percent Change
Selling, general and administrative expenses	\$136,317	\$131,463	3.7%
Percentage of sales	20.8	% 20.5	%

Selling, general and administrative (SG&A) expenses increased by 3.7% in 2016 compared with 2015. Our 2016 results increased principally due to \$7.7 million of incentive compensation due to the Company meeting performance incentive targets and \$4.5 million of costs associated with non-acquisition related strategic projects. These increases were partially offset by cost savings from cost containment initiatives. Our 2016 results include \$3.8 million of acquisition costs related to DeWAL and DSP and 2015 included \$4.8 million in integration expenses related to the Arlon acquisition and \$3.2 million related to the establishment of an environmental reserve.

Research and Development Expenses

(Dollars in thousands)	2016	2015	Percent Change
Research and development expense	\$ 28,582	\$ 27,644	3.4%
Percentage of sales	4.4	% 4.3	%

Research and development (R&D) expenses increased by 3.4% in 2016 compared with 2015. As a percentage of sales, R&D costs increased from 4.3% in 2015 to 4.4% in 2016. The overall increase is due to continued investments that are targeted at developing new platforms and technologies focused on long-term growth initiatives at our innovation centers in the U.S. and Asia.

Equity Income in Unconsolidated Joint Ventures

(Dollars in thousands)	2016	2015	Percent Change
Equity income in unconsolidated joint ventures	\$4,146	\$2,890	43.5%

Equity income in unconsolidated joint ventures increased 43.5% in 2016 from 2015. The increase was due to the appreciation of the Japanese Yen against the U.S. dollar, as the currency value significantly changed. Excluding the impact of the currency change, net sales increased due to higher demand primarily in the portable electronics market.

Interest Income (Expense), Net

(Dollars in thousands)	2016	2015	Percent Change
Interest income (expense), net	\$(3,930)	\$(4,480)	(12.3)%

Interest income (expense), net, was lower expense by 12.3% in 2016 from 2015. The decrease year over year was driven by \$103.4 million of debt repayments in 2016 on borrowings incurred in January 2015 associated with the Arlon acquisition.

Other Income (Expense), Net

(Dollars in thousands)	2016	2015	Percent Change
Other income (expense), net	\$(1,788)	\$(8,492)	(78.9)%

In 2015, our results included \$4.8 million of a loss on the sale of the Arlon specialty polyimide and epoxy-based laminates business and \$2.4 million of receivables related to the tax indemnities that were reversed, which related to the release of uncertain tax positions. Comparing 2016 to 2015, we recognized a net favorable impact of \$1.5 million due to copper hedging transactions and a net unfavorable impact of \$1.9 million due to foreign currency transactions. Additionally, in the third quarter of 2016, we had \$0.8 million of expense for tax indemnity receivables that were

reversed, which related to the release of uncertain tax positions, and in the first quarter of 2016, we recorded an additional loss related to the sale of the Arlon polyimide and thermoset laminate business of \$0.2 million.

Income Tax Expense

(Dollars in thousands)	2016	2015	Percent Change
Income tax expense	\$33,997	\$19,853	71.2%
Effective tax rate	41.3 %	30.0 %	

Our effective tax rate for 2016 was 41.3% compared to 30.0% in 2015. The increase from 2015 is primarily related to withholding taxes on off-shore cash movements, a change to our assertion that certain foreign earnings are permanently reinvested and a change in the mix of earnings attributable to higher-taxing jurisdictions, offset by benefits associated with an increase in the reversal of reserves for uncertain tax positions. This increase was offset by the prior year being unfavorably impacted by adjustments related to finalization of 2014 income tax year returns. The prior year also included a benefit due to a change of the state tax rate as a result of a legal reorganization and release of valuation allowance on certain state tax attributes.

Historically, our intention was to permanently reinvest the majority of our foreign earnings indefinitely or to distribute them only when it is tax efficient to do so. As a result of changes in business circumstances and our long-term business plan, with respect to offshore distributions, we modified our assertion of certain accumulated foreign subsidiary earnings considered permanently reinvested during 2016. This change resulted in accrual of a deferred tax liability of \$6.1 million associated with distribution related foreign taxes on undistributed earnings of our Chinese subsidiaries that are no longer considered permanently reinvested. In the event that we distributed these funds to other offshore subsidiaries, these taxes would become due. In addition, we incurred \$6.3 million of withholding taxes related to distributions from China.

Backlog

Our backlog of firm orders was \$106.5 million as of December 31, 2016, as compared to \$63.3 million as of December 31, 2015. ACS, EMS, PES, and Other operating segments experienced year over year increases in backlog of \$13.2 million, \$15.8 million, \$13.8 million and \$0.4 million, respectively. Contributing to the year over year change in backlog was an improvement in general market conditions. Additionally, the 2016 backlog contains \$7.2 million related to the DeWAL business. The backlog of firm orders is expected to be filled within the next 12 months.

2015 vs. 2014

Net Sales

(Dollars in thousands)	2015	2014	Percent Change
Net Sales	\$641,443	\$610,911	5.0%

Net sales increased by 5.0% in 2015 from 2014. The increase in net sales in 2015 was composed of an organic sales decrease of 6.9% and a negative currency impact of 4.5%, offset by Arlon acquisition related growth of 16.4%. The decline in organic sales was the result of a decline in all operating segments. The ACS operating segment net sales increased 11.1%: organic sales decline of 11.4% and negative currency impact of 1.3%, which partially offset acquisition growth of 23.8%. The EMS operating segment net sales increased 4.2%: organic sales decline of 7.9% and negative currency impact of 1.8%, which partially offset acquisition growth of 13.8%. The PES operating segment net sales declined 12.5%: organic sales decline of 0.5% combined with a negative currency impact of 12.0%. See “Segment Sales and Operations” below for further discussion on segment performance.

Gross Margin

(Dollars in thousands)	2015	2014	Percent Change
Gross Margin	\$235,362	\$234,753	0.3%

Percentage of sales 36.7 % 38.4 %

Gross margin as a percentage of net sales declined by 170 basis points to 36.7% in 2015 compared to 38.4% in 2014. Our 2015 results included approximately \$1.8 million of purchase accounting related to the Arlon acquisition, of which, \$1.6 million was the non-recurring fair value adjustment for inventory. The year over year decline was primarily the result of lower organic net sales and lower gross margin contribution related to the Arlon business. This was partially offset by improvements in supply chain, product quality and procurement, which favorably impacted margin performance.

Selling, General and Administrative Expenses

(Dollars in thousands)	2015	2014	Percent Change
Selling, general and administrative expenses	\$131,463	\$125,244	5.0%
Percentage of sales	20.5	% 20.5	%

Selling, general and administrative (SG&A) expenses increased by 5.0% in 2015 compared with 2014. As a percentage of net sales, selling, general and administrative expenses were 20.5% for each of 2015 and 2014. Our 2015 results included approximately \$9.6 million of charges comprised of \$1.6 million of severance related charges, \$4.8 million in integration expenses related to the Arlon acquisition and \$3.2 million related to the establishment of an environmental reserve. Our 2014 results included approximately \$2.3 million of acquisition costs.

Excluding the charges noted above, SG&A expense decreased \$1.1 million and as a percentage of sales, decreased by 110 basis points from 20.1% in 2014 to 19.0% in 2015. The decrease in expenses, excluding these charges, is due to a variety of factors, including \$12.0 million of lower incentive and equity compensation costs, \$1.1 million of lower costs related to asbestos related liabilities, \$1.0 million of lower severance and lower operational spending and other discrete items incurred in 2014 of \$2.2 million. Partially offsetting these amounts are increases in expenses due to a variety of factors, including \$13.5 million of SG&A expenses related to the Arlon business (including \$5.8 million of intangible amortization associated with the acquisition) and \$1.8 million of defined benefit pension and retirement plan costs.

Research and Development Expenses

(Dollars in thousands)	2015	2014	Percent Change
Research and development expense	\$ 27,644	\$ 22,878	20.8%
Percentage of sales	4.3	% 3.7	%

Research and development (R&D) expenses increased by 20.8% in 2015 compared with 2014. As a percentage of sales, R&D costs increased from 3.7% in 2014 to 4.3% in 2015. The overall increase is due to \$1.8 million of expenses related to the Arlon business as well as an increase in investments that are targeted at developing new platforms and technologies focused on long term growth initiatives at our innovation centers in the U.S. and Asia.

Equity Income in Unconsolidated Joint Ventures

(Dollars in thousands)	2015	2014	Percent Change
Equity income in unconsolidated joint ventures	\$2,890	\$4,123	(29.9)%

Equity income in unconsolidated joint ventures declined approximately 29.9% in 2015 from 2014. The decrease was due to lower demand due to weakness in the Japanese domestic and export markets, particularly LCD TVs, domestic mobile phones and general industrial applications, change in product mix and unfavorable currency exchange rate shifts, including depreciation of the Japanese yen.

Interest Income (Expense), Net

(Dollars in thousands)	2015	2014	Percent Change
Interest income (expense), net	\$(4,480)	\$(2,946)	52.1%

Interest income (expense), net, was higher expense by 52.1% in 2015 from 2014. The increase year over year was driven by the increase in long term debt associated with the Arlon acquisition, which occurred in January of 2015.

Other Income (Expense), Net

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(Dollars in thousands)	2015	2014	Percent Change
Other income (expense), net	\$(8,492)	\$(1,194)	611.2%

Other income (expense), net was higher expense of \$7.3 million from 2014 to 2015. Our 2015 results included charges of \$4.8 million due to a loss on the sale of the Arlon specialty polyimide and epoxy-based laminates business and \$2.4 million due to receivables related to tax indemnities that were reversed, which related to the release of uncertain tax positions.

Income Tax Expense

(Dollars in thousands)	2015	2014	Percent Change
Income tax expense	\$19,853	\$27,812	(28.6)%
Effective tax rate	30.0 %	34.2 %	

In 2015, the difference between the our effective tax rate and the statutory federal tax rate was favorably impacted by taxable income generated in countries with a lower tax rate to that of the United States, research and development credits, a tax benefit related to a change in the effective state rate and release of valuation allowance on certain state tax attributes. The rate was unfavorably impacted by reserves for uncertain tax positions, change to prior estimates and nondeductible expenses. The rate decreased from 2014 primarily due to a reduction in the level of repatriation of current foreign earnings, increased reversals of uncertain tax benefits and deferred state tax benefits due to the acquisition of Arlon, partially offset with a shift of earnings from low tax to high tax jurisdictions.

Backlog

Our backlog of firm orders was \$63.3 million as of December 31, 2015, as compared to \$77.0 million as of December 31, 2014. The decrease at the end of 2015 was primarily related to PES, ACS and our Other businesses, which experienced decreases in backlog of \$7.3 million, \$9.1 million and \$0.1 million, respectively. These declines were slightly offset by EMS, which experienced an increase of \$2.8 million in the backlog. Contributing to the year over year change in backlog were customer delivery improvements, which reduced customer ordering cycles, combined with general market conditions. Additionally, the 2015 backlog contains \$7.4 million related to the Arlon businesses.

Segment Sales and Operations

Core Strategic

Advanced Connectivity Solutions

(Dollars in millions)	2016	2015	2014
Net sales	\$277.8	\$267.6	\$240.9
Operating income	\$44.0	\$45.1	\$44.0

The ACS operating segment is comprised of high frequency circuit material products used for making circuitry that receives, processes and transmits high frequency communications signals, in a wide variety of markets and applications, including wireless communications, high reliability, wired infrastructure and automotive, among others. 2016 vs. 2015

Net sales in this segment increased by 3.8% in 2016 compared to 2015. Currency fluctuations decreased net sales by 1.0%. The increase in net sales is driven primarily by automotive radar applications for advanced driver assistance systems (23.1%) and aerospace and defense applications (8.7%) and other applications (30.0%), partially offset by a decline in the wireless telecom market (-3.5%) and lower demand in the satellite TV dish applications (-22.2%).

Operating income declined by 2.6% in 2016 from 2015. As a percentage of net sales, 2016 operating income was 15.8%, a 110 basis point decrease as compared to the 16.9% reported in 2015. Operating income in 2016 was positively impacted by higher sales, however this increase was offset by unfavorable mix, unfavorable volume pricing and absorption, higher incentive compensation and additional corporate selling, general and administrative expense allocations. 2015 results included \$5.3 million of charges comprised of \$2.6 million of integration expenses related to the Arlon acquisition, \$1.0 million of Arlon purchase accounting expenses related to the non-recurring fair value

adjustment for inventory, \$1.4 million of allocated environmental charge and \$0.4 million of allocated severance related charges.

2015 vs. 2014

Net sales in this segment increased by 11.1% in 2015. Organic sales declined 11.4%, currency fluctuations decreased net sales by 1.3% and the acquisition of Arlon added 23.8% net sales growth as compared to the same period in the prior year. The year over year increase in net sales, including the acquisition, was driven by an increase in automotive radar applications for Advanced Drive Assistance Systems (33.4%) and aerospace and defense applications (54.4%) and the wireless telecom market (1.5%). These increases were partially offset by weaker demand in 4G LTE base stations, primarily in China (-25%).

Operating income improved by 2.5% in 2015. As a percentage of net sales, operating income in 2015 was 16.9%, a 140 basis point decline as compared to the 18.3% reported in 2014. Our 2015 operating income included approximately \$2.6 million of integration expenses related to the Arlon acquisition, \$1.0 million of Arlon purchase accounting expenses related to the non-recurring fair value adjustment for inventory, a \$1.4 million environmental charge and \$0.4 million of severance related charges. Our 2014 operating income included approximately \$1.9 million in charges from the early payment of certain long term pension obligations, \$0.9 million in charges related to acquisition costs and \$0.1 million in charges related to the impairment of the BrightVolt investment. As a percentage of sales, excluding the 2015 and 2014 charges noted above, 2015 operating income was 18.8%, a 70 basis point decline as compared to the 19.5% achieved in 2014. This decline is primarily due to the lower organic net sales partially offset by the addition of the operating income from the acquisition, combined with favorable results from the continuous efforts targeted at manufacturing efficiency improvements and favorable inventory absorption.

Elastomeric Material Solutions

(Dollars in millions)	2016	2015	2014
Net sales	\$203.2	\$180.9	\$173.7
Operating income	\$26.6	\$20.0	\$23.3

The EMS operating segment is comprised of polyurethane and silicone foam products, which are sold into a wide variety of markets for various applications such as general industrial, portable electronics, consumer and transportation markets for gasketing, sealing, impact protection and cushioning applications. In November 2016, we completed an acquisition of DeWAL, a leading manufacturer of polytetrafluoroethylene, ultra-high molecular weight polyethylene films, pressure sensitive tapes and specialty products for the industrial, aerospace, automotive, and electronics markets. In January 2017, we acquired the principal operating assets of DSP, a custom silicone product development and manufacturing business, serving a wide range of high reliability applications. We are in the process of integrating DeWAL and DSP into our EMS segment.

2016 vs. 2015

Net sales in this segment increased by 12.3% in 2016 from 2015. Currency fluctuations decreased net sales by 1.8%. The increase in net sales was driven primarily by portable electronics applications (23.9%), automotive applications (41.4%) and general industrial (1.6%). These increases were partially offset by declines in demand in consumer applications (-15.2%) and mass transit applications (-1.9%). The results of DeWAL have been included in our consolidated financial statements only for the period subsequent to the completion of our acquisition. During this period, net sales attributable to DeWAL totaled \$5.4 million.

Operating income increased by 33.1% in 2016 from 2015. As a percentage of net sales, 2016 operating income was 13.1%, a 210 basis point increase as compared to the 11.0% reported in 2015. The increase in operating income in 2016 is primarily due to an increase in net sales, partially offset by corporate selling, general and administrative expense allocations and higher incentive compensation. 2016 results also include \$3.8 million of acquisition costs related to the DeWAL and DSP acquisitions, along with \$0.9 million of expenses related to the non-recurring fair value adjustment for DeWAL inventory. The results of DeWAL have been included in our consolidated financial statements only for the period subsequent to the completion of our acquisition. During this period, operating income attributable to DeWAL totaled \$2.0 million. 2015 results included \$3.2 million of charges comprised of \$1.6 million of integration expenses related to the Arlon acquisition, \$0.5 million of Arlon purchase accounting expenses related to the non-recurring fair value adjustment for inventory, \$0.8 million of allocated environmental charge and \$0.3 million

of allocated severance related charges.
2015 vs. 2014

Net sales in this segment increased by 4.2% in 2015. Organic sales declined 7.9%, currency fluctuations decreased net sales by 1.8% and the acquisition of Arlon added 13.8% of sales growth as compared to the prior year. The increase in net sales, including the acquisition, was driven by increased demand in mass transit (26.2%) and general industrial (26.1%) applications. Offsetting these increases, this operating segment experienced a decline in net sales into the portable electronics segment (mobile internet devices and feature phone applications) (-22.7%) and consumer applications (-11.0%).

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Operating income declined by 14.4% in 2015. As a percentage of net sales, the 2015 operating income was 11.0%, a 240 basis point decline as compared to the 13.4% reported in 2014. Our 2015 operating income includes approximately \$1.6 million of integration expenses related to the Arlon acquisition, \$0.5 million of Arlon purchase accounting expenses related to the non-recurring fair value adjustment for inventory, a \$0.8 million environmental charge and \$0.3 million of severance related charges. Our 2014 operating income includes approximately \$1.3 million in charges for the early payment of certain long term pension obligations and \$0.6 million of acquisition costs. As a percentage of net sales, excluding the 2015 and 2014 charges noted above, 2015 operating income was 12.8%, a 180 basis point decline as compared to the 14.6% achieved in 2014. This decline is primarily due to the lower organic net sales partially offset by the addition of the operating income from the acquisition.

Power Electronics Solutions

(Dollars in millions) 2016 2015 2014

Net sales \$152.4 \$150.3 \$171.8

Operating income \$6.0 \$3.8 \$5.7

The PES operating segment is comprised of two product lines - curamik® direct-bonded copper (DBC) substrates that are used primarily in the design of intelligent power management devices, such as IGBT (insulated gate bipolar transistor) modules that enable a wide range of products including highly efficient industrial motor drives, wind and solar energy converters and electrical systems in automobiles, and ROLINX® busbars that are used primarily in power distribution systems products in electric and hybrid electric vehicles and clean technology applications.

2016 vs. 2015

Net sales in this segment increased by 1.4% in 2016 from 2015. Currency fluctuations decreased net sales by 0.9%. The increase in net sales was driven by demand in electric and hybrid electric vehicles (15.6%), variable frequency motor drives (7.9%) and certain renewable energy applications (2.0%). These increased net sales were partially offset by lower demand in rail applications (-40.6%).

Operating income increased 59.1% in 2016 from 2015. As a percentage of net sales, 2016 operating income was 3.9%, a 140 basis point increase as compared to the 2.5% reported in 2015. This increase is primarily due to operational efficiency programs and an increase in net sales partially offset by unfavorable product mix, increased incentive compensation and corporate selling, general and administrative expense allocations. 2015 included approximately \$2.0 million of allocated charges comprised of \$1.1 million of an environmental charge and \$0.9 million of severance related charges.

2015 vs. 2014

Net sales in this segment decreased by 12.5% in 2015. Organic net sales declined 0.5% as compared to 2014. Net sales were unfavorably impacted by 12.0% due to currency fluctuations. The net sales decline was impacted by weaker demand in variable frequency motor drives (-19.1%), vehicle electrification (x-by-wire) (-25.2%) and certain renewable energy applications (-21.8%). These declines were partially offset by an increase in demand in electric vehicle applications (41.5%) and laser diode applications (11.5%).

Operating income declined by 33.7% in 2015. As a percentage of net sales, the 2015 operating income was 2.5%, a 80 basis point decline as compared to the 3.3% reported in 2014. Our 2015 operating income included approximately \$1.1 million of an environmental charge and \$0.9 million of severance related charges. Our 2014 operating income includes approximately \$1.9 million in charges for the early payment of certain long term pension obligations and \$0.9 million of acquisition costs. As a percentage of net sales, excluding the 2015 and 2014 previously noted charges, 2015 operating income was 3.8%, a 110 basis point decline as compared to the 4.9% achieved in 2014. This decrease was due to the lower organic net sales as well as the unfavorable foreign currency exchange impact.

Other

(Dollars in millions)	2016	2015	2014
Net sales	\$23.0	\$42.6	\$24.5
Operating income	\$7.3	\$7.4	\$8.2

Our Other segment consists of our elastomer rollers and floats business, as well as our inverter distribution business. Additionally, this segment included the acquired Arlon polyimide and thermoset laminate business from January 2015 until it was sold in December 2015.

2016 vs 2015

Net sales decreased by 46.1% in 2016 from 2015, due principally to the impact of the divestiture of the Arlon polyimide and thermoset laminate business in December 2015. Net sales were unfavorably impacted by 1.4%, due to currency fluctuations.

Operating income decreased 1.1% in the 2016 from 2015. The decline was primarily due to lower net sales partially offset by \$0.6 million of integration expenses related to the Arlon acquisition that are included in 2015 results, which didn't repeat in 2016.

As a percentage of net sales, operating income increased to 31.9% in 2016 from 17.4% in 2015, due principally to the sale of the lower margin Arlon polyimide and thermoset laminate business.

2015 vs 2014

Net sales increased by 73.7% in 2015. The acquisition of Arlon added 76.0% sales growth as compared to the same period in the prior year. Net sales were unfavorably impacted primarily by 2.2% due to currency fluctuations. Operating income decreased 10.0% in 2015. The decline is comprised of lower operating profit of \$0.6 million due to lower organic sales volume, \$0.6 million of integration expenses related to the Arlon acquisition, offset by the performance of the specialty polyimide and epoxy-based laminates and bonding materials business.

Product and Market Development

Our research and development team is dedicated to growing our business by developing cost effective solutions that improve the performance of customers' products and by identifying business and technology acquisition or development opportunities to expand our market presence. Currently, R&D spend is approximately 4.4% of net sales.

Liquidity, Capital Resources and Financial Position

We believe our existing sources of liquidity and cash flows expected to be generated from operations, together with available credit facilities, will be sufficient to fund our operations, capital expenditures, research and development efforts, and debt service commitments, as well as our other operating and investing needs, for at least the next twelve months. We regularly review and evaluate the adequacy of our cash flows, borrowing facilities and banking relationships to ensure that we have the appropriate access to cash to fund both near-term operating needs and long-term strategic initiatives.

(Dollars in thousands)	As of December 31,	
Key Balance Sheet Accounts:	2016	2015
Cash and cash equivalents	\$227,767	\$204,586
Accounts receivable, net	\$119,604	\$101,428
Inventories	\$91,130	\$91,824
Outstanding borrowings on credit facilities	\$241,188	\$178,626

(Dollars in thousands)	For the year ended December 31,	
Key Cash Flow Measures:	2016	2015
Cash provided by operating activities	\$116,967	\$73,922
Cash used in investing activities	\$(151,804)	\$(180,297)
Cash provided by financing activities	\$57,869	\$83,027

At December 31, 2016, cash and cash equivalents were \$227.8 million as compared to \$204.6 million at the end of 2015, an increase of \$23.2 million, or approximately 11.3%. This increase was due primarily to strong cash from operations, proceeds from debt of \$166.0 million, offset by \$133.9 million (net) paid for the acquisition of DeWAL,

\$8.0 million in share repurchases, \$18.1 million in capital expenditures and \$103.8 million in debt and capital lease payments. We used the remaining cash proceeds from the drawdown on our credit facility, along with cash on hand, to fund the DSP acquisition in January 2017.

The following table illustrates the location of our cash and cash equivalents by our three major geographic areas:

	As of December 31,		
(Dollars in thousands)	2016	2015	2014
U.S.	\$95,481	\$37,263	\$96,721
Europe	37,791	66,295	71,802
Asia	94,495	101,028	68,852
Total cash and cash equivalents	\$227,767	\$204,586	\$237,375

Cash held in certain foreign locations could be subject to additional taxes if we distributed such amounts back to other offshore subsidiaries or repatriated them to the U.S. As a result of changes in our business circumstances and long-term business plan, we have changed our estimate of the amount of foreign subsidiary earnings considered permanently reinvested. Undistributed earnings of our Chinese subsidiaries are no longer considered indefinitely reinvested and may be distributed to other offshore subsidiaries. This change resulted in payment of \$6.3 million in withholding taxes and accrual of \$6.1 million of foreign deferred taxes during 2016 that will become payable upon future distributions. We have not changed our assertion during 2016 with respect to distributions of earnings that would require the accrual of U.S. income tax.

Net working capital was \$357.2 million, \$350.0 million and \$317.7 million as of December 31, 2016, 2015 and 2014, respectively.

Significant changes in our balance sheet accounts from December 31, 2015 to December 31, 2016 were as follows:

Accounts receivable increased \$18.2 million or 17.9% from \$101.4 million at December 31, 2015 to \$119.6 million at December 31, 2016. The increase is primarily due to increased demand across all business units.

Goodwill increased \$33.0 million or 18.8% from \$175.5 million at December 31, 2015 to \$208.4 million at December 31, 2016. This increase is due to the acquisition of DeWAL. There were no impairments of goodwill during the year ended December 31, 2016.

Other intangible assets increased \$61.7 million or 82.2% from \$75.0 million at December 31, 2015 to \$136.7 million at December 31, 2016. This increase is due to the acquisition of DeWAL. There were no impairments of Other intangible assets during the year ended December 31, 2016.

Overall, our debt position increased \$63.0 million from \$176.5 million at December 31, 2015 to \$239.5 million at December 31, 2016. The increase is due to borrowings of \$136.0 million to finance the DeWAL acquisition and an additional \$30.0 million in borrowings to partially fund the DSP acquisition. These borrowings were offset by \$103.8 million of debt repayments in 2016. Outstanding debt is presented on the consolidated statements of financial position net of debt issuance costs.

During 2016, \$151.8 million of net cash was used for investing activities as compared to \$180.3 million in 2015 and \$28.5 million in 2014. Investing activity for 2016 included the acquisition of DeWAL, which used \$133.9 million in investing cash (net), compared to \$158.4 million in investing cash (net) used for the Arlon acquisition in 2015. Capital expenditures were \$18.1 million, \$24.8 million and \$28.8 million in 2016, 2015 and 2014, respectively.

Net cash provided by financing activities was \$57.9 million, \$83.0 million and \$1.9 million in 2016, 2015 and 2014, respectively. Financing activities in 2016 included borrowings of \$166.0 million to finance acquisitions, offset by \$103.8 million in debt and capital lease repayments and \$8.0 million of cash used for the share buyback program.

Credit Facilities

Second Amended Credit Agreement

On June 18, 2015, we entered into a secured five year credit agreement with JPMorgan Chase Bank, N.A., as administrative agent, and the lenders party thereto (the "Second Amended Credit Agreement"). The Second Amended Credit Agreement provided (1) a \$55.0 million term loan; (2) up to \$295.0 million of revolving loans, with sublimits for multicurrency borrowings, letters of credit and swing-line notes; and (3) a \$50.0 million expansion feature. Borrowings could be used to finance working capital needs, for letters of credit and for general corporate purposes in the ordinary course of business, including the financing of permitted acquisitions (as defined in the Second Amended Credit Agreement).

In 2016, we borrowed \$136.0 million under the line of credit to fund the acquisition of DeWAL and an additional \$30.0 million to partially fund the acquisition of Diversified Silicone Products. We borrowed \$125.0 million under the line of credit under our prior credit agreement in the first quarter of 2015 to fund the acquisition of Arlon, and this amount was refinanced under our Second Amended Credit Agreement in June 2015. During 2016 and 2015, we made principal payments of \$103.4 million, and \$6.4 million, respectively, on the outstanding debt. At December 31, 2016, our outstanding debt balance was comprised of a term loan of \$50.2 million and \$191.0 million borrowed on the revolving line of credit. In addition, as of December 31, 2016 and 2015, we had a \$1.2 million standby letter of credit (LOC) to guarantee Rogers workers compensation plans that were backed by the Second Amended Credit Agreement. No amounts were drawn on the LOC as of December 31, 2016 or 2015.

We incurred interest expense on our outstanding debt of \$3.1 million, \$3.5 million, and \$1.8 million for the years ended December 31, 2016, 2015 and 2014, respectively. Cash paid for interest was \$3.1 million, \$3.3 million, and \$2.5 million for 2016, 2015 and 2014, respectively. At December 31, 2016, the rate charged on our outstanding borrowings under the Second Amended Credit Agreement was the 1-month LIBOR at 0.6250% plus a spread of 1.375%.

We also incurred an unused commitment fee of \$0.4 million, \$0.3 million, and \$0.4 million for the years ended December 31, 2016, 2015 and 2014, respectively.

The financial covenants in the Second Amended Credit Agreement included requirements to maintain (1) a leverage ratio of no more than 3.25 to 1.00, subject to a one-time election to increase the maximum leverage ratio to 3.50 to 1.00 for one fiscal year in connection with a permitted acquisition, and (2) an interest coverage ratio of no less than 3.00 to 1.00. As of December 31, 2016, we were in compliance with all of the financial covenants in the Second Amended Credit Agreement.

The Second Amended Credit Agreement required mandatory quarterly repayment of principal on amounts borrowed under the term loan, and payment in full of outstanding borrowings by June 30, 2020, which are described in the Contractual Obligations table in this Item 7.

All obligations under the Second Amended Credit Agreement were guaranteed by each of the Company's existing and future material domestic subsidiaries, as defined in the Second Amended Credit Agreement (the "Previous Guarantors"). The obligations were also secured by a Second Amended and Restated Pledge and Security Agreement, dated as of June 18, 2015, entered into by the Company and the Previous Guarantors which granted to the administrative agent, for the benefit of the lenders, a security interest, subject to certain exceptions, in substantially all of the non-real estate assets of the Guarantors. These assets included, but were not limited to, receivables, equipment, intellectual property, inventory, and stock in certain subsidiaries.

•Third Amended Credit Agreement

On February 17, 2017, we entered into a secured five year credit agreement with JPMorgan Chase Bank, N.A., as administrative agent, and the lenders party thereto (the "Third Amended Credit Agreement"), which amended and restated the Second Amended Credit Agreement. The Third Amended Credit Agreement refinances the Second Amended Credit Agreement, eliminates the term loan under the Second Amended Credit Agreement, increases the principal amount of the revolving credit facility to up to \$450.0 million borrowing capacity, with sublimits for multicurrency borrowings, letters of credit and swing-line notes, and provides an additional \$175.0 million accordion feature. Borrowings may be used to finance working capital needs, for letters of credit and for general corporate purposes in the ordinary course of business, including the financing of permitted acquisitions (as defined in the Third Amended Credit Agreement).

Borrowings under the Third Amended Credit Agreement can be made as alternate base rate loans or euro-currency loans. Alternate base rate loans bear interest that includes a base reference rate plus a spread of 37.5 to 75.0 basis points, depending on our leverage ratio. The base reference rate is the greater of the prime rate; federal funds effective rate (or the overnight bank funding rate, if greater) plus 50 basis points; or adjusted 1-month LIBOR plus 100 basis points. Euro-currency loans bear interest based on adjusted LIBOR plus a spread of 137.5 to 175.0 basis points, depending on our leverage ratio.

In addition to interest payable on the principal amount of indebtedness outstanding from time to time under the Third Amended Credit Agreement, the Company is required to pay a quarterly fee of 20 to 30 basis points (based upon our

leverage ratio) of the unused amount of the lenders' commitments under the Third Amended Credit Agreement. The Third Amended Credit Agreement contains customary representations, warranties, covenants, mandatory prepayments and events of default under which the Company's payment obligations may be accelerated. If an event of default occurs, the lenders may, among other things, terminate their commitments and declare all outstanding borrowings to be immediately due and payable together with accrued interest and fees. The financial covenants include requirements to maintain (1) a leverage ratio of no more than 3.25 to 1.00, subject to an election to increase the maximum leverage ratio to 3.50 to 1.00 for one fiscal year in connection with a permitted acquisition, and (2) an interest coverage ratio of no less than 3.00 to 1.00.

All obligations under the Third Amended Credit Agreement are guaranteed by each of the Company's existing and future material domestic subsidiaries, as defined in the Third Amended Credit Agreement (the "Guarantors"). The obligations are also secured by a Third Amended and Restated Pledge and Security Agreement, dated as of February 17, 2017, entered into by the Company and the Guarantors which grants to the administrative agent, for the benefit of the lenders, a security interest, subject to certain exceptions, in substantially all of the non-real estate assets of the Guarantors. These assets include, but are not limited to, receivables, equipment, intellectual property, inventory, and stock in certain subsidiaries.

All revolving loans are due on the maturity date, February 17, 2022. We are not required to make any quarterly principal payments under the Third Amended Credit Agreement.

Restriction on Payment of Dividends

Our Third Amended Credit Agreement generally permits us to pay cash dividends to our shareholders, provided that (i) no default or event of default has occurred and is continuing or would result from the dividend payment and (ii) our leverage ratio does not exceed 2.75 to 1.00. If our leverage ratio exceeds 2.75 to 1.00, we may nonetheless make up to \$20.0 million in restricted payments, including cash dividends, during the fiscal year, provided that no default or event of default has occurred and is continuing or would result from the payments. Our leverage ratio did not exceed 2.75 to 1.00 as of February 17, 2017.

Contractual Obligations

The following table summarizes our significant contractual obligations as of December 31, 2016.

(Dollars in thousands)

	Payments Due by Period				
	Total	Less than 1 Year	1-3 Years	3-5 Years	More than 5 Years
Operating leases	\$9,707	\$3,352	\$3,677	\$1,644	\$1,034
Capital lease	5,343	349	726	4,268	—
Interest payments on capital lease	525	133	239	153	—
Inventory purchase obligations	1,163	1,163	—	—	—
Capital commitments ⁽¹⁾	3,588	3,588	—	—	—
Outstanding borrowings on credit facility ⁽²⁾	241,188	4,125	10,313	226,750	—
Interest payments on outstanding borrowings ⁽³⁾	26,319	6,318	15,999	4,002	—
Retiree health and life insurance benefits	3,007	513	630	473	1,391
Pension obligation funding	417	339	78	—	—
Total	\$291,257	\$19,880	\$31,662	\$237,290	\$2,425

⁽¹⁾ This amount represents non-cancelable vendor purchase commitments.

As noted above in the description of our Third Amended Credit Agreement, we are no longer required to make

⁽²⁾ quarterly principal payments on outstanding borrowings under our term loan. Accordingly, all outstanding borrowings under our credit facility are now due on February 17, 2022.

⁽³⁾ Estimated future interest payments are based on a leveraged based spread that ranges from 1.375% to 1.75%, plus projected forward 1-month LIBOR rates.

Unfunded pension benefit obligations, which amount to \$5.9 million at December 31, 2016, are expected to be paid from operating cash flows and the timing of payments is not definitive. Retiree health and life insurance benefits, which amount to \$2.1 million, are expected to be paid from operating cash flows.

Other long-term liabilities, such as deferred taxes, unrecognized tax benefits and asbestos-related product liability reserves, have been excluded from the table due to the uncertainty of the timing of payments combined with the absence of historical trends to be used as a predictor for such payments.

Effects of Inflation

We do not believe that inflation had a material impact on our business, sales, or operating results during the periods presented.

Off-Balance Sheet Arrangements

We do not have any off-balance sheet arrangements that have, or are, in the opinion of management, reasonably likely to have, a current or future material effect on our financial condition or results of operations.

Critical Accounting Policies

Our Consolidated Financial Statements are prepared in accordance with U.S. generally accepted accounting principles, which require management to make estimates, judgments and assumptions that affect the amounts reported in the financial statements and accompanying notes. We base our estimates on historical experience and on various other assumptions that are believed to be reasonable under the circumstances and believe that appropriate reserves have been established based on reasonable methodologies and appropriate assumptions based on facts and circumstances that are known; however, actual results may differ from these estimates under different assumptions or conditions. An accounting policy is deemed to be critical if it requires an accounting estimate to be made based on assumptions that

are highly judgmental and uncertain at the time the estimate is made, if different estimates could reasonably have been used, or if changes to those estimates are reasonably likely to periodically occur that could affect the amounts carried in the financial statements. These critical accounting policies are as follows:

Revenue Recognition

We recognize revenue when all of the following criteria are met: (1) we have entered into a binding agreement, (2) the product has shipped and title and risk of ownership have passed, (3) the sales price to the customer is fixed or determinable, and (4) collectability is reasonably assured. We recognize revenue based upon a determination that all criteria for revenue recognition have been met, which, based on the majority of our shipping terms, is considered to have occurred upon shipment of the finished product. Some shipping terms require the goods to be through customs or be received by the customer before title passes. In those instances, revenue is not recognized until either the customer has received the goods or they have passed through customs, depending on the circumstances. As appropriate, we record estimated reductions to revenue for customer returns and allowances and warranty claims. Provisions for such allowances are made at the time of sale and are typically derived from historical trends and other relevant information. See further discussion in Note 19, "Recent Accounting Standards" to "Item 8 Financial Statements and Supplementary Data."

Inventory Valuation

Inventories are stated at the lower of cost or market with costs determined primarily on a first-in first-out basis. We also maintain a reserve for excess, obsolete and slow-moving inventory that is primarily developed by utilizing both specific product identification and historical product demand as the basis for our analysis. Products and materials that are specifically identified as obsolete are fully reserved. In general, most products that have been held in inventory greater than one year are fully reserved unless there are mitigating circumstances, including forecasted sales or current orders for the product. The remainder of the allowance is based on our estimates and fluctuates with market conditions, design cycles and other economic factors. Risks associated with this allowance include unforeseen changes in business cycles that could affect the marketability of certain products and an unexpected decline in current production. We closely monitor the marketplace and related inventory levels and have historically maintained reasonably accurate allowance levels. Our obsolescence reserve has ranged from 11.0% to 14.2% of gross inventory over the last three years.

Goodwill and Other Intangibles

We have made acquisitions over the years that included the recognition of goodwill and other intangible assets. Goodwill and indefinite lived intangibles are tested for impairment annually or more frequently if events or changes in circumstances indicate the carrying value may have been impaired. Application of the goodwill impairment test requires significant judgment, including the identification of reporting units, assignment of assets and liabilities to reporting units, and determination of the fair value of each reporting unit. Determining the fair value of a reporting unit is subjective and requires the use of significant estimates and assumptions, including revenue growth rates and operating margins, discount rates, and future market conditions, among others. We test goodwill for impairment using a two-step process. The first step of the impairment test requires a comparison of the implied fair value of each of our reporting units to the respective carrying value. If the carrying value of a reporting unit is less than its implied fair value, no indication of impairment exists and a second step is not performed. If the carrying amount of a reporting unit is higher than its fair value, there is an indication that impairment may exist and a second step must be performed. In the second step, the impairment is computed by comparing the implied fair value of the reporting unit's goodwill with the carrying amount of the goodwill. If the carrying amount of the reporting unit's goodwill is greater than the implied fair value of its goodwill, an impairment loss must be recognized for the excess and charged to operations.

In 2016, we estimated the fair value of our reporting units using an income approach based on the present value of future cash flows. We believe this approach yields the most appropriate evidence of fair value as our reporting units are not easily compared to other corporations involved in similar businesses. We further believe that the assumptions and rates used in our annual impairment test are reasonable, but inherently uncertain. We currently have four reporting

units with goodwill: ACS, EMS, curamik® and the Elastomer Components Division (ECD). Consistent with historical practice, the annual impairment test on these reporting units was performed in the fourth quarter of 2016. No impairment charges resulted from this analysis. The excess of fair value over carrying value for ACS, EMS, curamik® and ECD was 281.6%, 76.0%, 75.8% and 225.7%, respectively. From a sensitivity perspective, if the fair value of each of these reporting units declined by 10%, the excess of fair value over carrying value for ACS, EMS, curamik® and ECD would be 243.4%, 58.4%, 58.2% and 193.1%, respectively. These valuations are based on a five year discounted cash flow analysis, which utilized discount rates ranging from 12.0% for ACS to 12.9% for curamik® and a terminal year growth rate of 3% for all four reporting units. The ACS, EMS, curamik® and ECD reporting units had allocated goodwill of approximately \$51.7 million, \$91.5 million, \$63.0 million and \$2.2 million, respectively, at December 31, 2016.

Intangible assets, such as purchased technology, customer relationships, and the like, are generally recorded in connection with a business acquisition. Values assigned to intangible assets are determined based on estimates and judgments regarding expectations of the success and life cycle of products and technology acquired and the value of the acquired businesses customer base. These assets are reviewed at least annually if facts and circumstances surrounding such assets indicate a possible impairment of the asset exists. In 2016, there were no indicators of impairment on any of our other intangible assets.

Product Liability

For product liability claims, we typically maintain insurance coverage with reasonable deductible levels to protect us from potential exposures. Any liability associated with such claims is based on management's best estimate of the potential claim value, while insurance receivables associated with related claims are not recorded until verified by the insurance carrier.

For asbestos related claims, we recognize projected asbestos liabilities and related insurance receivables, with any difference between the liability and related insurance receivable recognized as an expense in the consolidated statements of operations. Projecting future asbestos costs and related insurance coverage is subject to numerous variables that are extremely difficult to predict, including the number of claims that might be received, the type and severity of the disease alleged by each claimant, the long latency period associated with asbestos exposure, dismissal rates, costs of medical treatment, the financial resources of other companies that are co-defendants in claims, uncertainties surrounding the litigation process from jurisdiction to jurisdiction and from case to case, and the impact of potential changes in legislative or judicial standards, including potential tort reform.

We believe the assumptions used in our models for determining our potential exposure and related insurance coverage are reasonable at the present time, but such assumptions are inherently uncertain. We determined that a ten-year projection period is appropriate as we have experience in addressing asbestos related lawsuits over the last few years to use as a baseline to project the liability over ten years. However, we do not believe we have sufficient data to justify a longer projection period at this time. As of December 31, 2016, the estimated liability and estimated insurance recovery for the ten-year period through 2026 was \$52.0 million and \$48.4 million, respectively.

Given the inherent uncertainty in making projections, we plan to re-examine periodically the projections of current and future asbestos claims, and we will update them if needed based on our experience, changes in the assumptions underlying our models, and other relevant factors, such as changes in the tort system. There can be no assurance that our accrued asbestos liabilities will approximate our actual asbestos-related settlement and defense costs, or that our accrued insurance recoveries will be realized. We believe that it is reasonably possible that we will incur additional charges for our asbestos liabilities and defense costs in the future, which could exceed existing reserves, but cannot reasonably estimate such excess amounts at this time.

Pension and Other Postretirement Benefits

We provide various defined benefit pension plans for our U.S. employees and sponsor three defined benefit health care plans and a life insurance plan. The costs and obligations associated with these plans are dependent upon various actuarial assumptions used in calculating such amounts. These assumptions include discount rates, long-term rates of return on plan assets, mortality rates, and other factors. The assumptions used were determined as follows: (i) the discount rate used is based on the PruCurve high quality corporate bond index, with comparisons against other similar indices; and (ii) the long-term rate of return on plan assets is determined based on historical portfolio results, market conditions and our expectations of future returns. We determine these assumptions based on consultation with outside actuaries and investment advisors. Any changes in these assumptions could have a significant impact on future recognized pension costs, assets and liabilities.

The rates used to determine our costs and obligations under our pension and postretirement plans are disclosed in Note 10, "Pension Benefits and Retirement Health and Life Insurance Benefits" to "Item 8 - Financial Statements and Supplementary Data." Each assumption has different sensitivity characteristics. For the year ended December 31, 2016, a 25 basis point decrease in the discount rate would have increased our total pension expense by approximately \$17,500. This number represents the aggregate increase in expense for the four pension plans: Employees' Pension

Plan, Defined Benefit Pension Plan, Bear Pension Plan and the Restoration Plan. A 25 basis point decrease in the discount rate would increase the other post-employment benefits (OPEB) expense by approximately \$3,000. A 25 basis point decrease in the expected return on assets would increase the total 2016 pension expense approximately \$0.4 million. This number represents the aggregate increase in the expense for the three qualified pension plans. Since the OPEB and non-qualified plans are unfunded, those plans would not be impacted by this assumption change.

Income Taxes

We are subject to income taxes in the U.S. and in numerous foreign jurisdictions. The Company accounts for income taxes following ASC 740 (Accounting for Income Taxes) recognizing deferred tax assets and liabilities using enacted tax rates for the effect of temporary differences between book and tax basis of recorded assets and liabilities. Deferred tax assets are reduced by a valuation allowance if it is more likely than not that some or all of a deferred tax asset will not be realized.

U.S. income taxes have not been provided on \$210.9 million of undistributed earnings of foreign subsidiaries since it is the Company's intention to permanently reinvest such earnings offshore or to repatriate them only when it is tax efficient to do so. It is impracticable to estimate the total tax liability, if any, that would be created by the future distribution of these earnings. If circumstances change and it becomes apparent that some, or all of these undistributed earnings as of December 31, 2016 will not be indefinitely reinvested, the provision for the tax consequences, if any, will be recorded in the period when circumstances change. As of each of December 31, 2016 and 2015, \$1.1 million of U.S. income taxes had been provided on undistributed earnings of foreign subsidiaries that are not considered permanently reinvested.

As a result of changes in business circumstances and our long-term business plan with respect to offshore distributions, we modified our assertion of certain accumulated foreign subsidiary earnings considered permanently reinvested. As of December 31, 2016, \$6.1 million of deferred foreign taxes have been provided on undistributed earnings of our foreign subsidiaries that are not considered permanently reinvested. In the event that we distributed these funds to other offshore subsidiaries, these taxes would become due. In addition, we incurred \$6.3 million of withholding taxes in 2016 related to distributions from China to lower tier, non-U.S. subsidiaries. Distributions out of current and future earnings are permissible to fund discretionary activities such as business acquisitions. However, when distributions are made, this could result in a higher effective tax rate.

We record benefits for uncertain tax positions based on an assessment of whether it is more likely than not that the tax positions will be sustained by the taxing authorities. If this threshold is not met, no tax benefit of the uncertain position is recognized. If the threshold is met, we recognize the largest amount of the tax benefit that is more than fifty percent likely to be realized upon ultimate settlement.

We recognize interest and penalties within the income tax expense line in the accompanying consolidated statements of operations. Accrued interest and penalties are included within the related tax liability line in the consolidated statements of financial position.

Stock-Based Compensation

Stock-based compensation expense associated with time-based and performance-based restricted stock units, deferred stock units, stock options and related awards is recognized in the consolidated statements of operations. Determining the amount of stock-based compensation expense to be recorded requires us to develop estimates to be used in calculating the grant-date fair value of stock-based compensation.

The amount of stock-based compensation expense recognized during a period is based on the value of the portion of the awards that are ultimately expected to vest. Forfeitures are estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates. The term "forfeitures" is distinct from "cancellations" or "expirations" and represents only the unvested portion of the surrendered option. Based on an analysis of our historical forfeitures, we have applied an annual forfeiture rate of 12% to all unvested stock-based awards as of December 31, 2016. The rate of 12% represents the portion that is expected to be forfeited each year over the vesting period. This analysis is re-evaluated annually and the forfeiture rate is adjusted as necessary. Ultimately, the actual expense recognized over the vesting period will only be for those awards that vest.

Performance-Based Restricted Stock Units

Compensation expense related to our performance-based restricted stock units is recognized using the straight-line method over the vesting period.

The outstanding 2014 and 2015 awards have two measurement criteria on which the final payout of the award is based - (i) the three year return on invested capital (ROIC) compared to that of a specified group of peer companies, and (ii) the three year total shareholder return (TSR) on the performance of our capital stock as compared to that of a specified group of peer companies. The outstanding 2016 awards have one measurement criteria, the three year total shareholder return (TSR) on the performance of our capital stock as compared to that of a specified group of peer companies. In accordance with the applicable accounting literature, the ROIC portion of the award is considered a performance condition. As such, the fair value of the ROIC portion is determined based on the market value of the

underlying stock price at the grant date with cumulative compensation expense recognized to date being increased or decreased based on changes in the forecasted pay out percentage at the end of each reporting period. The TSR portion of the awards is considered a market condition. As such, the fair value of these awards was determined on the date of grant using a Monte Carlo simulation valuation model with related compensation expense fixed on the grant date and expensed on a straight-line basis over the life of the awards that ultimately vest with no changes for the final projected payout of the award. The assumptions used in the Monte Carlo are as follows:

Expected volatility – In determining expected volatility, we have considered a number of factors, including historical volatility.

Expected term – We use the vesting period of the award to determine the expected term assumption for the Monte Carlo simulation valuation model.

Risk-free interest rate – We use an implied “spot rate” yield on U.S. Treasury Constant Maturity rates as of the grant date for our assumption of the risk-free interest rate.

Expected dividend yield – We do not currently pay dividends on our capital stock; therefore, a dividend yield of 0% was used in the Monte Carlo simulation valuation model.

Time-Based Restricted Stock Units

In 2011, we began granting time-based restricted stock units to certain key executives and other key members of the Company’s management team. We currently have grants from 2013, 2014, 2015 and 2016 outstanding. The majority of the grants ratably vest on the first, second and third anniversaries of the original grant date. We recognize compensation expense on all of these awards on a straight-line basis over the vesting period. The fair value of the award is determined based on the market value of the underlying stock price at the grant date.

Deferred Stock Units

We grant deferred stock units to non-management directors. These awards are fully vested on the date of grant and the related shares are generally issued on the 13th month anniversary of the grant date unless the individual elects to defer the receipt of these shares. Each deferred stock unit results in the issuance of one share of Rogers’ stock. The grant of deferred stock units is typically done annually in the second quarter of each year. The fair value of the award is determined based on the market value of the underlying stock price at the grant date.

Stock Options

Historically, we granted stock options to certain key executives and other key members of the Company’s management team and our last grant was in 2012. To value stock options, we calculated the grant-date fair values using the Black-Scholes valuation model. The use of valuation models required us to make estimates for the following assumptions:

Expected volatility - In determining expected volatility, we consider a number of factors, including historical volatility and implied volatility.

Expected term - We use historical employee exercise data to estimate the expected term assumption for the Black-Scholes valuation model.

Risk-free interest rate - We use the yield on zero-coupon U.S. Treasury securities for a period commensurate with the expected term assumption as the risk-free interest rate.

Expected dividend yield – We do not currently pay dividends on our capital stock; therefore, a dividend yield of 0% was used in the Black-Scholes model.

The amount of stock-based compensation expense recognized during a period is based on the value of the portion of the awards that are ultimately expected to vest. Forfeitures are estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates. The term “forfeitures” is distinct from “cancellations” or “expirations” and represents only the unvested portion of the surrendered option. Based on an analysis of our historical forfeitures, we have applied an annual forfeiture rate of 3% to all unvested stock-based awards as of December 31, 2016. The rate of 3% represents the portion that is expected to be forfeited each year over the vesting period. This analysis is re-evaluated annually and the forfeiture rate is adjusted as necessary. Ultimately, the actual expense recognized over the vesting period will only be for those awards that vest.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

Market Risk

Foreign Currency Risk

Our financial results are affected by changes in foreign exchange rates and economic conditions in foreign countries in which we operate. Our primary overseas markets are in Europe and Asia, thus exposing us to exchange rate risk from fluctuations in the Euro and the various currencies used in Asia. Exposure to variability in currency exchange rates is mitigated, when possible, through the use of natural hedges, whereby purchases and sales in the same foreign currency and with similar maturity dates offset one another. We further mitigate this exposure through hedging activities by entering into foreign exchange forward contracts with third parties when the use of natural hedges is not possible or desirable. We currently do not use derivative instruments for trading or speculative purposes. We monitor foreign exchange risks and at times manage such risks on specific transactions. Our risk management process primarily uses analytical techniques and sensitivity analysis. In 2016, a 10% increase/decrease in exchange rates would have resulted in an approximate increase/decrease to net sales and net income of \$21.8 million and \$2.0 million, respectively.

Interest Rate Risk

As of December 31, 2016, we have borrowed \$241.2 million against our existing credit facilities to finance strategic acquisitions. The interest charged on this credit facility fluctuates with movements in the benchmark LIBOR. At December 31, 2016, the effective all-in rate of interest on the debt facility was 2.0%. To illustrate, based on the outstanding debt as of December 31, 2016 of \$241.2 million, a 100 basis point increase in LIBOR would increase the amount of interest expense by \$2.4 million, annually.

Commodity Risk

We are subject to fluctuations in the cost of raw materials used to manufacture our materials and products. In particular, we are exposed to market fluctuations in commodity pricing as we utilize certain materials, such as copper and ceramic, that are key materials in certain of our products. In order to minimize the risk of market driven price changes in these commodities, we utilize hedging strategies to insulate us against price fluctuations of copper, the commodity most used in our manufacturing processes. We currently do not use hedging strategies to minimize the risk of price fluctuations on other commodity-based raw materials; however, we regularly review such strategies to hedge market risk on an ongoing basis.

For additional discussion, see Note 2, “Fair Value Measurements” and Note 3, “Hedging Transactions and Derivative Financial Instruments” in “Item 8 Financial Statements and Supplementary Data.”

Item 8. Financial Statements and Supplementary Data

MANAGEMENT'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

The management of the Company is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Exchange Act Rules 13a-15(f) and 15d-15(f). The Company's internal control over financial reporting was designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of the Company's financial statements for external purposes in accordance with accounting principles generally accepted in the United States of America. Our internal control over financial reporting includes those policies and procedures that:

- pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of our assets;
- provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with accounting principles generally accepted in the United States of America, and that receipts and expenditures are being made only in accordance with authorizations of our management and directors; and
- provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our 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.

Management assessed the effectiveness of the Company's internal control over financial reporting as of December 31, 2016. In making its assessment of internal control over financial reporting, management used the criteria issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in Internal Control-Integrated Framework (2013). Based on the results of this assessment, management, including our Chief Executive Officer and our Chief Financial Officer, has concluded that, as of December 31, 2016, our internal control over financial reporting was effective.

The Company's independent registered public accounting firm, PricewaterhouseCoopers, LLP, has audited the effectiveness of the Company's internal control over financial reporting as of December 31, 2016.

On November 23, 2016, the Company acquired DeWAL Industries (DeWAL). As a result, management has excluded DeWAL from its assessment of internal control over financial reporting. DeWAL is a wholly-owned subsidiary whose total assets and total net sales represent 3.1% and 0.8%, respectively, of the Company's total assets and net sales as of and for the year ended December 31, 2016.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders of Rogers Corporation

In our opinion, the accompanying consolidated statements of financial position and the related consolidated statements of operations, of comprehensive income (loss), of shareholders' equity and of cash flows present fairly, in all material respects, the financial position of Rogers Corporation and its subsidiaries at December 31, 2016 and December 31, 2015, and the results of their operations and their cash flows for each of the two years in the period ended December 31, 2016 in conformity with accounting principles generally accepted in the United States of America. In addition, in our opinion, the financial statement schedule for the year ended December 31, 2016 listed in the index appearing under Item 15(2) presents fairly, in all material respects, the information set forth therein when read in conjunction with the related consolidated financial statements. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2016, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company's management is responsible for these financial statements and financial statement schedule, for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in Management's Report on Internal Control over Financial Reporting appearing under Item 8. Our responsibility is to express opinions on these financial statements, on the financial statement schedule, and on the Company's internal control over financial reporting based on our integrated audits. We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement and whether effective internal control over financial reporting was maintained in all material respects. Our audits of the financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

As discussed in Note 19 to the consolidated financial statements, the Company changed the manner in which it presents debt issuance costs as well as deferred tax assets and liabilities in the consolidated statements of financial position in 2016.

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 (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) 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 (iii) 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.

As described in Management's Report on Internal Control over Financial Reporting, management has excluded DeWAL Industries, Inc. ("DeWAL") from its assessment of internal control over financial reporting as of December 31, 2016 because DeWAL was acquired by the Company in a purchase business combination during 2016. We have also excluded DeWAL from our audit of internal control over financial reporting. DeWAL is a wholly-owned subsidiary whose total assets and total revenues represent 3.1% and 0.8%, respectively, of the related consolidated financial statement amounts as of and for the year ended December 31, 2016.

/s/ PricewaterhouseCoopers LLP

Hartford, Connecticut

February 21, 2017

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board of Directors and Shareholders of Rogers Corporation

We have audited the accompanying consolidated statements of operations, comprehensive income (loss), shareholders' equity and cash flows of Rogers Corporation for the year ended December 31, 2014. Our audit also included the financial statement schedule listed in the Index at Item 15. These financial statements and schedule are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements and schedule based on our audit.

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

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated results of Rogers Corporation's operations and its cash flows for the year ended December 31, 2014, in conformity with U.S. generally accepted accounting principles. Also, in our opinion, the related financial statement schedule, when considered in relation to the basic financial statements taken as a whole, presents fairly, in all material respects, the information set forth therein.

/s/ Ernst & Young LLP

Boston, Massachusetts

February 18, 2015

Except for note 1, as to which the date is

February 23, 2016

ROGERS CORPORATION

CONSOLIDATED STATEMENTS OF OPERATIONS

For each of the fiscal years in the three-year period ended December 31, 2016

(Dollars and shares in thousands, except per share amounts)

	2016	2015	2014
Net sales	\$656,314	\$641,443	\$610,911
Cost of sales	406,829	406,081	376,158
Gross margin	249,485	235,362	234,753
Selling, general and administrative expenses	136,317	131,463	125,244
Research and development expenses	28,582	27,644	22,878
Restructuring and impairment charges	734	—	5,390
Operating income	83,852	76,255	81,241
Equity income in unconsolidated joint ventures	4,146	2,890	4,123
Interest income (expense), net	(3,930)	(4,480)	(2,946)
Other income (expense), net	(1,788)	(8,492)	(1,194)
Income before income taxes	82,280	66,173	81,224
Income tax expense	33,997	19,853	27,812
Net income	\$48,283	\$46,320	\$53,412
Earnings per share:			
Basic	\$2.68	\$2.52	\$2.94
Diluted	\$2.65	\$2.48	\$2.86
Weighted average shares used in computing earnings per share:			
Basic	17,991	18,371	18,177
Diluted	18,223	18,680	18,698

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

ROGERS CORPORATION

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)

For each of the fiscal years in the three-year period ended December 31, 2016

(Dollars in thousands)

	2016	2015	2014
Net income	\$48,283	\$46,320	\$53,412
Foreign currency translation adjustments	(5,081)	(27,172)	(36,949)
Derivative instruments designated as cash flow hedges:			
Unrealized gain (loss) on derivative instruments held at year end (net of taxes of \$0 in 2016, \$5 in 2015, \$50 in 2014)	—	(2)	(93)
Unrealized gain (loss) reclassified into earnings	11	84	209
Accumulated other comprehensive income (loss) pension and post-retirement benefits:			
Actuarial net gain (loss) incurred in fiscal year	1,106	2,760	(20,715)
Amortization of gain (loss)	160	966	3,904
Other comprehensive income (loss)	(3,804)	(23,364)	(53,644)
Comprehensive income (loss)	\$44,479	\$22,956	\$(232)

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

ROGERS CORPORATION

CONSOLIDATED STATEMENTS OF FINANCIAL POSITION

(Dollars and share amounts in thousands, except par value of capital stock)

	As of December 31,	
	2016	2015
Assets		
Current assets		
Cash and cash equivalents	\$227,767	\$204,586
Accounts receivable, less allowance for doubtful accounts of \$1,952 and \$695	119,604	101,428
Inventories	91,130	91,824
Prepaid income taxes	3,020	5,058
Deferred income taxes	—	9,565
Asbestos-related insurance receivables	7,099	8,245
Land held for sale	871	—
Other current assets	8,910	7,959
Total current assets	458,401	428,665
Property, plant and equipment, net of accumulated depreciation	176,916	178,661
Investments in unconsolidated joint ventures	16,183	15,348
Deferred income taxes	14,634	8,594
Goodwill	208,431	175,453
Other intangible assets	136,676	75,019
Asbestos-related insurance receivables	41,295	45,114
Other long-term assets	3,964	3,501
Total assets	\$1,056,500	\$930,355
Liabilities and Shareholders' Equity		
Current liabilities		
Accounts payable	\$28,379	\$22,251
Accrued employee benefits and compensation	31,104	23,263
Accrued income taxes payable	10,921	3,599
Current portion of lease obligation	350	284
Current portion of long term debt	3,653	2,966
Asbestos-related liabilities	7,099	8,245
Other accrued liabilities	19,679	18,040
Total current liabilities	101,185	78,648
Long term debt	235,877	173,557
Long term lease obligation	4,993	5,549
Pension liability	8,501	12,623
Retiree health care and life insurance benefits	1,992	2,185
Asbestos-related liabilities	44,883	48,390
Non-current income tax	6,238	11,863
Deferred income taxes	13,883	9,455
Other long-term liabilities	3,162	3,503
Commitments and Contingencies (Note 15)		
Shareholders' Equity		
Capital Stock - \$1 par value; 50,000 authorized shares; 18,021 and 17,957 shares outstanding	18,021	17,957
Additional paid-in capital	118,678	112,017
Retained earnings	591,349	543,066
Accumulated other comprehensive loss	(92,262)	(88,458)
Total shareholders' equity	635,786	584,582
Total liabilities and shareholders' equity	\$1,056,500	\$930,355

The accompanying notes are an integral part of the consolidated financial statements.
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ROGERS CORPORATION

CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY

For each of the fiscal years in the three-year period ended December 31, 2016

(Dollars in thousands)

	Capital Stock/Capital Shares	Additional Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Total Shareholders' Equity
Balance at December 31, 2013	\$ 17,855	\$ 110,577	\$ 443,334	\$ (11,450)	\$ 560,316
Net income	—	—	53,412	—	53,412
Other comprehensive income (loss)	—	—	—	(53,644)	(53,644)
Stock options exercised	465	20,048	—	—	20,513
Stock issued to directors	16	(16)	—	—	—
Shares issued for employees stock purchase plan	16	677	—	—	693
Shares issued for restricted stock	52	(1,594)	—	—	(1,542)
Stock-based compensation expense	—	7,533	—	—	7,533
Balance at December 31, 2014	18,404	137,225	496,746	(65,094)	587,281
Net income	—	—	46,320	—	46,320
Other comprehensive income (loss)	—	—	—	(23,364)	(23,364)
Stock options exercised	175	6,792	—	—	6,967
Stock issued to directors	16	(16)	—	—	—
Shares issued for employees stock purchase plan	13	714	—	—	727
Shares issued for restricted stock	77	(2,817)	—	—	(2,740)
Shares repurchased	(728)	(39,265)	—	—	(39,993)
Tax shortfalls on share-based compensation	—	(259)	—	—	(259)
Stock-based compensation expense	—	9,643	—	—	9,643
Balance at December 31, 2015	17,957	112,017	543,066	(88,458)	584,582
Net income	—	—	48,283	—	48,283
Other comprehensive income (loss)	—	—	—	(3,804)	(3,804)
Stock options exercised	95	4,048	—	—	4,143
Stock issued to directors	24	(24)	—	—	—
Shares issued for employees stock purchase plan	23	835	—	—	858
Shares issued for restricted stock	63	(1,440)	—	—	(1,377)
Shares repurchased	(141)	(7,854)	—	—	(7,995)
Tax adjustments on share-based compensation	—	(179)	—	—	(179)
Stock-based compensation expense	—	11,275	—	—	11,275
Balance at December 31, 2016	\$ 18,021	\$ 118,678	\$ 591,349	\$ (92,262)	\$ 635,786

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

ROGERS CORPORATION

CONSOLIDATED STATEMENTS OF CASH FLOWS

For each of the fiscal years in the three-year period ended December 31, 2016

(Dollars in thousands)

	2016	2015	2014
Operating Activities:			
Net income	\$48,283	\$46,320	\$53,412
Adjustments to reconcile net income to cash from operating activities:			
Depreciation and amortization	37,847	34,054	26,268
Stock-based compensation expense	11,275	9,643	7,533
Deferred income taxes	7,382	3,668	8,435
Equity in income of unconsolidated joint ventures	(4,146)	(2,890)	(4,123)
Dividends received from unconsolidated joint ventures	2,757	3,463	3,849
Pension and postretirement benefits	(2,822)	(1,512)	1,976
Loss from the disposal of property, plant and equipment	225	295	(69)
Impairment of assets/investments	—	150	—
Bad debt expense	1,321	1,085	250
Loss on disposition of a business	—	4,819	—
Changes in operating assets and liabilities excluding effects of acquisition and disposition of businesses:			
Accounts receivable	(13,005)	8,971	(10,438)
Inventories	9,689	(10,608)	(6,054)
Pension contribution	(842)	(7,737)	(14,645)
Other current assets	1,933	(1,278)	1,063
Accounts payable and other accrued expenses	21,472	(17,632)	16,638
Other, net	(4,402)	3,111	1,112
Net cash provided by operating activities	116,967	73,922	85,207
Investing Activities:			
Capital expenditures	(18,136)	(24,837)	(28,755)
Proceeds from life insurance	275	2,682	—
Loss from the sale of property, plant and equipment, net	—	—	69
Other investing activities	—	(1,000)	166
Proceeds from the sale of a business	—	1,265	—
Acquisition of business, net of cash received	(133,943)	(158,407)	—
Net cash used in investing activities	(151,804)	(180,297)	(28,520)
Financing Activities:			
Proceeds from long term borrowings	166,000	125,000	—
Repayment of debt principal and long term lease obligation	(103,760)	(6,641)	(17,797)
Debt issuance costs	—	(293)	—
Repurchases of capital stock	(7,995)	(39,993)	—
Proceeds from issuance of capital stock, net	4,143	6,967	20,513
Issuance of restricted stock	(1,377)	(2,740)	(1,542)
Proceeds from issuance of shares to employee stock purchase plan	858	727	693
Net cash provided by financing activities	57,869	83,027	1,867
Effect of exchange rate fluctuations on cash	149	(9,441)	(13,063)
Net increase (decrease) in cash and cash equivalents	23,181	(32,789)	45,491
Cash and cash equivalents at beginning of year	204,586	237,375	191,884

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Cash and cash equivalents at end of year	\$227,767	\$204,586	\$237,375
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The accompanying notes are an integral part of the consolidated financial statements.

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ROGERS CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE 1 ORGANIZATION AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Principles of Consolidation

The consolidated financial statements include the accounts of the Company and our wholly owned subsidiaries, after elimination of inter-company accounts and transactions.

In 2015, we changed our method for accounting for certain inventory items from the last in, first out (LIFO) method to the first in, first out (FIFO) method. Adjustments have been made to all periods and amounts presented to appropriately reflect the retrospective application of this accounting change. See the discussion below entitled “Inventories” for further information.

The preparation of financial statements, in conformity with accounting principles generally accepted in the United States, requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Actual results could differ from those estimates.

Organization

Our reporting structure is comprised of the following operating segments: Advanced Connectivity Solutions (ACS), Elastomeric Material Solutions (EMS) and Power Electronics Solutions (PES). The remaining operations are reported under our Other business.

Advanced Connectivity Solutions

Our ACS segment designs, develops, manufactures and sells circuit materials and solutions enabling high-performance and high-reliability connectivity for applications in wireless communications infrastructure (e.g., power amplifiers, antennas, small cells and distributed antenna systems), automotive (e.g., active safety, advanced driver assistance systems, telematics and thermal management), connected devices, (e.g., mobile internet devices and Internet of Things), wired infrastructure (e.g., computing, servers and storage), consumer electronics and aerospace/defense. We sell our circuit materials under various trade names, including RO3000®, RO4000®, RT/duroid®, AD Series™ and CLTE Series™.

Our ACS segment has manufacturing and administrative facilities in Chandler, Arizona; Rogers, Connecticut; Bear, Delaware; Evergem, Belgium; and Suzhou, China.

Elastomeric Material Solutions

Our EMS segment designs, develops, manufactures and sells elastomeric material solutions for critical cushioning, sealing, impact protection and vibration management applications including general industrial, portable electronics (e.g., mobile internet devices), consumer goods (e.g., protective sports equipment), automotive, mass transportation, construction and printing applications. We sell our elastomeric materials under various trade names, including DeWAL™, ARLO®, PORON®, XRD®, BISCO® and eSORBA®. In November 2016, we acquired DeWAL Industries, a leading manufacturer of polytetrafluoroethylene, ultra-high molecular weight polyethylene films, pressure sensitive tapes and specialty products.

As of December 31, 2016, our EMS segment had administrative and manufacturing facilities in Woodstock, Connecticut; Rogers, Connecticut; Bear, Delaware; Carol Stream, Illinois; Narragansett, Rhode Island; Ansan, Korea, and Suzhou, China. We also own 50% of (1) Rogers Inoac Corporation (RIC), a joint venture established in Japan to design, develop, manufacture and sell PORON products predominantly for the Japanese market and (2) Rogers

INOAC Suzhou Corporation (RIS), a joint venture established in China to design, develop, manufacture and sell PORON products primarily for RIC customers in various Asian countries. INOAC Corporation owns the remaining 50% of both RIC and RIS. RIC has manufacturing facilities at INOAC facilities in Nagoya and Mie, Japan, and RIS has manufacturing facilities at Rogers' facilities in Suzhou, China.

Power Electronics Solutions

Our PES segment designs, develops, manufactures and sells ceramic substrate materials for power module applications (e.g., variable frequency drives, vehicle electrification and renewable energy), laminated bus bars for power inverter and high power interconnect applications (e.g., mass transit, hybrid-electric and electric vehicles, renewable energy and variable frequency drives), and micro-channel coolers (e.g., laser cutting equipment). We sell our ceramic substrate materials and micro channel coolers under the curamik® tradename, and our bus bars under the ROLINX® tradename.

Our PES segment has administrative and manufacturing facilities in Ghent, Belgium; Eschenbach, Germany; Budapest, Hungary; and Suzhou, China.

Other

Other business consists of elastomeric components for applications in ground transportation, office equipment, consumer and other markets; elastomeric floats for level sensing in fuel tanks, motors, and storage tanks; and inverters for portable communications and automotive markets. The Arlon polyimide and thermoset laminate business, which was divested in December 2015, was also included within our Other businesses in 2015.

Cash Equivalents

Highly liquid investments with original maturities of three months or less are considered cash equivalents. These investments are stated at cost, which approximates fair value.

Investments in Unconsolidated Joint Ventures

We account for our investments in and advances to unconsolidated joint ventures, all of which are 50% owned, using the equity method of accounting.

Foreign Currency

All balance sheet accounts of foreign subsidiaries are translated or remeasured at exchange rates in effect at each year end, and income statement items are translated using the average exchange rates for the year. Resulting translation adjustments for those entities that operate under the local currency are made directly to a separate component of shareholders' equity, while remeasurement adjustments for those entities that operate under the parent's functional currency are made to the income statement as a component of "Other income (expense), net." Currency transaction gains and losses are reported as income or expense, respectively, in the consolidated statements of operations as a component of "Other income (expense), net." Such adjustments resulted in a loss of \$2.7 million in 2016 and a gain of \$0.3 million in 2015. There were no material foreign currency transaction gains/losses in 2014.

Allowance for Doubtful Accounts

The allowance for doubtful accounts is determined based on a variety of factors that affect the potential collectability of the related receivables, including the length of time receivables are past due, customer credit ratings, financial stability of customers, specific one-time events and past customer history. In addition, in circumstances where we are made aware of a specific customer's inability to meet its financial obligations, a specific allowance is established. The majority of accounts are individually evaluated on a regular basis and appropriate reserves are established as deemed appropriate based on the criteria previously mentioned. The remainder of the reserve is based on management's estimates and takes into consideration historical trends, market conditions and the composition of our customer base.

Inventories

Inventories are valued at the lower of cost or market. Effective October 1, 2015, the Company changed its method for inventory costing from the last in, first out (LIFO) cost method to the first in, first out (FIFO) cost method for all operations that were using the LIFO cost method. This change in accounting method was deemed preferable because this change causes inventory to be valued on a consistent basis throughout the entire Company and on a more comparable basis with industry peer companies.

This change in accounting method was completed in accordance with Accounting Standards Codification (ASC) 250 Accounting changes and error corrections, and all periods presented have been retrospectively adjusted to reflect the period-specific effects of applying the new accounting principle.

The following table summarizes the effect of this accounting change on the Company's consolidated statements of operations for the year ended December 31, 2014:

(Dollars in thousands, except per share amounts)	As Originally Reported under LIFO	As Adjusted under FIFO	Effect of Change
Cost of sales	\$ 376,972	\$ 376,158	\$ (814)
Net income	\$ 52,883	\$ 53,412	\$ 529
Basic earnings per share	\$ 2.91	\$ 2.94	\$ 0.03
Diluted earnings per share	\$ 2.83	\$ 2.86	\$ 0.03

There was no impact on cash provided by operating activities as a result of the above changes.

Inventories consisted of the following:

	As of December 31,	
(Dollars in thousands)	2016	2015
Raw materials	\$ 29,788	\$ 35,499
Work-in-process	26,440	22,804
Finished goods	34,902	33,521
Total inventories	\$ 91,130	\$ 91,824

Property, Plant and Equipment

Property, plant and equipment are stated on the basis of cost. For financial reporting purposes, provisions for depreciation are calculated on a straight line basis over the following estimated useful lives of the underlying assets:

	Years
Buildings and improvements	30-40
Machinery and equipment	5-15
Office equipment	3-10

Software Costs

We capitalize certain computer software and software development costs incurred in connection with developing or obtaining computer software for internal use when both the preliminary project stage is completed and it is probable that the software will be used as intended. Capitalized software costs include only (i) external direct costs of materials and services utilized in developing or obtaining computer software, and (ii) compensation and related benefits for employees who are directly associated with the software project. Capitalized software costs are amortized on a straight-line basis when placed into service over the estimated useful lives of the software, which approximates three to five years. Net capitalized software and development costs were \$7.7 million and \$6.7 million for the years ended December 31, 2016 and 2015, respectively. Capitalized software is included within "Property, plant and equipment, net of accumulated depreciation" in the consolidated statements of financial position.

Intangible Assets and Goodwill

Intangible assets are classified into three categories: (1) intangible assets with definite lives subject to amortization; (2) intangible assets with indefinite lives not subject to amortization; and (3) goodwill. We review goodwill, which

has an indefinite life, and intangible assets with indefinite lives for impairment annually and/or if events or changes in circumstances indicate the carrying value of an asset may have been impaired. We review intangible assets with definite lives for impairment whenever conditions exist that indicate the carrying value may not be recoverable.

Goodwill is assessed for impairment by comparing the net book value of a reporting unit to its estimated fair value. Fair values are estimated using a discounted cash flow methodology. The determination of discounted cash flows is based on the reporting unit's strategic plans and long-term operating forecasts. The revenue growth rates included in the plans are management's best estimates based on current and forecasted market conditions, and the profit margin assumptions are projected by each segment based on the current cost structure and expected strategic changes to the cost structure.

Purchased or acquired patents, covenants-not-to-compete, customer relationships and licensed technology are capitalized and amortized on a straight-line over their estimated useful lives.

Environmental and Product Liabilities

We accrue for our environmental investigation, remediation, operating and maintenance costs when it is probable that a liability has been incurred and the amount can be reasonably estimated. For environmental matters, the most likely cost to be incurred is accrued based on an evaluation of currently available facts with respect to each individual site, including existing technology, current laws and regulations and prior remediation experience. For sites with multiple potential responsible parties (PRPs), we consider our likely proportionate share of the anticipated remediation costs and the ability of the other parties to fulfill their obligations in establishing a provision for those costs. When no amount within a range of estimates is more likely to occur than another, we accrue to the low end of the range and disclose the range. When future liabilities are determined to be reimbursable by insurance coverage, an accrual is recorded for the potential liability and a receivable is recorded for the estimated insurance reimbursement amount. We are exposed to the uncertain nature inherent in such remediation and the possibility that initial estimates will not reflect the final outcome of a matter.

We periodically perform a formal analysis to determine potential future liability and related insurance coverage for asbestos-related matters. Projecting future asbestos costs is subject to numerous variables that are extremely difficult to predict, including the number of claims that might be received, the type and severity of the disease alleged by each claimant, the long latency period associated with asbestos exposure, dismissal rates, costs of medical treatment, the financial resources of other companies that are co-defendants in claims, uncertainties surrounding the litigation process from jurisdiction to jurisdiction and from case to case, and the impact of potential changes in legislative or judicial standards, including potential tort reform. Furthermore, any predictions with respect to these variables are subject to even greater uncertainty as the projection period lengthens.

We believe the assumptions used in our models for determining our potential exposure and related insurance coverage are reasonable at the present time, but such assumptions are inherently uncertain. We determined that a ten-year projection period is appropriate as we have experience in addressing asbestos related lawsuits over the last few years to use as a baseline to project the liability over ten years. However, we do not believe we have sufficient data to justify a longer projection period at this time.

Fair Value of Financial Instruments

Management believes that the carrying values of financial instruments, including cash and cash equivalents, short-term investments, accounts receivable, accounts payable and accrued liabilities approximate fair value based on the maturities of these instruments. The fair values of our long-term debt are determined using discounted cash flows based upon our estimated current interest cost for similar type borrowings or current market value, which falls under Level 2 of the fair value hierarchy. The carrying values of the long-term debt approximate fair market value.

Concentration of Credit and Investment Risk

We extend credit on an uncollateralized basis to almost all customers. Concentration of credit and geographic risk with respect to accounts receivable is limited due to the large number and general dispersion of accounts that constitute our customer base. We routinely perform credit evaluations on our customers. At December 31, 2016 and 2015, there were no customers that individually accounted for more than ten percent of total accounts receivable. We have purchased credit insurance coverage for certain accounts receivable. We did not experience significant credit losses on customers' accounts in 2016, 2015 or 2014.

We are subject to credit and market risk by using derivative instruments. If a counterparty fails to fulfill its performance obligations under a derivative contract, our credit risk will equal the fair value of the derivative instrument. We seek to minimize counterparty credit (or repayment) risk by entering into derivative transactions with major financial institutions with investment grade credit ratings.

We invest excess cash principally in investment grade government securities and time deposits. We have established guidelines relative to diversification and maturities in order to maintain safety and liquidity. These guidelines are periodically reviewed and modified to reflect changes in market conditions.

Income Taxes

We are subject to income taxes in the U.S. and in numerous foreign jurisdictions. The Company accounts for income taxes following ASC 740 (Accounting for Income Taxes) recognizing deferred tax assets and liabilities using enacted tax rates for the effect of temporary differences between book and tax basis of recorded assets and liabilities. Deferred tax assets are reduced by a valuation allowance if it is more likely than not that some or all of a deferred tax asset will not be realized.

U.S. income taxes have not been provided on \$210.9 million of undistributed earnings of foreign subsidiaries since it is the Company's intention to permanently reinvest such earnings or to repatriate them only when it is tax efficient to do so. It is impracticable to estimate the total tax liability, if any, that would be created by the future distribution of these earnings. If circumstances change and it becomes apparent that some, or all of the undistributed earnings as of December 31, 2016 will not be indefinitely reinvested, the provision for the tax consequences, if any, will be recorded in the period when circumstances change. Distributions out of current and future earnings are permissible to fund discretionary activities such as business acquisitions. However, when distributions are made, this could result in a higher effective tax rate.

We record benefits for uncertain tax positions based on an assessment of whether it is more likely than not that the tax positions will be sustained by the taxing authorities. If this threshold is not met, no tax benefit of the uncertain position is recognized. If the threshold is met, we recognize the largest amount of the tax benefit that is greater than fifty percent likely to be realized upon ultimate settlement.

We recognize interest and penalties within the income tax expense line in the accompanying consolidated statements of operations. Accrued interest and penalties are included within the related tax liability line in the consolidated statements of financial position.

Revenue Recognition

We recognize revenue when all of the following criteria are met: (1) we have entered into a binding agreement, (2) the product has shipped and title and risk of ownership have passed, (3) the sales price to the customer is fixed or determinable, and (4) collectability is reasonably assured. We consider that the criteria for revenue recognition have been met upon shipment of the finished product, based on the majority of our shipping terms. Some shipping terms require the goods to be through customs or be received by the customer before title passes. In those instances, revenue is not recognized until either the customer has received the goods or they have passed through customs, depending on the circumstances. As appropriate, we record estimated reductions to revenue for customer returns and allowances and warranty claims. Provisions for such allowances are made at the time of sale and are typically derived from historical trends and other relevant information. See further discussion in Note 19, "Recent Accounting Standards" to "Item 8 Financial Statements and Supplementary Data."

Shipping and Handling Charges

Costs that we incur for shipping and handling charges are charged to "Cost of sales" and payments received from our customers for shipping and handling charges are included in "Net sales" on our consolidated statements of operations.

Pension and Retiree Health Care and Life Insurance Benefits

We provide various defined benefit pension plans for our U.S. employees and we sponsor multiple fully insured or self-funded medical plans and fully insured life insurance plans for retirees. In 2013, the defined benefit pension plans were frozen, so that future benefits no longer accrue. The costs and obligations associated with these plans are dependent upon various actuarial assumptions used in calculating such amounts. These assumptions include discount rates, long-term rate of return on plan assets, mortality rates, and other factors. The assumptions used in these models are determined as follows: (i) the discount rate used is based on the PruCurve index; (ii) the long-term rate of return on plan assets is determined based on historical portfolio results, market results and our expectations of future returns,

as well as current market assumptions related to long-term return rates; and (iii) the mortality rate is based on a mortality projection that estimates current longevity rates and their impact on the long-term plan obligations. We review these assumptions periodically throughout the year and update as necessary.

Earnings Per Share

The following table sets forth the computation of basic and diluted earnings per share:

	Years Ended December 31,		
(In thousands, except per share amounts)	2016	2015	2014
Numerator:			
Net income	\$48,283	\$46,320	\$53,412
Denominator:			
Weighted-average shares outstanding - basic	17,991	18,371	18,177
Effect of dilutive shares	232	309	521
Weighted-average shares outstanding - diluted	18,223	18,680	18,698
Basic earnings per share:	\$2.68	\$2.52	\$2.94
Diluted earnings per share:	\$2.65	\$2.48	\$2.86

Certain potential options to purchase shares were excluded from the calculation of diluted weighted-average shares outstanding because the exercise price was greater than the average market price of our capital stock during the year. For 2015, 44,350 shares were excluded. No shares were excluded in 2016 and 2014.

Hedging Activity

From time to time, we use derivative instruments to manage commodity, interest rate and foreign currency exposures. Derivative instruments are viewed as risk management tools and are not used for trading or speculative purposes. To qualify for hedge accounting treatment, derivatives used for hedging purposes must be designated and deemed effective as a hedge of the identified underlying risk exposure at the inception of the contract. Accordingly, changes in fair value of the derivative contract must be highly correlated with changes in the fair value of the underlying hedged item at inception of the hedge and over the life of the hedge contract.

Derivatives used to hedge forecasted cash flows associated with foreign currency commitments or forecasted commodity purchases are accounted for as cash flow hedges. For those derivative instruments that qualify for hedge accounting treatment, gains and losses are recorded in other comprehensive income and reclassified to earnings in a manner that matches the timing of the earnings impact of the hedged transactions. The ineffective portion of all hedges, if any, is recognized currently in earnings. For those derivative instruments that do not qualify for hedge accounting treatment, any related gains and losses are recognized in the consolidated statements of operations as a component of "Other income (expense), net."

Advertising Costs

Advertising is expensed as incurred and amounted to \$3.0 million for 2016, \$3.2 million for 2015 and \$3.3 million for 2014.

Equity Compensation

Stock-based compensation is comprised of restricted stock units and stock options. Performance-based restricted stock unit compensation expense is based on achievement of certain performance and service conditions. The fair value of the awards is determined based on the market value of the underlying stock price at the grant date and marked to market over the vesting period based on probabilities and projections of the underlying performance measures.

Time-based restricted stock units compensation is expensed over the vesting period, which is typically three years. The fair value of the awards is determined based on the market value of the underlying stock price at the grant date.

Stock option fair value is measured at the grant date, based on the grant-date fair value of the awards ultimately expected to vest and, in most cases, is recognized as an expense on a straight-line basis over the vesting period, which is typically four years. A provision in our stock option agreements requires us to accelerate the expense for retirement eligible employees, as any unvested options would immediately vest upon retirement for such employees. We develop estimates used in calculating the grant-date fair value of stock options to determine the amount of stock-based compensation to be recorded. We calculate the grant-date fair value using the Black-Scholes valuation model. The use of this valuation model requires estimates of assumptions such as expected volatility, expected term, risk-free interest rate, expected dividend yield and forfeiture rates.

NOTE 2 – FAIR VALUE MEASUREMENTS

The accounting guidance for fair value measurements establishes a three-tier fair value hierarchy, which prioritizes the inputs used in measuring fair value.

Level 1 – Quoted prices in active markets for identical assets or liabilities.

Level 2 – Inputs other than Level 1 that are observable, either directly or indirectly, such as quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.

Level 3 – Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

From time to time we enter into various instruments that require fair value measurement, including foreign currency contracts, interest rate swaps and copper derivative contracts. Assets measured at fair value on a recurring basis, categorized by the level of inputs used in the valuation, include:

(Dollars in thousands)	As of December 31, 2016	Level 1	Level 2	Level 3
Foreign currency contracts	\$ (170)	\$ —	—\$(170)	\$ —
Copper derivative contracts	\$ 1,277	\$ —	—\$1,277	\$ —
Interest rate swap	\$ —	\$ —	—\$—	\$ —

(Dollars in thousands)	As of December 31, 2015	Level 1	Level 2	Level 3
Foreign currency contracts	\$ (78)	\$ —	—\$(78)	\$ —
Copper derivative contracts	\$ 193	\$ —	—\$193	\$ —
Interest rate swap	\$ (18)	\$ —	—\$(18)	\$ —

For further discussion on our derivative contracts, see Note 3, “Hedging Transactions and Derivative Financial Instruments.”

NOTE 3 – HEDGING TRANSACTIONS AND DERIVATIVE FINANCIAL INSTRUMENTS

We are exposed to certain risks related to our ongoing business operations. The primary risks being managed through the use of derivative instruments are foreign currency exchange rate risk and commodity pricing risk (primarily related to copper). We previously hedged our interest rate risk through use of an interest rate swap, which expired as of June 30, 2016. We do not use derivative financial instruments for trading or speculative purposes. The valuation of derivative contracts used to manage each of these risks is described below:

Foreign Currency - The fair value of any foreign currency option derivative is based upon valuation models applied to current market information such as strike price, spot rate, maturity date and volatility, and by reference to market values resulting from an over-the-counter market or obtaining market data for similar instruments with similar characteristics.

Commodity - The fair value of copper derivatives is computed using a combination of intrinsic and time value valuation models. The intrinsic valuation model reflects the difference between the strike price of the underlying copper derivative instrument and the current prevailing copper prices in an over-the-counter market at period end. The time value valuation model incorporates the constant changes in the price of the underlying copper derivative instrument, the time value of money, the underlying copper derivative instrument’s strike price and the remaining time to the underlying copper derivative instrument’s expiration date from the period end date. Overall, fair value is a function of five primary variables: price of the underlying instrument, time to expiration, strike price, interest rate, and volatility.

Interest Rates - The fair value of any interest rate swap instruments is derived by comparing the present value of the interest rate forward curve against the present value of the swap rate, relative to the notional amount of the swap. The net value represents the estimated amount we would receive or pay to terminate such agreements. Settlement amounts for an “in the money” swap would be adjusted down to compensate the counterparty for cost of funds, and the adjustment would be directly related to the counterparty’s credit ratings.

The guidance for the accounting and disclosure of derivatives and hedging transactions requires companies to recognize all of their derivative instruments as either assets or liabilities at fair value in the consolidated statements of financial position. The accounting for changes in the fair value (i.e., gains or losses) of a derivative instrument depends on whether it has been designated and qualifies for hedge accounting treatment as defined under the applicable accounting guidance. For derivative instruments that are designated and qualify for hedge accounting treatment (i.e., hedging the exposure to variability in expected future cash flows that is attributable to a particular risk), the effective portion of the gain or loss on the derivative instrument is reported as a component of other comprehensive income (loss). This gain or loss is reclassified into earnings in the same line item of the consolidated statements of operations associated with the forecasted transaction and in the same period or periods during which the hedged transaction affects earnings. The remaining gain or loss on the derivative instrument in excess of the cumulative change in the present value of the future cash flows of the hedged item (i.e., the ineffective portion) if any, is recognized in the consolidated statements of operations during the current period. As of December 31, 2016, we did not have any contracts that are designated and qualify for hedge accounting treatment. As of December 31, 2015 and 2014, we had contracts outstanding that qualify for hedge accounting treatment and there was no hedge ineffectiveness.

Foreign Currency

In 2016, we entered into Hungarian Forint, Japanese Yen, and Korean Won foreign currency forward contracts to mitigate certain global transactional exposures. These contracts do not qualify for hedge accounting treatment. As a result, the fair value adjustments for these contracts are recorded in other income (expense), net in our consolidated statements of operations.

As of December 31, 2016 the notional values of these foreign currency forward contracts were:

Notional Values of Foreign

Currency Derivatives

USD/KRW 10,537,789,000

EUR/JPY ¥ 309,000,000

EUR/HUF Ft 169,000,000

Commodity

As of December 31, 2016, we had twenty-eight outstanding contracts to hedge our exposure related to the purchase of copper by our Power Electronics Solutions and Advanced Connectivity Solutions operating segments. These contracts are held with financial institutions and minimize our risk associated with a potential rise in copper prices. These contracts are intended to provide coverage over the forecasted 2017 monthly copper exposure and do not qualify for hedge accounting treatment. As a result, any fair value adjustments required on these contracts are recorded in "Other income (expense), net" in our consolidated statements of operations.

As of December 31, 2016, the notional values of our copper contracts outstanding were:

Notional Value of Copper Derivatives

January 2017 - March 2017 122 metric tons per month

April 2017 - June 2017 122 metric tons per month

July 2017 - September 2017 122 metric tons per month

October 2017 - December 2017 122 metric tons per month

Interest Rates

In July 2012, we entered into an interest rate swap to hedge the variable interest rate on our term loan debt. This swap expired as of June 30, 2016.

Effects on Statements of Operations and Statements of Comprehensive Income (Loss):

		The Effect of Current Derivative Instruments on the Financial Statements for the year ended December 31, 2016		Fair Values of Derivative Instruments as of December 31, 2016	
(Dollars in thousands)					
Foreign Exchange Contracts	Location	Gain/(Loss)		Other Assets (Liabilities)	

Contracts not designated as hedging instruments	Other income (expense), net	\$ (170	)	\$ (170)
Copper Derivative Instruments					
Contracts not designated as hedging instruments	Other income (expense), net	\$ 625		\$ 1,277	

		The Effect of Current Derivative Instruments on the Financial Statements for the year ended December 31, 2015		Fair Values of Derivative Instruments as of December 31, 2015	
(Dollars in thousands)					
Foreign Exchange Contracts	Location	Gain/(Loss)		Other Assets (Liabilities)	

Contracts not designated as hedging instruments	Other income (expense), net	\$ (78	)	\$ (78)
Copper Derivative Instruments					
Contracts not designated as hedging instruments	Other income (expense), net	\$ (666	)	\$ 193	
Interest Rate Swap Instrument					
Contracts designated as hedging instruments	Other income (expense), net	\$ 126		\$ (18)

NOTE 4 - ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS)

The changes in accumulated other comprehensive income (loss) by component for the year ended December 31, 2016 were as follows:

(Dollars in thousands)	Foreign currency translation adjustments	Funded status of pension plans and other postretirement benefits (1)	Unrealized gain (loss) on derivative instruments (2)	Total
Beginning Balance December 31, 2015	\$ (41,365)	\$ (47,082)	\$ (11)	\$(88,458)
Other comprehensive income before reclassifications	(5,081)	—	—	(5,081)
Actuarial net gain (loss) incurred in the fiscal year	—	1,106	—	1,106
Amounts reclassified from accumulated other comprehensive income	—	160	11	171
Net current-period other comprehensive income	(5,081)	1,266	11	(3,804)
Ending Balance December 31, 2016	\$ (46,446)	\$ (45,816)	\$ —	\$(92,262)

(1) Net of taxes of \$9,160 and \$9,879 for the years ended December 31, 2016 and December 31, 2015, respectively.

(2) Net of taxes of \$0 and \$5 for the years ended December 31, 2016 and December 31, 2015, respectively.

The changes in accumulated other comprehensive income (loss) by component for the year ended December 31, 2015 were as follows:

(Dollars in thousands)	Foreign currency translation adjustments	Funded status of pension plans and other postretirement benefits (3)	Unrealized gain (loss) on derivative instruments (4)	Total
Beginning Balance December 31, 2014	\$ (14,193)	\$ (50,808)	\$ (93)	\$(65,094)
Other comprehensive income before reclassifications	(27,172)	—	(2)	(27,174)
Actuarial net gain (loss) incurred in the fiscal year	—	2,760	—	2,760
Amounts reclassified from accumulated other comprehensive income	—	966	84	1,050
Net current-period other comprehensive income	(27,172)	3,726	82	(23,364)
Ending Balance December 31, 2015	\$ (41,365)	\$ (47,082)	\$ (11)	\$(88,458)

(3) Net of taxes of \$9,879 and \$11,952 for the periods ended December 31, 2015 and December 31, 2014, respectively.

(4) Net of taxes of \$5 and \$50 for the periods ended December 31, 2015 and December 31, 2014, respectively.

The reclassifications out of accumulated other comprehensive income (loss) for the year ended December 31, 2016 were as follows:

Details about accumulated other comprehensive income components	Amounts reclassified from accumulated other comprehensive income (loss) for the period ended December 31, 2016	Affected line item in the statement where net income is presented
Unrealized gains and losses on derivative instruments:		
	\$ 16	Other income (expense), net
	(5	) Income tax expense
	\$ 11	Net of tax
Amortization of defined benefit pension and other post-retirement benefit items:		
Actuarial losses (gains)	\$ 246	Total before tax (5)
	(86	) Income tax expense
	\$ 160	Net of tax

(5) These accumulated other comprehensive income components are included in the computation of net periodic pension cost. See Note 10 - "Pension Benefits and Retirement Health and Life Insurance Benefits" for additional details.

The reclassifications out of accumulated other comprehensive income (loss) for the year ended December 31, 2015 were as follows:

Details about accumulated other comprehensive income components	Amounts reclassified from accumulated other comprehensive income (loss) for the period ended December 31, 2015	Affected line item in the statement where net income is presented
Unrealized gains and losses on derivative instruments:		
	\$ 129	Realized gain (loss)
	(45	) Income tax expense
	\$ 84	Net of tax
Amortization of defined benefit pension and other post-retirement benefit items:		
Actuarial losses (gains)	\$ 1,486	Total before tax (6)
	(520	) Income tax expense
	\$ 966	Net of tax

(6) These accumulated other comprehensive income components are included in the computation of net periodic pension cost. See Note 10 - "Pension Benefits and Other Postretirement Benefit Plans" for additional details.

NOTE 5 - ACQUISITIONS

DeWAL

On November 23, 2016, we acquired all of the membership interests in DeWAL Industries (“DeWAL”), pursuant to the terms of the Membership Interest Purchase Agreement, dated November 23, 2016, by and among the Company and the members of DeWAL Industries LLC (the “DeWAL Purchase Agreement”) for an aggregate purchase price of \$135.5 million.

We used borrowings of \$136.0 million under our credit facility to fund the acquisition.

DeWAL is a leading manufacturer of polytetrafluoroethylene and ultra-high molecular weight polyethylene films, pressure sensitive tapes and specialty products for the industrial, aerospace, automotive, and electronics markets.

The acquisition has been accounted for in accordance with applicable purchase accounting guidance. We recorded goodwill, primarily related to the expected synergies from combining operations and the value of the existing workforce. We also recorded intangible assets primarily related to trademarks, developed technology and customer relationships. As of the filing date of this Form 10-K, the final purchase accounting and purchase price allocation for the DeWAL acquisition are substantially complete; however, we continue to refine our preliminary valuation of certain acquired assets such as intangible assets. The following table represents the preliminary fair values assigned to the acquired assets and liabilities in the transaction:

(Dollars in thousands)	November 23, 2016
Assets:	
Cash and cash equivalents	\$ 1,539
Accounts receivable	7,513
Other current assets	691
Inventory	9,915
Property, plant & equipment	9,929
Intangible assets	73,500
Goodwill	35,638
Other long-term assets	221
Total assets	138,946
Liabilities:	
Accounts payable	2,402
Other current liabilities	1,062
Total liabilities	3,464

Fair value of net assets acquired \$ 135,482

The intangible assets consist of customer relationships valued at \$46.7 million, developed technology valued at \$22.0 million, trademarks valued at \$4.3 million, and a covenant not to compete valued at \$0.5 million. The fair value of acquired identified intangible assets was determined by applying the income approach, using several significant unobservable inputs for projected cash flows and a discount rate. These inputs are considered Level 3 under the fair value measurements and disclosure guidance.

The weighted average amortization period for the intangible asset classes are 9.6 years for customer relationships, 6.3 years for developed technology, 3.4 years for trademarks and 2.5 years for a covenant not to compete, resulting in amortization expenses ranging from \$5.2 million to \$5.3 million, annually. The future estimated annual amortization expense is \$5.3 million for each of the years ending 2017, 2018, 2019 and 2020, and \$5.2 million in 2021.

During 2016, we incurred transaction costs of \$2.1 million related to this acquisition, which were recorded within selling, general and administrative expenses on the consolidated statements of operations.

The results of DeWAL have been included in our consolidated financial statements only for the period subsequent to the completion of our acquisition. During this period, net sales attributable to DeWAL totaled \$5.4 million and operating income attributable to DeWAL totaled \$2.0 million.

Arlon

On January 22, 2015, we completed the acquisition of Arlon and its subsidiaries, other than Arlon India (Pvt) Limited (collectively, “Arlon”), pursuant to the terms of the Stock Purchase Agreement, dated December 18, 2014, by and among the Company, Handy & Harman Group, Ltd. (“H&H Group”) and its subsidiary Bairnco Corporation (“Bairnco”), as amended, (the “Arlon Purchase Agreement”).

Pursuant to the terms of the Arlon Purchase Agreement, we acquired Arlon and assumed certain liabilities related to the acquisition for an aggregate purchase price of approximately \$157.0 million. We used borrowings of \$125.0

million under our bank credit facility in addition to cash on hand to fund the acquisition.

Arlon manufactures high performance materials for the printed circuit board industry and silicone rubber-based materials.

The acquisition has been accounted for in accordance with applicable purchase accounting guidance. We recorded goodwill, primarily related to the expected synergies from combining operations and the value of the existing workforce. We also recorded intangible assets related to trademarks, technology and customer relationships. As of the filing date of this Form 10-K, the process of valuing the net assets of the business is complete. The following table represents the fair market values assigned to the acquired assets and liabilities in the transaction:

(Dollars in thousands)	January 22, 2015
Assets:	
Cash	\$ 142
Accounts receivable	17,301
Other current assets	856
Inventory	9,916
Deferred income tax assets, current	1,084
Property, plant & equipment	30,667
Intangible assets	50,020
Goodwill	85,565
Other long-term assets	106
Total assets	195,657
Liabilities:	
Accounts payable	4,958
Other current liabilities	4,385
Deferred tax liability	23,225
Other long-term liabilities	4,540
Total liabilities	37,108
Fair value of net assets acquired	\$ 158,549

The intangible assets consist of developed technology valued at \$15.8 million, customer relationships valued at \$32.7 million and trademarks valued at \$1.6 million. The fair value of acquired identified intangible assets was determined by applying the income approach, using several significant unobservable inputs for projected cash flows and a discount rate. These inputs are considered Level 3 under the fair value measurements and disclosure guidance.

The weighted average amortization period for the intangible asset classes are 5.7 years for developed technology, 6.0 years for customer relationships and 3.2 years for trademarks, resulting in amortization expenses ranging from \$1.8 million to \$5.8 million annually. The estimated annual future amortization expense is \$5.8 million for each of the years ending 2017, 2018 and 2019.

During 2015, we incurred transaction costs of \$1.5 million related to the Arlon acquisition, which were recorded within selling, general and administrative expenses on the consolidated statements of operations.

The results of Arlon have been included in our consolidated financial statements only for the period subsequent to the completion of our acquisition. During the year ended December 31, 2015, net sales attributable to Arlon totaled \$100.0 million and operating income attributable to Arlon totaled \$25.1 million.

On December 21, 2015 we sold an Arlon business, which makes polyimide and thermoset epoxy laminate products. This operation was acquired as part of our acquisition of Arlon. The operations were previously reported with our Other business. We received proceeds of \$1.3 million and recognized a loss of \$4.8 million, which was recorded in "Other income (expense), net" within the consolidated statements of operations.

Pro Forma Financial Information

The following unaudited pro forma financial information presents the combined results of operations of Rogers, DeWAL and Arlon, as if the DeWAL acquisition had occurred on January 1, 2015 and the Arlon acquisition occurred on January 1, 2014. The unaudited pro forma financial information is not intended to represent or be indicative of our consolidated results of operations that would have been reported had the DeWAL and Arlon acquisitions been completed as of January 1, 2015 and January 1, 2014, respectively, and should not be taken as indicative of our future consolidated results of operations.

	Year Ended December 31, 2016	Year Ended December 31, 2015	Year Ended December 31, 2014
(Dollars in thousands)			
Net sales	\$ 703,603	\$ 693,462	\$ 714,303
Net income	47,556	40,559	63,751

NOTE 6 - PROPERTY, PLANT AND EQUIPMENT

	As of December 31,	
(Dollars in thousands)	2016	2015
Land	\$ 15,855	\$ 16,726
Buildings and improvements	138,493	141,082
Machinery and equipment	220,238	191,459
Office equipment	54,013	42,696
	428,599	391,963
Accumulated depreciation	(259,178)	(237,150)
Property, plant and equipment, net	169,421	154,813
Equipment in process	7,495	23,848
Total property, plant and equipment, net	\$ 176,916	\$ 178,661

In the fourth quarter of 2016, we signed an agreement to sell vacant land located in Evergem, Belgium for \$1.6 million. The land has a book value of \$0.9 million. We expect the transaction to close in the first quarter of 2017. The land is classified as held for sale in the consolidated statements of financial position as of December 31, 2016. Depreciation expense was \$26.6 million in 2016, \$23.2 million in 2015, and \$20.1 million in 2014.

NOTE 7 – GOODWILL AND INTANGIBLE ASSETS

Goodwill

On November 23, 2016, we acquired DeWAL. For further detail on the goodwill and intangible assets recorded on the acquisition date, see Note 5 - Acquisitions. The changes in the carrying amount of goodwill for the period ending December 31, 2016, by reportable segment, were as follows:

(Dollars in thousands)	Advanced	Elastomeric	Power	Other	Total
	Connectivity Solutions	Material Solutions	Electronics Solutions		
December 31, 2015	\$ 51,931	\$ 56,269	\$ 65,029	\$ 2,224	\$ 175,453
Arlon adjustment	(238)	—	—	—	(238)
DeWAL acquisition	—	35,638	—	—	35,638
Foreign currency translation adjustment	—	(376)	(2,046)	—	(2,422)
December 31, 2016	\$ 51,693	\$ 91,531	\$ 62,983	\$ 2,224	\$ 208,431

Annual Impairment Testing

We perform our annual goodwill impairment testing in the fourth quarter of the year. In 2016, we estimated the fair value of our reporting units using an income approach based on the present value of future cash flows. We believe this approach yields the most appropriate evidence of fair value as our reporting units are not easily compared to other corporations involved in similar businesses. We further believe that the assumptions and rates used in our annual impairment test are reasonable, but inherently uncertain.

We currently have four reporting units with goodwill - ACS, EMS, curamik® and the Elastomer Components Division (ECD). No impairment charges resulted from this analysis. The excess of fair value over carrying value for ACS, EMS, curamik® and ECD was 281.6%, 76.0%, 75.8% and 225.7%, respectively. These valuations are based on a five year discounted cash flow analysis, which utilized discount rates ranging from 12.0% for ACS to 12.9% for curamik® and a terminal year growth rate of 3% for all four reporting units. The ACS, EMS, curamik® and ECD reporting units had allocated goodwill of approximately \$51.7 million, \$91.5 million, \$63.0 million and \$2.2 million, respectively, at December 31, 2016.

Intangible Assets

The changes in the carrying amount of other intangible assets for the two-year period ending December 31, 2016, were as follows:

(Dollars in thousands)	December 31, 2016			December 31, 2015		
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Trademarks and patents	\$6,825	\$ 1,156	\$5,669	\$2,543	\$ 718	\$ 1,825
Developed technology	68,880	24,365	44,515	47,724	19,681	28,043
Covenant-not-to-compete	1,419	932	487	943	943	—
Customer relationships	96,148	14,311	81,837	49,948	9,100	40,848
Total definite lived intangible assets	173,272	40,764	132,508	101,158	30,442	70,716
Indefinite lived intangible assets	4,168	—	4,168	4,303	—	4,303
Total intangible assets	\$ 177,440	\$ 40,764	\$ 136,676	\$ 105,461	\$ 30,442	\$ 75,019

In the table above, gross carrying amounts and accumulated amortization may differ from prior periods due to foreign exchange rate fluctuations.

The indefinite-lived trademark intangible assets were acquired in our acquisition of curamik® and are assessed for impairment annually or when changes in circumstances indicate that their carrying values may be recoverable. The definite-lived intangibles are amortized using a fair value methodology that is based on the projected economic use of the related underlying asset.

On November 23, 2016, we acquired DeWAL, and on January 22, 2015, we acquired Arlon. For further detail on the goodwill and intangible assets recorded on the acquisition, see Note 5 - Acquisitions.

In November 2015, we entered into a technology license agreement with Saber, Inc., which resulted in a \$1.0 million intangible asset that is being amortized on a straight-line basis over 5 years.

Amortization expense was approximately \$11.2 million, \$10.9 million, and \$6.1 million in 2016, 2015 and 2014, respectively. The estimated annual future amortization expense is \$15.3 million, \$14.7 million, \$14.3 million, \$10.8 million and \$9.9 million in 2017, 2018, 2019, 2020 and 2021, respectively. These amounts could vary based on changes in foreign currency exchange rates.

The weighted average amortization period as of December 31, 2016, by intangible asset class, is presented in the table below:

Intangible Asset Class	Weighted Average Amortization Period
Trademarks and patents	3.4
Developed technology	5.0
Customer relationships	7.7
Covenant not to compete	2.5
Total other intangible assets	6.6

NOTE 8 – SUMMARIZED FINANCIAL INFORMATION OF UNCONSOLIDATED JOINT VENTURES

As of December 31, 2016, we had two joint ventures, each 50% owned, which are accounted for under the equity method of accounting.

Joint Venture	Location	Reportable Segment	Fiscal Year-End
Rogers INOAC Corporation (RIC)	Japan	Elastomeric Material Solutions	October 31
Rogers INOAC Suzhou Corporation (RIS)	China	Elastomeric Material Solutions	December 31

Equity income related to the joint ventures of \$4.1 million, \$2.9 million and \$4.1 million for the years ended December 31, 2016, 2015 and 2014, respectively, is included in the consolidated statements of operations. The summarized financial information for the joint ventures for the periods indicated was as follows:

	As of December 31,	
(Dollars in thousands)	2016	2015
Current assets	\$33,951	\$28,239
Noncurrent assets	\$5,545	\$7,207
Current liabilities	\$7,485	\$4,608
Shareholders' equity	\$32,011	\$30,838

	For the Years Ended December 31,		
(Dollars in thousands)	2016	2015	2014
Net sales	\$47,321	\$43,438	\$48,259
Gross profit	\$16,829	\$11,993	\$14,277
Net income	\$8,292	\$5,753	\$8,246

Receivables from and payables to joint ventures arise during the normal course of business from transactions between us and the joint ventures. We had receivables of \$2.4 million, and \$1.8 million as of December 31, 2016 and 2015, respectively, which were included in accounts receivable on our consolidated statements of financial position.

NOTE 9 – SHARE REPURCHASE

On August 6, 2015, we initiated a share repurchase program of up to \$100.0 million of the Company's capital stock. We initiated this program to mitigate potentially dilutive effects of stock options and shares of restricted stock granted by the Company, in addition to enhancing shareholder value. The share repurchase program has no expiration date, and may be suspended or discontinued at any time without notice. As of December 31, 2016, \$52.0 million remained of our \$100.0 million share repurchase program.

We repurchased the following shares of common stock through our share repurchase program during the years presented below:

(Dollars in thousands)	December 31, December 31,	
	2016	2015
Shares of capital stock repurchased	140,498	727,573
Value of capital stock repurchased	\$ 7,995	\$ 39,993

No shares of capital stock were repurchased during 2014. All repurchases were made using cash from operations and cash on hand. Refer to Part II, Item 5 for further detail of the share repurchase program.

NOTE 10 – PENSION BENEFITS AND RETIREMENT HEALTH AND LIFE INSURANCE BENEFITS

We have three qualified noncontributory defined benefit pension plans for unionized hourly employees, all other U.S. employees hired before December 31, 2007 and employees of the acquired Arlon business. We also have established a nonqualified unfunded noncontributory defined benefit pension plan to restore certain retirement benefits that might otherwise be lost due to limitations imposed by federal law on qualified pension plans, as well as to provide supplemental retirement benefits, for certain senior executives of the Company.

In addition, we sponsor multiple fully insured or self-funded medical plans and life insurance plan for certain retirees. The measurement date for all plans is December 31 for each respective plan year.

We are required, as an employer, to: (a) recognize in our consolidated statements of financial position an asset for a plan's overfunded status or a liability for a plan's underfunded status; (b) measure a plan's assets and our obligations that determine our funded status as of the end of the fiscal year; and (c) recognize changes in the funded status of a defined benefit postretirement plan in the year in which the changes occur and report these changes in accumulated other comprehensive income. In addition, actuarial gains and losses that are not immediately recognized as net periodic pension cost are recognized as a component of accumulated other comprehensive income (loss) and amortized into net periodic pension cost in future periods.

Defined Benefit Pension Plan Amendments and Retiree Medical Plan Amendments

During the fourth quarter of 2015, we changed the benefits related to the salaried and non-union hourly participants of the retirement health insurance benefits program. This program had been frozen to new participants in 2007. The 2015 amendment to the plan was approved on October 2, 2015 and resulted in a negative prior service cost, which is being amortized over the average expected remaining years of future benefit payments for this group. This change resulted in a remeasurement event requiring us to remeasure the plan liabilities, as well as the expense related to the plan, as of October 31, 2015.

All qualified noncontributory defined benefit pension plans have ceased accruing benefits. The Arlon pension plan (the “Bear Plan”) was frozen previous to our acquisition of Arlon. Effective June 30, 2013, for salaried and non-union hourly employees in the U.S., and effective December 31, 2013 for union employees in the U.S., benefits under the Rogers defined benefit pension plans no longer accrue.

(Dollars in thousands)	Pension Benefits		Retirement Health and Life Insurance Benefits			
	2016	2015	2016	2015		
Change in benefit obligation:						
Benefit obligation at beginning of year	\$182,359	\$187,882	\$2,722	\$9,839		
Addition of Bear Plan	—	4,169	—	—		
Service cost	—	—	133	411		
Interest cost	7,530	7,523	75	216		
Actuarial (gain) loss	(3,621)	(8,674)	72	(1,362)		
Benefit payments	(8,572)	(8,541)	(860)	(766)		
Plan Amendment	—	—	—	(5,616)		
Benefit obligation at end of year	\$177,696	\$182,359	\$2,142	\$2,722		
Change in plan assets:		2016	2015	2016	2015	
Fair value of plan assets at the beginning of the year		\$171,007	\$170,600	\$—	\$—	
Addition of Bear Plan		—	2,171	—	—	
Actual return on plan assets		8,999	(194)	—	—	
Employer contributions		344	6,971	860	766	
Benefit payments		(8,572)	(8,541)	(860)	(766)	
Fair value of plan assets at the end of the year		171,778	171,007	—	—	
Unfunded status		\$(5,918)	\$(11,352)	\$(2,142)	\$(2,722)	

Amounts included in the consolidated statements of financial position consist of:

(Dollars in thousands)	Pension Benefits		Retirement Health and Life Insurance Benefits	
	2016	2015	2016	2015
Noncurrent assets	\$2,583	\$1,273	\$—	\$—
Current liabilities	—	(1)	(150)	(537)
Noncurrent liabilities	(8,501)	(12,624)	(1,992)	(2,185)
Net amount recognized at end of year	\$(5,918)	\$(11,352)	\$(2,142)	\$(2,722)

(Dollars in thousands)	Pension Benefits		Retirement Health and Life Insurance Benefits	
	2016	2015	2016	2015
Net actuarial (loss) gain	\$(59,377)	(62,972)	\$523	643
Prior service benefit	—	—	3,878	5,368
Net amount recognized at end of year	\$(59,377)	\$(62,972)	\$4,401	\$6,011

The projected benefit obligation, accumulated benefit obligation, and fair value of plan assets for the pension plans with an accumulated benefit obligation in excess of plan assets were \$148.6 million, \$148.6 million and \$140.1 million, respectively, as of December 31, 2016 and \$151.9 million, \$151.9 million and \$139.3 million, respectively, as of December 31, 2015.

The projected benefit obligation, accumulated benefit obligation, and fair value of plan assets for the pension plans with plan assets in excess of an accumulated benefit obligation were \$29.1 million, \$29.1 million and \$31.7 million, respectively, as of December 31, 2016. For 2015, the projected benefit obligation, accumulated benefit obligation, and fair value of plan assets for the pension plans with plan assets in excess of an accumulated benefit obligation were

\$30.5 million, \$30.5 million, and \$31.7 million, respectively.

Components of Net Periodic (Benefit) Cost

(Dollars in thousands)	Pension Benefits			Postretirement Health and Life Insurance Benefits		
	2016	2015	2014	2016	2015	2014
Service cost	\$—	\$—	\$—	\$133	\$411	\$556
Interest cost	7,530	7,523	8,015	75	216	305
Expected return of plan assets	(10,808)	(11,148)	(12,909)	—	—	—
Amortization of prior service cost (credit)	—	—	—	(1,489)	(248)	—
Amortization of net loss	1,784	1,690	686	(47)	(12)	—
Settlement charge	—	57	5,321	—	—	—
Net periodic benefit cost (benefit)	\$(1,494)	\$(1,878)	\$1,113	\$(1,328)	\$367	\$861

In the fourth quarter of 2014, certain eligible participants in the defined benefit pension plans were given a lump sum payout offer. The payout of this program resulted in a settlement charge of \$5.2 million.

The estimated net loss for the defined benefit pension plans that will be amortized from accumulated other comprehensive income into net periodic benefit cost over the next fiscal year is \$1.7 million. The estimated net benefit for the defined benefit postretirement plans that will be amortized from accumulated other comprehensive income into net periodic benefit cost over the next fiscal year is \$1.5 million.

Weighted-average assumptions used to determine benefit obligations at December 31:

	Pension Benefits		Retirement Health and Life Insurance Benefits	
	2016	2015	2016	2015
Discount rate	4.25 %	4.25 %	3.25 %	3.00 %

Weighted-average assumptions used to determine net benefit cost for the years ended December 31:

	Pension Benefits		Retirement Health and Life Insurance Benefits	
	2016	2015	2016	2015
Discount rate	4.25 %	4.00 %	3.00 %	3.00 %
Expected long-term rate of return on plan assets	5.51 %	6.50 %	—	—

Rate of compensation increase - An expected rate of compensation increase was not included in the weighted average assumptions as there would be no impact to the net benefit cost, as the plans have been previously frozen.

Discount rate - To determine the discount rate, we review current market indices of high quality corporate bonds, particularly the PruCurve index, to ensure that the rate used in our calculations is consistent and within an acceptable range based on these indices, which reflect current market conditions. The market-based rates are modified to be Rogers-specific, and this is done by applying our pension benefit cash flow projections to the generic index rate.

Long-term rate of return on assets - To determine the expected long-term rate of return on plan assets, we review historical and projected portfolio performance, the historical long-term rate of return, and how any change in the allocation of the assets could affect the anticipated returns. Adjustments are made to the projected rate of return if it is deemed necessary based on those factors and other current market trends.

Health care cost trend rates - For measurement purposes as of December 31, 2016 we assumed annual health care cost trend rates of 7.50% and 7.50% for covered health care benefits for retirees pre-age 65 and post-age 65, respectively. The rates were assumed to decrease gradually by 0.25% annually until reaching 4.50% and 4.50%, respectively, and remain at those levels thereafter. For measurement purposes as of December 31, 2015, we assumed annual health care cost trend rates of 7.00% and 7.50% for covered health care benefits for retirees pre-age 65 and post-age 65, respectively. Assumed health care cost trend rates may have a significant effect on the amounts reported for the health care plans. A one-percentage point change in assumed health care cost trend rates would be expected to have the following effects:

(Dollars in thousands)	Increase	Decrease
Effect on total service and interest cost	\$ 12	\$ (11)
Effect on other postretirement benefit obligations	78	(74)

Plan Assets

Our defined benefit pension assets are invested with the objective of achieving a total rate of return over the long-term that is sufficient to fund future pension obligations. In managing these assets and our investment strategy, we take into consideration future cash contributions to the plans, as well as the potential of the portfolio underperforming the market, which is partially mitigated by maintaining a diversified portfolio of assets.

In order to meet our investment objectives, we set asset allocation target ranges based on current funding status and future projections in order to mitigate the risk in the plan while maintaining its funded status. In November of 2014 we implemented a pension risk reduction strategy related to our investments, which included a change in our asset mix to hold a larger amount of fixed income securities. At December 31, 2016 and 2015, we held approximately 27% equity securities and 73% fixed income and short term cash securities in our portfolio.

In determining our investment strategy and calculating the net benefit cost, we utilized an expected long-term rate of return on plan assets. This rate is developed based on several factors, including the plans' asset allocation targets, the historical and projected performance on those asset classes, and on the plans' current asset composition. To justify our assumptions, we analyze certain data points related to portfolio performance. For example, we analyze the actual historical performance of our total plan assets, which has generated a return of approximately 8.3% over the past 20 year period. Based on the historical returns and the projected future returns we determined that a target return of 5.5% is appropriate for the current portfolio. Investments were stated at fair value as of the dates reported.

The following table presents the fair value of the pension plan net assets by asset category as of December 31, 2016 and 2015:

(Dollars in thousands)	2016	2015
Pooled separate accounts	\$7,587	\$6,782
Fixed income bonds	111,070	110,427
Mutual funds	44,054	43,454
Guaranteed deposit account	9,067	10,344
Total investments at fair value	\$171,778	\$171,007

Securities traded on a national securities exchange are valued at the last reported sales price on the last business day of the plan year. The fair value of the guaranteed deposit account was determined through discounting expected future investment cash flow from both investment income and repayment of principal for each investment purchased.

The estimated fair values of the participation units owned by the plan in pooled separate accounts were based on quoted redemption values and adjusted for management fees and asset charges, as determined by the record keeper, on the last business day of the Plan year. Pooled separate accounts are accounts established solely for the purpose of

investing the assets of one or more plans. Funds in a separate account are not commingled with other assets of the Company for investment purposes.

The following tables set forth by level, within the fair value hierarchy, the assets carried at fair value as of December 31, 2016 and 2015.

Assets at Fair Value as of December 31, 2016				
(Dollars in thousands)	Level 1	Level 2	Level 3	Total
Pooled separate accounts	\$—	\$7,587	\$—	\$7,587
Fixed income bonds	—	111,070	—	111,070
Mutual funds	44,054	—	—	44,054
Guaranteed deposit account	—	—	9,067	9,067
Total assets at fair value	\$44,054	\$118,657	\$9,067	\$171,778

Assets at Fair Value as of December 31, 2015				
(Dollars in thousands)	Level 1	Level 2	Level 3	Total
Pooled separate accounts	\$—	\$6,782	\$—	\$6,782
Fixed income bonds	—	110,427	—	110,427
Mutual funds	43,454	—	—	43,454
Guaranteed deposit account	—	—	10,344	10,344
Total assets at fair value	\$43,454	\$117,209	\$10,344	\$171,007

The table below sets forth a summary of changes in the fair value of the guaranteed deposit account's Level 3 assets for the year ended December 31, 2016:

(Dollars in thousands)	Guaranteed Deposit Account
Balance at beginning of year	\$ 10,344
Unrealized gains relating to instruments still held at the reporting date	329
Purchases, sales, issuances and settlements (net)	(1,606)
Balance at end of year	\$ 9,067

Cash Flows

Contributions

At December 31, 2016, we had met the minimum funding requirements for all of our qualified defined benefit pension plans due to a required contribution to the Bear Plan of \$0.3 million for 2016 and we estimate that we will be required to make a contribution of \$0.3 million for 2017. In 2015, we made mandatory contributions of \$0.3 million and voluntary contributions of \$6.5 million. As there is no funding requirement for the nonqualified defined benefit pension plans nor the Retiree Health and Life Insurance benefit plans, we fund the amount of benefit payments made during the year.

Estimated Future Payments

The following pension benefit payments are expected to be paid through the utilization of plan assets for the funded plans and from the Company's operating cash flows for the unfunded plans. The Retiree Health and Life Insurance benefits, for which no funding has been made, are expected to be paid from the Company's operating cash flows. The benefit payments are based on the same assumptions used to measure our benefit obligation at the end of fiscal 2016.

(Dollars in thousands)	Pension	Retiree Benefits	Health and Life
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		Insurance Benefits
2017	\$8,916	\$ 513
2018	\$9,043	\$ 345
2019	\$9,201	\$ 285
2020	\$9,404	\$ 280
2021	\$9,694	\$ 193
2022-2026	\$52,583	\$ 1,391

NOTE 11 EMPLOYEE SAVINGS AND INVESTMENT PLANS

We sponsor the Rogers Employee Savings and Investment Plan (RESIP), a 401(k) plan for domestic employees. Employees can defer an amount they choose, up to the yearly IRS limit of \$18,000 in 2016 and 2015. Certain eligible participants are also allowed to contribute the maximum catch-up contribution per IRS regulations. Our matching contribution is 6% of an eligible employee's annual pre-tax contribution at a rate of 100% for the first 1% and 50% for the next 5% for a total match of 3.5%. Unless otherwise indicated by the participant, the matching dollars are invested in the same funds as the participant's contributions. RESIP related expense amounted to \$3.0 million in 2016, \$3.2 million in 2015 and \$2.7 million in 2014, which related solely to our matching contributions.

We acquired DeWAL in November 2016. Eligible DeWAL employees are covered under the DeWAL Industries, Inc. 401k Profit Sharing Plan (DeWAL Plan). The DeWAL Plan matching contribution is 100% of the first 3% of employee pre-tax contributions. Compensation expense related to the DeWAL Plan was de minimis for the period in 2016 subsequent to the acquisition.

NOTE 12 - DEBT

On June 18, 2015, we entered into a secured five year credit agreement with JPMorgan Chase Bank, N.A, as administrative agent, and the lenders party thereto (the "Second Amended Credit Agreement"). The Second Amended Credit Agreement provided (1) a \$55.0 million term loan; (2) up to \$295.0 million of revolving loans, with sublimits for multicurrency borrowings, letters of credit and swing-line notes; and (3) a \$50.0 million expansion feature. Borrowings could be used to finance working capital needs, for letters of credit and for general corporate purposes in the ordinary course of business, including the financing of permitted acquisitions (as defined in the Second Amended Credit Agreement).

In 2016, we borrowed \$136.0 million under the line of credit to fund the acquisition of DeWAL and an additional \$30.0 million to partially fund the acquisition of Diversified Silicone Products. We borrowed \$125.0 million under the line of credit under our prior credit agreement in the first quarter of 2015 to fund the acquisition of Arlon, and this amount was refinanced under our Second Amended Credit Agreement in June 2015. During 2016 and 2015, we made principal payments of \$103.4 million, and \$6.4 million, respectively, on the outstanding debt. We remain obligated to pay \$4.1 million on this debt obligation in the next 12 months under the term loan. At December 31, 2016, our outstanding debt balance was comprised of a term loan of \$50.2 million and \$191.0 million borrowed on the revolving line of credit. In addition, as of December 31, 2016 and 2015 we had a \$1.2 million standby letter of credit (LOC) to guarantee Rogers' workers compensation plans that were backed by the Second Amended Credit Agreement. No amounts were drawn on the LOC as of December 31, 2016 or 2015.

Borrowings under the Second Amended Credit Agreement could be made as alternate base rate loans or Euro-currency loans. Alternate base rate loans bore interest that included a base reference rate plus a spread of 37.5 to 75.0 basis points, depending on our leverage ratio. The base reference rate was the greater of the prime rate; federal funds effective rate plus 50 basis points; or adjusted 1-month LIBOR plus 100 basis points. Euro-currency loans bore interest based on adjusted LIBOR plus a spread of 137.5 to 175.0 basis points, depending on our leverage ratio. At December 31, 2016, the rate charged on our outstanding borrowings under the Second Amended Credit Agreement was the 1-month LIBOR at 0.6250% plus a spread of 1.375%. We incurred interest expense on our outstanding debt of \$3.1 million, \$3.5 million, and \$1.8 million for the years ended December 31, 2016, 2015 and 2014, respectively. Cash paid for interest was \$3.1 million, \$3.3 million, and \$2.5 million for 2016, 2015 and 2014, respectively.

In addition to interest payable on the principal amount of indebtedness outstanding from time to time under the Second Amended Credit Agreement, we were required to pay a quarterly fee of 20 to 30 basis points (based upon our leverage ratio) of the unused amount of the lenders' commitments under the Second Amended Credit Agreement. We incurred an unused commitment fee of \$0.4 million, \$0.3 million, and \$0.4 million for the years ended December 31, 2016, 2015 and 2014, respectively.

The financial covenants under the Second Amended Credit Agreement included requirements to maintain (1) a leverage ratio of no more than 3.25 to 1.00, subject to a one-time election to increase the maximum leverage ratio to 3.50 to 1.00 for one fiscal year in connection with a permitted acquisition, and (2) an interest coverage ratio, calculated as defined in the Second Amended Credit Agreement, of no less than 3.00 to 1.00. As of December 31, 2016, we were in compliance with all of the financial covenants in the Second Amended Credit Agreement.

The Second Amended Credit Agreement required mandatory quarterly repayment of principal on amounts borrowed under the term loan, and payment in full of outstanding borrowings by June 30, 2020.

As of December 31, 2016, the aggregate mandatory principal payments were as follows:

Year	Payments Due
2017	\$4.1 million
2018	\$4.8 million
2019	\$5.5 million
2020	\$226.8 million

All obligations under the Second Amended Credit Agreement were guaranteed by each of our existing and future material domestic subsidiaries, as defined in the Second Amended Credit Agreement (the “Previous Guarantors”). The obligations were also secured by a Second Amended and Restated Pledge and Security Agreement, dated as of June 18, 2015, entered into by the Company and the Previous Guarantors, which granted to the administrative agent, for the benefit of the lenders, a security interest, subject to certain exceptions, in substantially all of the non-real estate assets of the Guarantors. These assets include, but are not limited to, receivables, equipment, intellectual property, inventory, and stock in certain subsidiaries.

At December 31, 2016, we had \$1.6 million of remaining deferred debt issuance costs. These costs will be amortized over the life of the Second Amended Credit Agreement. We incurred amortization expense of \$0.5 million in each of the years ended 2016, 2015 and 2014, related to these deferred costs.

In July 2012, we entered into an interest rate swap to hedge the variable interest rate on our term loan debt. This swap expired as of June 30, 2016.

Interest paid on the debt was \$3.6 million for the year ended December 31, 2016.

On February 17, 2017, we entered into the Third Amended and Restated Credit Agreement with JPMorgan Chase Bank, N.A, as administrative agent, and the lenders party thereto (the “Third Amended Credit Agreement”), which amends and restates the Second Amended Credit Agreement. The Third Amended Credit Agreement refinances the Second Amended Credit Agreement, eliminates the term loan under the Second Amended Credit Agreement, and increases the principal amount of the revolving credit facility to up to \$450.0 million borrowing capacity, with an additional \$175.0 million accordion feature. All revolving loans under the Third Amended Credit Agreement are due on the maturity date, February 17, 2022. We are not required to make any quarterly principal payments under the Third Amended Credit Agreement. For additional information regarding the Third Amended Credit Agreement, see “Item 7, Management’s Discussion and Analysis of Financial Condition and Results of Operations.”

Restriction on Payment of Dividends

Our Second Amended Credit Agreement generally permitted us to pay cash dividends to our shareholders, provided that (i) no default or event of default had occurred and was continuing or would result from the dividend payment and (ii) our leverage ratio did not exceed 2.00 to 1.00. If our leverage ratio exceeded 2.00 to 1.00 under the Second Amended Credit Agreement, we could have nonetheless made up to \$10.0 million in restricted payments, including dividends, during the fiscal year, provided that no default or event of default had occurred and was continuing or would result from the payments. As of December 31, 2016, our leverage ratio did not exceed 2.00 to 1.00.

Capital Lease

We have a capital lease obligation related to our manufacturing facility in Eschenbach, Germany. Under the terms of the leasing agreement, we have an option to purchase the property upon the expiration of the lease in 2021 at a price which is the greater of (i) the then-current market value or (ii) the residual book value of the land including the buildings and installations thereon. The total obligation recorded for the lease as of December 31, 2016 and 2015 was \$5.3 million and \$5.8 million, respectively. Depreciation expense related to the capital lease was \$0.3 million, \$0.3 million and \$0.4 million for the years ending December 31, 2016, 2015 and 2014, respectively. Accumulated depreciation as of December 31, 2016 and 2015 was \$3.4 million and \$3.3 million, respectively. These expenses are

included as depreciation expense in cost of sales on our consolidated statements of operations.

We also incurred interest expense on the capital lease of \$0.3 million, \$0.4 million and \$0.5 million for the years ended December 31, 2016, 2015 and 2014, respectively. Interest expense related to the debt recorded on the capital lease is included in interest expense on the consolidated statements of operations.

NOTE 13 – INCOME TAXES

Consolidated income before income taxes consisted of:

(Dollars in thousands)	2016	2015	2014
Domestic	\$10,888	\$14,832	\$9,604
International	71,392	51,341	71,620
Total	\$82,280	\$66,173	\$81,224

Foreign earnings repatriated to the U.S. previously reported as U.S. income have been reclassified in 2014 to conform to the current year presentation.

The income tax expense in the consolidated statements of operations consisted of:

(Dollars in thousands)	Current	Deferred	Total
2016			
Domestic	\$2,078	\$3,376	\$5,454
International	24,537	4,006	28,543
Total	\$26,615	\$7,382	\$33,997

2015			
Domestic	\$993	\$4,272	\$5,265
International	15,192	(604)	14,588
Total	\$16,185	\$3,668	\$19,853

2014			
Domestic	\$2,205	\$6,984	\$9,189
International	17,172	1,451	18,623
Total	\$19,377	\$8,435	\$27,812

Deferred tax assets and liabilities as of December 31, 2016 and 2015, were comprised of the following:

(Dollars in thousands)	2016	2015
Deferred tax assets		
Accrued employee benefits and compensation	9,899	9,284
Postretirement benefit obligations	3,335	5,434
Tax loss and credit carryforwards	7,146	9,318
Reserves and accruals	6,361	6,225
Other	2,792	3,474
Total deferred tax assets	29,533	33,735
Less deferred tax asset valuation allowance	(6,388)	(6,202)
Total deferred tax assets, net of valuation allowance	23,145	27,533
Deferred tax liabilities		
Depreciation and amortization	14,965	17,492
Unremitted earnings	7,239	1,150
Other	190	187
Total deferred tax liabilities	22,394	18,829
Net deferred tax asset	\$ 751	\$8,704

At December 31, 2016, the Company had state net operating loss carryforwards ranging from \$0.4 million to \$6.4 million in various state taxing jurisdictions, which expire between 2017 and 2036. We also had approximately \$8.0 million of credit carryforwards in Arizona, which will expire between 2017 and 2031, and a \$1.3 million capital loss carryforward, which will expire in 2017. We believe that it is more likely than not that the benefit from the state net operating loss carryforwards, state credits and capital loss carryforwards will not be realized. In recognition of this risk, we have provided a valuation allowance of \$6.4 million relating to these carryforwards.

We currently have approximately \$6.3 million of foreign tax credits that begin to expire in 2021, \$7.0 million of research and development credits that begin to expire in 2026, and \$0.5 million of minimum tax credits that can be carried forward indefinitely.

As a result of certain realization requirements, the table of deferred tax assets and liabilities shown above does not include certain deferred tax assets as of December 31, 2016 for which the benefit thereof was postponed by tax deductions related to equity compensation in excess of compensation recognized for financial reporting. Those deferred tax assets include foreign tax credits of \$6.3 million, research and development credits of \$6.7 million and minimum tax credits of \$0.4 million. Equity will be increased by these amounts if and when such deferred tax assets are ultimately realized by a reduction of taxes payable.

We had a valuation allowance of \$6.4 million at December 31, 2016 and \$6.2 million at December 31, 2015, against certain of our deferred tax assets, primarily carryforwards expected to expire unused. In 2015, we reversed the valuation allowance on California deferred tax assets due to positive factors from the Arlon acquisition. No valuation allowance has been provided on our other deferred tax assets, as we believe it is more likely than not that all such assets will be realized in the applicable jurisdictions. We reached this conclusion after considering the availability of taxable income in prior carryback years, tax planning strategies, and the likelihood of future taxable income exclusive of reversing temporary differences and carryforwards in the respective jurisdictions or entities. Differences between forecasted and actual future operating results or changes in carryforward periods could adversely impact the amount of deferred tax asset considered realizable.

In appropriate circumstances we have the opportunity to undertake a tax planning strategy to ensure that our tax credit carryforwards do not expire unutilized. This strategy is based upon our ability to make a federal tax election to capitalize certain expenses that will result in generating taxable income to allow us to utilize our tax credit carryforwards before they expire. We would undertake such a strategy to realize these tax credit carryforwards prior to expiration as it is reasonable, prudent, and feasible.

Income tax expense differs from the amount computed by applying the United States federal statutory income tax rate to income before income taxes. The reasons for this difference were as follows:

(Dollars in thousands)	2016	2015	2014
Tax expense at Federal statutory income tax rate	\$28,798	\$23,161	\$28,429
International tax rate differential	(2,260)	(4,792)	(6,772)
Foreign source income, net of tax credits	7,559	2,449	5,195
State tax, net of federal	(200)	(416)	—
Unrecognized tax benefits	(5,555)	148	603
General business credits	(1,125)	(908)	(604)
Acquisition related expenses	—	453	590
Taxes on unremitted earnings	6,089	—	—
Valuation allowance change	171	(1,489)	388
Other	520	1,247	(17)
Income tax expense (benefit)	\$33,997	\$19,853	\$27,812

The Company's effective tax rate for 2016 was 41.3% compared to 30.0% in 2015 and 34.2% in 2014. The increase from 2015 is primarily related to withholding taxes on off-shore cash movements, a change to our assertion that certain foreign earnings are permanently reinvested and a change in the mix of earnings attributable to higher-taxing jurisdictions, offset by benefits associated with an increase in the reversal of reserves for uncertain tax positions. This increase was offset by the prior year being unfavorably impacted by adjustments related to finalization of 2014 income tax year returns. The prior year also included a benefit due to a change of the state tax rate as a result of a legal reorganization and release of valuation allowance on certain state tax attributes. Included in the 2016 effective tax rate are releases of reserves for uncertain tax positions for which an indemnity receivable had been recorded. The reversal of the receivable has been recorded in "Other income (expense), net".

Historically our intention was to permanently reinvest the majority of our foreign earnings indefinitely or to distribute them only when it is tax efficient to do so. As a result of changes in business circumstances and our long-term business plan, with respect to offshore distributions, we modified our assertion of certain accumulated foreign subsidiary earnings considered permanently reinvested during 2016. This change resulted in accrual of a deferred tax liability of \$6.1 million associated with distribution related foreign taxes on undistributed earnings of our Chinese subsidiaries that are no longer considered permanently reinvested. In the event that we distributed these funds to other offshore subsidiaries, these taxes would become due. In addition, we incurred \$6.3 million of withholding taxes related to distributions from China.

U.S. income taxes have not been provided on \$210.9 million of undistributed earnings of foreign subsidiaries since it is the Company's intention to permanently reinvest such earnings offshore or to repatriate them only when it is tax efficient to do so. It is impracticable to estimate the total tax liability, if any, that would be created by the future distribution of these earnings. If circumstances change and it becomes apparent that some, or all of these undistributed earnings as of December 31, 2016 will not be indefinitely reinvested, the provision for the tax consequence, if any, will be recorded in the period when circumstances change. As of each of December 31, 2016 and 2015, \$1.1 million of U.S. income taxes had been provided on undistributed earnings of foreign subsidiaries that are not considered permanently reinvested.

Income taxes paid, net of refunds, were \$24.0 million, \$18.7 million, and \$14.5 million in 2016, 2015, and 2014, respectively.

Unrecognized tax benefits, excluding potential interest and penalties, for the years ended December 31, 2016 and December 31, 2015, were as follows:

(Dollars in thousands)	2016	2015
Beginning balance	\$10,571	\$9,368
Gross increases - current period tax positions	520	4,229
Gross increases - tax positions in prior periods	—	1,428
Gross decreases - tax positions in prior periods	(498)	—
Foreign currency exchange	(137)	(475)
Lapse of statute of limitations	(4,573)	(3,979)
Ending balance	\$5,883	\$10,571

Included in the balance of unrecognized tax benefits as of December 31, 2016 were \$5.9 million of tax benefits that, if recognized, would impact the effective tax rate. Also included in the balance of unrecognized tax benefit as of December 31, 2016 were \$0.2 million of tax benefits that, if recognized, would result in adjustments to other tax accounts; primarily deferred taxes.

We recognize interest accrued related to unrecognized tax benefit as income tax expense. Related to the unrecognized tax benefits noted above, at December 31, 2016 and 2015, we had accrued potential interest and penalties of approximately \$0.4 million and \$1.3 million, respectively. We have recorded a net tax benefit of \$0.9 million during 2016 and net income tax expense of \$0.1 million and \$0.1 million during 2015 and 2014, respectively. It is possible that up to \$1.7 million of our currently unrecognized tax benefits could be recognized within 12 months as a result of projected resolutions of worldwide tax disputes or the expiration of the statute of limitations.

We are subject to taxation in the U.S. and various state and foreign jurisdictions. Our tax years from 2012 through 2016 are subject to examination by the tax authorities. With few exceptions, we are no longer subject to U.S. federal, state, local and foreign examinations by tax authorities for the years before 2012.

NOTE 14 - SHAREHOLDERS' EQUITY AND EQUITY COMPENSATION

Capital Stock and Equity Compensation Awards

Under the Rogers Corporation 2009 Long-Term Equity Compensation Plan, we may grant stock options to officers, directors, and other key employees at exercise prices that are at least equal to the fair market value of our stock on the date of grant. Under our older plans, stock options to officers, directors, and other key employees could be granted at exercise prices that were as low as 50% of the fair market value of our stock as of the date of grant. However, in terms of these older plans, virtually all such options were granted at exercise prices equal to the fair market value of our stock as of the date of grant. Stock options granted to employees in the United States generally become exercisable over a four-year period from the grant date and expire ten years after such grant.

We award each non-management director deferred stock units, which permit non-management directors to receive, at a later date, one share of Rogers stock for each deferred stock unit with no payment of any consideration by the director at the time the shares are received. For director stock options, the exercise price was equal to the fair market value of our stock as of the grant date, were immediately exercisable, and expire ten years after the date of grant. Our 2005 Equity Compensation Plan and our 2009 Long-Term Equity Compensation Plan also permit the granting of restricted stock units and certain other forms of equity awards to officers and other key employees, although no new equity awards have been made pursuant to the 2005 plan since shareholder approval of our 2009 Long-Term Equity Compensation Plan.

Shares of capital stock reserved for possible future issuance were as follows:

	As of December 31,	
	2016	2015
Shares reserved for issuance under the stock acquisition program ⁽¹⁾	120,883	120,883
Shares reserved for issuance under outstanding stock options and restricted stock unit awards	659,302	641,265
Additional shares reserved for issuance under Rogers Corporation 2009 Long-Term Equity Compensation Plan	892,163	1,078,291
Shares reserved for issuance under the Rogers Employee Savings and Investment Plan ⁽²⁾	169,044	169,044
Shares reserved for issuance under the Rogers Corporation Global Stock Ownership Plan for Employees	133,113	153,357
Deferred compensation to be paid in stock, including deferred stock units	22,752	37,207
Total	1,997,257	2,200,047

⁽¹⁾ As of December 31, 2016, the Company no longer offers capital stock under the stock acquisition program.

⁽²⁾ As of December 31, 2016, the Company no longer offers its capital stock as an investment option under the Rogers Employee Savings and Investment Plan.

Each outstanding share of Rogers capital stock has attached to it a stock purchase right. One stock purchase right entitles the holder to buy one share of Rogers capital stock at an exercise price of \$240.00 per share. The rights become exercisable only under certain circumstances related to a person or group acquiring or offering to acquire a substantial block of Rogers capital stock. In certain circumstances, holders may acquire Rogers stock, or in some cases the stock of an acquiring entity, with a value equal to twice the exercise price. The rights expire on March 30, 2017, but may be exchanged or redeemed earlier. If such rights are redeemed, the redemption price would be \$0.01 per right.

Stock Options

Stock options have been granted under various equity compensation plans. While we may grant options to employees that become exercisable at different times or within different periods, we have generally granted options to employees that vest and become exercisable in one-third increments on the second, third and fourth anniversaries of the grant dates. The maximum contractual term for all options is normally ten years. We use the Black-Scholes option-pricing model to calculate the grant-date fair value of an option. We have not granted any stock options since the first quarter of 2012.

In most cases, we recognize expense using the straight-line attribution method for stock option grants. The amount of stock-based compensation recognized during a period is based on the value of the portion of the awards that are ultimately expected to vest. Forfeitures are required to be estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates. The term “forfeitures” is distinct from “cancellations” or “expirations” and represents only the unvested portion of the surrendered option. We currently expect, based on an analysis of our historical forfeitures, an annual forfeiture rate of approximately 3% and applied that rate to the grants issued. This assumption will be reviewed periodically and the rate will be adjusted as necessary based on these reviews. Ultimately, the actual expense recognized over the vesting period will only be for those options that vest.

Our employee stock option agreements contain a retirement provision, which results in the vesting of any unvested options immediately upon retirement. This provision affects the timing of option expense recognition for options meeting the criteria for retirement. We recognize compensation expense over the period from the date of grant to the date retirement eligibility is met, if it is shorter than the required service period, or upon grant if the employee is eligible for retirement on that date.

As of December 31, 2016, there was no unrecognized compensation cost related to unvested stock option awards.

The first quarter of 2016 was the final quarter in which we recognized stock based compensation expense related to previously issued stock option grants, and the amount of such expense recorded in 2016 was de minimis. We recognized \$0.2 million and \$0.3 million of compensation expense related to stock options for the years ended December 31, 2015 and 2014, respectively.

A summary of the activity under our stock option plans as of December 31, 2016 and changes during the year then ended, is presented below:

	Options Outstanding	Weighted- Average Exercise Price Per Share	Weighted-Average Life in Years	Remaining Contractual	Aggregate Intrinsic Value
Options outstanding at December 31, 2015	212,038	\$ 40.47	3.2		2,557,193
Options exercised	(95,113)	43.56			
Options forfeited	(350)	44.32			
Options outstanding at December 31, 2016	116,575	37.76	3.2		4,552,580
Options exercisable at December 31, 2016	116,575	37.76	3.2		4,552,580
Options vested at December 31, 2016	116,575	37.76	3.2		4,552,580

During the years ended December 31, 2016 and 2015, the total intrinsic value of options exercised (i.e., the difference between the market price at time of exercise and the price paid by the individual to exercise the options) was \$2.1 million and \$6.7 million, respectively. The total amount of cash received from the exercise of these options was \$4.1 million and \$7.0 million, respectively. The total grant-date fair value of stock options that vested during 2016 was de minimis and in 2015 was \$0.2 million.

A summary of the activity under our stock option plans for the fiscal years ended 2016, 2015 and 2014, is presented below:

	2016	Weighted- Average Exercise Price Per Share	2015	Weighted- Average Exercise Price Per Share	2014	Weighted- Average Exercise Price Per Share
	Options Outstanding		Options Outstanding		Options Outstanding	
Outstanding at beginning of year	212,038	\$ 40.47	393,347	\$ 40.72	893,139	\$ 43.23
Options exercised	(95,113)	43.56	(178,759)	40.90	(476,793)	44.60
Options forfeited	(350)	44.32	(2,550)	40.09	(22,999)	57.07
Outstanding at year-end	116,575	37.76	212,038	40.47	393,347	40.72
Options exercisable at year-end	116,575		204,394		364,770	

Performance-Based Restricted Stock Units

We currently have performance-based restricted stock unit awards from 2014, 2015 and 2016 outstanding. These awards generally cliff vest at the end of a three year measurement period. With respect to the 2015 and 2016 awards, however, employees whose employment terminates during the measurement period due to death, disability, or, in certain cases, retirement may receive a pro-rata payout based on the number of days they were employed during the vesting period. Participants are eligible to be awarded shares ranging from 0% to 200% of the original award amount,

based on certain defined performance measures. Compensation expense is recognized using the straight line method over the vesting period, unless the employee has an accelerated vesting schedule.

The 2014 and 2015 awards have two measurement criteria on which the final payout of each award is based - (i) the three year return on invested capital (ROIC) compared to that of a specified group of peer companies, and (ii) the three year total shareholder return (TSR) on the performance of our capital stock as compared to that of a specified group of peer companies. The 2016 awards have one measurement criteria, the three year total shareholder return (TSR) on the performance of our capital stock as compared to that of a specified group of peer companies. In accordance with the applicable accounting literature, the ROIC portion of the award is considered a performance condition. As such, the fair value of the ROIC portion is determined based on the market value of the underlying stock price at the grant date with cumulative compensation expense recognized to date being increased or decreased based on changes in the forecasted pay out percentage at the end of each reporting period. The TSR portion of the award is considered a market condition. As such, the fair value of this award was determined on the date of grant using a Monte Carlo simulation valuation model with related compensation expense fixed on the grant date and expensed on a straight-line basis over the life of the awards that ultimately vest with no changes for the final projected payout of the award.

Below were the assumptions used in the Monte Carlo calculation:

	2016	2015
Expected volatility	29.6 %	28.2 %
Expected term (in years)	3	3
Risk-free interest rate	0.93 %	0.96 %

Expected volatility – In determining expected volatility, we have considered a number of factors, including historical volatility.

Expected term – We use the vesting period of the award to determine the expected term assumption for the Monte Carlo simulation valuation model.

Risk-free interest rate – We use an implied “spot rate” yield on U.S. Treasury Constant Maturity rates as of the grant date for our assumption of the risk-free interest rate.

Expected dividend yield – We do not currently pay dividends on our capital stock; therefore, a dividend yield of 0% was used in the Monte Carlo simulation valuation model.

A summary of activity under the performance-based restricted stock units plans for the fiscal years ended 2016, 2015 and 2014 is presented below:

	2016		2015		2014	
	Awards Outstanding	Weighted-Average Grant Date Fair Value	Awards Outstanding	Weighted-Average Grant Date Fair Value	Awards Outstanding	Weighted-Average Grant Date Fair Value
Non-vested awards outstanding at beginning of year	107,229	\$ 66.13	92,437	\$ 52.75	71,175	\$ 47.49
Awards granted	84,443	69.01	51,475	78.01	51,850	58.61
Stock issued	(25,397)	72.68	(20,910)	41.27	(14,383)	47.89
Awards forfeited or expired	(14,506)	104.83	(15,773)	59.45	(16,205)	52.71
Non-vested awards outstanding at end of year	151,769	\$ 89.72	107,229	\$ 66.13	92,437	\$ 52.75

We recognized \$4.6 million, \$3.2 million and \$2.3 million of compensation expense related to performance-based restricted stock units for the years ended December 31, 2016, 2015 and 2014, respectively. As of December 31, 2016, there was \$5.9 million of total unrecognized compensation cost related to unvested performance-based restricted stock units. That cost is expected to be recognized over a weighted-average period of 1.5 years.

Time-Based Restricted Stock Units

We currently have time-based restricted stock unit grants from 2013, 2014, 2015, and 2016 outstanding. The majority of 2013 grants ratably vest on the first, second and third anniversaries of the original grant date. The 2014, 2015 and 2016 grants all ratably vest on the first, second and third anniversaries of the original grant date. We recognize compensation expense on all of these awards on a straight-line basis over the vesting period. The fair value of the award is determined based on the market value of the underlying stock price at the grant date.

	2016		2015		2014	
	Awards Outstanding	Weighted-Average Grant Date Fair Value	Awards Outstanding	Weighted-Average Grant Date Fair Value	Awards Outstanding	Weighted-Average Grant Date Fair Value
Non-vested awards outstanding at beginning of year	208,318	\$ 64.27	238,386	\$ 53.80	231,026	\$ 48.54
Awards granted	118,660	51.70	75,160	77.15	93,780	61.70
Stock issued	(60,326)	64.03	(93,813)	48.35	(62,378)	47.19
Awards forfeited or expired	(27,463)	64.60	(11,415)	61.32	(24,042)	51.19
Non-vested awards outstanding at end of year	239,189	\$ 57.71	208,318	\$ 64.27	238,386	\$ 53.80

We recognized \$5.6 million, \$5.0 million and \$3.6 million of compensation expense related to time-based restricted stock units for years ended December 31, 2016, 2015 and 2014, respectively. As of December 31, 2016, there was \$7.3 million of total unrecognized compensation cost related to unvested time-based restricted stock units. That cost is expected to be recognized over a weighted-average period of 1.4 years.

Deferred Stock Units

We grant deferred stock units to non-management directors. These awards are fully vested on the date of grant and the related shares are generally issued on the 13th month anniversary of the grant date unless the individual elects to defer the receipt of these shares. Each deferred stock unit results in the issuance of one share of Rogers' stock. The grant of deferred stock units is typically done annually in the second quarter of each year. The fair value of the award is determined based on the market value of the underlying stock price at the grant date.

	2016		2015		2014	
	Awards Outstanding	Weighted-Average Grant Date Fair Value	Awards Outstanding	Weighted-Average Grant Date Fair Value	Awards Outstanding	Weighted-Average Grant Date Fair Value
Non-vested awards outstanding at beginning of year	23,950	\$ 27.22	30,150	\$ 24.43	31,550	\$ 26.77
Awards granted	11,900	58.82	10,300	73.79	14,700	58.45
Stock issued	(23,950)	52.69	(16,500)	51.20	(16,100)	60.08
Non-vested awards outstanding at end of year	11,900	\$ 58.82	23,950	\$ 27.22	30,150	\$ 24.43

We recognized compensation expense related to deferred stock units of \$0.7 million, \$0.8 million and \$0.8 million, for the years ended December 31, 2016, 2015 and 2014, respectively.

Employee Stock Purchase Plan

We have an employee stock purchase plan (ESPP) that allows eligible employees to purchase, through payroll deductions, shares of our capital stock at a discount to fair market value. The ESPP has two 6 month offering periods each year, the first beginning in January and ending in June and the second beginning in July and ending in December. The ESPP contains a look-back feature that allows the employee to acquire stock at a 15% discount from the underlying market price at the beginning or end of the applicable period, whichever is lower. We recognize compensation expense on this plan ratably over the offering period based on the fair value of the anticipated number of shares that will be issued at the end of each offering period. Compensation expense is adjusted at the end of each offering period for the actual number of shares issued. Fair value is determined based on two factors: (i) the 15% discount amount on the underlying stock's market value on the first day of the applicable offering period, and (ii) the fair value of the look-back feature determined by using the Black-Scholes model. We recognized approximately \$0.5

million of compensation expense associated with the plan for the years ended December 31, 2016, 2015 and 2014, respectively.

NOTE 15 – COMMITMENTS AND CONTINGENCIES

Leases

Our principal noncancellable operating lease obligations are for building space and vehicles. The leases generally provide that we pay maintenance costs. The lease periods typically range from one to five years and include purchase or renewal provisions. We have leases that are cancellable with minimal notice. Additionally, we have a capital lease on our manufacturing facility in Eschenbach, Germany, which was entered into in 2011.

The following table includes future minimum lease payments under capital leases together with the present value of the net minimum lease payments as of December 31, 2016:

(Dollars in thousands)

Year Ending December 31,

2017	\$482
2018	482
2019	482
2020	482
2021	3,940
Thereafter	—
Total	5,868
Less: Interest	(525)
Present Value of Net Future Minimum Lease Payments	\$5,343

The following table includes future minimum lease payments required under operating leases that have initial or remaining noncancelable lease terms in excess of one year as of December 31, 2016:

(Dollars in thousands)

Year Ending December 31,

2017	\$3,352
2018	2,437
2019	1,240
2020	924
2021	720
Thereafter	1,034
Total	\$9,707

The following table includes lease expense for the three years ended December 31, 2016:

	For the Year Ended December 31,		
(Dollars in thousands)	2016	2015	2014
Operating leases	\$3,567	\$3,531	\$2,716
Capital lease	\$564	\$667	\$747

Environmental & Legal

We are currently engaged in the following environmental and legal proceedings:

Voluntary Corrective Action Program

The Rogers corporate headquarters located in Rogers, Connecticut is part of the Connecticut Voluntary Corrective Action Program (VCAP). As part of this program, we partnered with the Connecticut Department of Energy and Environmental Protection (CT DEEP) to determine the corrective actions to be taken at the site related to contamination issues. We evaluated this matter and completed internal due diligence work related to the site in the fourth quarter of 2015. We recorded an accrual of \$3.2 million as of December 31, 2015 for remediation costs expected to be incurred based on the facts and circumstances known to us at that time. During the third quarter of 2016, the CT DEEP approved a change to our remediation plan for the site that will reduce our overall expected costs. Accordingly, we reduced the accrual by \$0.9 million as a result of change in the level of remediation that needs to take place as an offset to selling, general, and administrative expenses in the consolidated financial statements. Remediation activities on the site continued during 2016 and as of December 31, 2016, the remaining accrual for future remediation efforts was \$1.9 million.

Superfund Sites

We are currently involved as a potentially responsible party (PRP) in one active case involving a waste disposal site, the Chatham Superfund Site. The costs incurred since inception for this claim have been immaterial and have been primarily covered by insurance policies, for both legal and remediation costs. In this matter we have been assessed a cost sharing percentage of approximately 2% in relation to the range for estimated total cleanup costs of \$18.8 million to \$29.6 million. We believe we are a de minimis participant and, as such, have been allocated an insignificant percentage of the total PRP cost sharing responsibility. We believe that we have sufficient insurance coverage to fully cover this liability and have recorded a liability and related insurance receivable of approximately \$0.4 million as of December 31, 2016, which approximates our share of the low end of the estimated range. Based on facts presently known to us, we believe that the potential for the final results of this case having a material adverse effect on our results of operations, financial position or cash flows is remote. This case has been ongoing for many years and we believe that it will continue on for the indefinite future. No time frame for completion can be estimated at the present time.

PCB Contamination

We have been working with the Connecticut Department of Energy and Environmental Protection (CT DEEP) and the United States Environmental Protection Agency, Region I, in connection with certain polychlorinated biphenyl (PCB) contamination at our facility in Woodstock, Connecticut. The issue was originally discovered in the soil at the facility in the late 1990s, and this initial issue was remediated in 2000. Further contamination was later found in the groundwater beneath the property, which was addressed with the installation of a pump and treat system in 2011. Additional PCB contamination at this facility was found in the facility's original buildings, courtyards and surrounding areas including an on-site pond. Remediation costs related to this contamination were expected to approximate \$0.7 million. Remediation activities of the affected buildings and courtyards were completed in 2014 at a total cost of \$0.5 million. Currently, we have an accrual of \$0.2 million for the pond remediation recorded on our consolidated statements of financial position. We believe this accrual will be adequate to cover the remaining remediation work related to the soil and pond contamination based on the information known at this time. However, if additional contamination is found, the cost of the remaining remediation may increase. Overall, we have spent approximately \$2.3 million in remediation and monitoring costs related to these PCB contamination issues. The future costs related to the maintenance of the groundwater pump and treat system now in place at the site are expected to be minimal. We believe that the remaining remediation activity will continue for several more years and no time frame for completion can be estimated at the present time.

Asbestos

We, like many other industrial companies, have been named as a defendant in a number of lawsuits filed in courts across the country by persons alleging personal injury from exposure to products containing asbestos. We have never mined, milled, manufactured or marketed asbestos; rather, we made and provided to industrial users a limited number of products that contained encapsulated asbestos, but we stopped manufacturing these products in the late 1980s. Most of the claims filed against us involve numerous defendants, sometimes as many as several hundred.

The following table presents information about our recent asbestos claims activity:

	For the Year Ended December 31, 2016 2015	
Claims outstanding at beginning of year	489	440
New claims filed	288	231
Pending claims concluded*	(172)	(182)
Claims outstanding at end of year	605	489

* For the year ended December 31, 2016, 155 claims were dismissed and 17 claims were settled. For the year ended December 31, 2015, 176 claims were dismissed and 6 claims were settled. Settlements totaled approximately \$4.4 million for the year ended December 31, 2016, compared to \$1.6 million for the year ended December 31, 2015.

We recognize a liability for asbestos-related contingencies that are probable of occurrence and reasonably estimable. In connection with the recognition of liabilities for asbestos related matters, we record asbestos-related insurance receivables that are deemed probable. Our estimates of asbestos-related contingent liabilities and related insurance receivables are based on an independent actuarial analysis and an independent insurance usage analysis prepared annually by third parties. The actuarial analysis contains numerous assumptions, including general assumptions regarding the asbestos-related product liability litigation environment and company-specific assumptions regarding claims rates (including diseases alleged), dismissal rates, average settlement costs and average defense costs. The insurance usage analysis considers, among other things, applicable deductibles, retentions and policy limits, the solvency and historical payment experience of various insurance carriers, the likelihood of recovery as estimated by external legal counsel and existing insurance settlements. We review our asbestos-related forecasts annually in the fourth quarter of each year unless facts and circumstances materially change during the year, at which time we would analyze these forecasts. Currently, these analyses project liabilities and related insurance receivables over a 10-year period. It is probable we will incur additional costs for asbestos-related claims following this 10-year period, but we do not believe that any related contingencies are reasonably estimable beyond such period based on, among other things, the significant proportion of future claims included in the analysis and the lag time between the date a claim is filed and its resolution. Accordingly, no liability (or related asset) has been recorded for claims that may be asserted subsequent to 2026.

For the years ended December 31, 2016 and 2015, respectively, our forecasted asbestos-related claims and insurance receivables for the 10-year projection period were as follows:

(Dollars in millions)	2016	2015
Asbestos-related claims	\$52.0	\$56.6
Asbestos-related insurance receivables	\$48.4	\$53.4

To date, the defense and settlement costs of our asbestos-related product liability litigation have been substantially covered by insurance. We have identified continuous coverage for primary, excess and umbrella insurance from the 1950s through the mid-1980s, except for a period in the early 1960s, with respect to which we have entered into an agreement for primary, but not excess or umbrella, coverage. In addition, we have entered into a cost sharing agreement with most of our primary, excess and umbrella insurance carriers to facilitate the ongoing administration and payment of claims by the carriers. The cost sharing agreement may be terminated by any party, but will continue until a party elects to terminate it. As of the filing date for this report, the agreement has not been terminated. We expect to exhaust individual primary, excess and umbrella coverages over time, and there is no assurance that such exhaustion will not accelerate due to additional claims, damages and settlements or that coverage will be available as

expected. Accordingly, while we believe it is reasonably possible that we may incur losses and defense costs in excess of our accruals in the future, we do not have sufficient data to provide a reasonable estimate or range of such losses and defense costs, at this time.

Impact on Financial Statements

Projections on the potential exposure and expected insurance coverage are based numerous assumptions. We believe the assumptions made are reasonable at the present time, but are subject to uncertainty based on the actual future outcome of our asbestos litigation. We determined that a ten-year projection period is appropriate as we have experience in addressing asbestos related lawsuits over the last few years to use as a baseline to project the liability over ten years. However, we do not believe we have sufficient data to justify a longer projection period at this time. As of December 31, 2016, the estimated liability and estimated insurance recovery for the ten-year period through 2026 was \$52.0 million and \$48.4 million, respectively. Each year we evaluate the changes in the estimated liability and estimated insurance recovery based on the projections of asbestos litigation and corresponding insurance coverage for that litigation and record the resulting expense or income. For the years ended December 31, 2016 and 2014, we recognized expense of \$0.3 million and \$0.8 million, respectively, and for the year ended December 31, 2015 we recorded income of \$0.3 million.

The amounts recorded for the asbestos-related liability and the related insurance receivables described above were based on facts known at the time and a number of assumptions. However, projecting future events, such as the number of new claims to be filed each year, the average cost of disposing of such claims, the length of time it takes to dispose of such claims, coverage issues among insurers and the continuing solvency of various insurance companies, as well as the numerous uncertainties surrounding asbestos litigation in the United States, could cause the actual liability and insurance recoveries for us to be higher or lower than those projected or recorded.

There can be no assurance that our accrued asbestos liabilities will approximate our actual asbestos-related settlement and defense costs, or that our accrued insurance recoveries will be realized. We believe that it is reasonably possible that we will incur additional charges for our asbestos liabilities and defense costs in the future, which could exceed existing accruals, but such excess amount cannot be reasonably estimated at this time. We will continue to vigorously defend ourselves and believe we have substantial unutilized insurance coverage to mitigate future costs related to this matter.

General

In addition to the above issues, the nature and scope of our business brings us in regular contact with the general public and a variety of businesses and government agencies. Such activities inherently subject us to the possibility of litigation, including environmental and product liability matters that are defended and handled in the ordinary course of business. We have established accruals for matters for which management considers a loss to be probable and reasonably estimable. It is the opinion of management that facts known at the present time do not indicate that such litigation, after taking into account insurance coverage and the aforementioned accruals, will have a material adverse impact on our results of operations, financial position or cash flows.

NOTE 16 – BUSINESS SEGMENT AND GEOGRAPHIC INFORMATION

Our reporting structure is comprised of the following operating segments: ACS, EMS, and PES. Our non-core businesses are reported in the “Other” reportable segment.

Advanced Connectivity Solutions

The ACS operating segment includes circuit materials and solutions enabling high-performance and high-reliability connectivity for applications in wireless communications infrastructure (e.g., power amplifiers, antennas, small cells and distributed antenna systems), automotive (e.g., active safety, advanced driver assistance systems, telematics and thermal management), connected devices, (e.g., mobile internet devices and Internet of Things), wired infrastructure

(e.g., computing, servers and storage), consumer electronics and aerospace/defense. These products have characteristics that offer performance and other functional advantages in many market applications and serve to differentiate our products from other commonly available materials. These products are sold principally to independent and captive printed circuit board fabricators that convert our laminates to custom printed circuits.

The polymer-based dielectric layers of our circuit board laminates are proprietary materials that provide highly specialized electrical and mechanical properties. We sell our circuit materials under various trade names, including RO3000®, RO4000®, RT/duroid®, AD Series™ and CLTE Series™. All of these laminates are used for making circuitry that receive, transmit, and process high frequency communications signals, yet each laminate has varying properties that address specific needs and applications within the communications market.

Elastomeric Material Solutions

The EMS operating segment includes elastomeric material solutions for critical cushioning, sealing, impact protection and vibration management applications including general industrial, portable electronics (e.g., mobile internet devices), consumer goods (e.g., protective sports equipment), automotive, mass transportation, construction and printing applications. These materials have characteristics that offer functional advantages in many market applications which serve to differentiate Rogers' products from other commonly available materials.

EMS products are sold globally to converters, fabricators, distributors and original equipment manufacturers (OEMs) for use in general industrial applications, portable electronics including mobile internet devices, consumer goods, mass transportation, construction, printing applications and other markets. Trade names for our EMS products include: DeWAL™, ARLO®NIPORON®, XRD®, BISCO® and eSORBA®.

In November 2016, we acquired DeWAL which is being integrated into our EMS segment. DeWAL is a leading manufacturer of polytetrafluoroethylene, ultra-high molecular weight polyethylene films, pressure sensitive tapes and specialty products for the industrial, aerospace, automotive, and electronics markets.

We have two 50% owned joint ventures that extend and complement our worldwide business in Elastomeric Material Solutions. Rogers INOAC Corporation (RIC), a joint venture with Japan-based INOAC Corporation, manufactures high performance polyurethane foam materials in Mie and Taketoyo, Japan to predominantly serve the Japanese and Taiwanese markets. Rogers INOAC Suzhou Corporation (RIS) is a joint venture in China that was established with INOAC Corporation and provides polyurethane foam materials primarily to the Asian marketplace.

Power Electronics Solutions

The PES operating segment is comprised of direct bond copper (DBC) ceramic substrate products and busbar power distribution products. We believe that our advanced, customized components enable the performance and reliability of today's growing array of power electronic devices and serve to increase the efficiency of applications by managing heat and ensuring the reliability of these critical devices used in converting raw energy into controlled and regulated power that can be used and managed.

Trade names for our PES products include curamik® ceramic substrates and ROLINX® products. Our curamik® ceramic substrates are used in the design of intelligent power management devices, such as insulated gate bipolar transistor (IGBT) modules, which enable a wide range of products including highly efficient industrial motor drives, wind and solar converters and electric and hybrid electric vehicle drive systems. ROLINX® products are used in high power electrical inverter and converter systems for use in mass transit (e.g. high speed trains); clean technology applications (e.g. wind turbines, solar farms and electric vehicles) and variable frequency drives for high to mid power applications.

Other

The remainder of operations are accumulated and reported as our Other business, which consists of elastomer components, floats and inverter distribution activities. Elastomer components are sold to OEMs for applications in ground transportation, office equipment, consumer and other markets. Trade names for our elastomer components include: NITROPHYL® floats for level sensing in fuel tanks, motors, and storage tanks and ENDUR® elastomer rollers and belts for document handling in copiers, printers, mail sorting machines and automated teller machines. Inverters are sold primarily to OEMs and fabricators that in turn sell to various other third parties primarily serving the portable communication and automotive markets. Arlon operations related to the manufacture of specialty polyimide, epoxy-based laminates and bonding materials were included in our Other segment until we divested those operations in December 2015.

The following table sets forth the information about our reportable segments for the periods indicated, with inter-segment sales eliminated:

(Dollars in thousands)	Advanced Connectivity Solutions	Elastomeric Material Solutions	Power Electronics Solutions	Other	Total
2016					
Net sales	\$ 277,787	\$ 203,181	\$ 152,367	\$22,979	\$656,314
Operating income	\$ 43,965	\$ 26,593	\$ 5,965	\$7,329	\$83,852
Total assets	\$ 361,746	\$ 421,011	\$ 247,187	\$26,556	\$1,056,500
Capital expenditures	\$ 7,569	\$ 4,051	\$ 6,009	\$507	\$18,136
Depreciation & amortization	\$ 15,654	\$ 10,141	\$ 11,208	\$844	\$37,847
Investment in unconsolidated joint ventures	\$ —	\$ 16,183	\$ —	\$—	\$16,183
Equity income in unconsolidated joint ventures	\$ —	\$ 4,146	\$ —	\$—	\$4,146
2015					
Net sales	\$ 267,630	\$ 180,898	\$ 150,288	\$42,627	\$641,443
Operating income	\$ 45,115	\$ 19,979	\$ 3,750	\$7,411	\$76,255
Total assets	\$ 315,358	\$ 264,982	\$ 320,755	\$29,260	\$930,355
Capital expenditures	\$ 15,532	\$ 4,103	\$ 4,185	\$1,017	\$24,837
Depreciation & amortization	\$ 15,403	\$ 9,280	\$ 7,855	\$1,516	\$34,054
Investment in unconsolidated joint ventures	\$ —	\$ 15,348	\$ —	\$—	\$15,348
Equity income in unconsolidated joint ventures	\$ —	\$ 2,890	\$ —	\$—	\$2,890
2014					
Net sales	\$ 240,864	\$ 173,671	\$ 171,832	\$24,544	\$610,911
Operating income	\$ 44,007	\$ 23,350	\$ 5,654	\$8,230	\$81,241
Total assets	\$ 217,173	\$ 221,013	\$ 377,181	\$25,068	\$840,435
Capital expenditures	\$ 14,290	\$ 6,197	\$ 7,489	\$779	\$28,755
Depreciation & amortization	\$ 9,575	\$ 6,561	\$ 9,332	\$800	\$26,268
Investment in unconsolidated joint ventures	\$ —	\$ 17,214	\$ —	\$—	\$17,214
Equity income in unconsolidated joint ventures	\$ —	\$ 4,123	\$ —	\$—	\$4,123

The following table sets forth the operating income reconciliation to the consolidated statements of operations for the periods indicated:

(Dollars in thousands)	2016	2015	2014
Operating income	\$83,852	\$76,255	\$81,241
Equity income in unconsolidated joint ventures	4,146	2,890	4,123
Other income (expense), net	(1,788)	(8,492)	(1,194)
Interest income (expense), net	(3,930)	(4,480)	(2,946)
Income before income taxes	\$82,280	\$66,173	\$81,224

Information relating to our operations by geographic area was as follows:

	Net Sales ⁽¹⁾			Long-lived Assets ⁽²⁾		
(Dollars in thousands)	2016	2015	2014	2016	2015	2014
United States	\$158,136	\$164,478	\$124,305	\$326,199	\$218,439	\$70,728
China	236,961	227,993	236,488	62,728	65,994	49,794
Germany	79,480	76,569	93,478	101,725	110,240	129,702
Other	181,737	172,403	156,640	32,242	34,460	36,999
Total	\$656,314	\$641,443	\$610,911	\$522,894	\$429,133	\$287,223

(1) Net sales are allocated to countries based on the location of the customer. Countries with 10% or more of net sales have been disclosed.

(2) Long-lived assets are based on the location of the asset and are comprised of goodwill and other intangibles and property, plant and equipment. Countries with 10% or more of long-lived assets have been disclosed.

NOTE 17 – RESTRUCTURING AND IMPAIRMENT CHARGES

2016

On August 8, 2016, we announced plans to relocate our global headquarters from Rogers, Connecticut to Chandler, Arizona. The move will build upon our presence in Arizona, where we have major business and manufacturing operations. The decision supports our long-term strategy and is an integral part of our plans for growth and expansion. The new corporate headquarters location will be home to approximately 70 employees who support areas such as human resources, information technology, finance and supply chain, among others. The Rogers, Connecticut location will continue to have manufacturing, research and development and support services. In 2016, we recorded \$0.7 million of expense related to this project.

The fair value of the total severance benefits to be paid is \$1.2 million, of which \$0.6 million was expensed in 2016. The remainder will be expensed ratably over the required service period for the affected employees.

2015

There were no restructuring or impairment charges in 2015.

2014

In the fourth quarter of 2014, we recognized a \$0.2 million charge related to the impairment of the investment in BrightVolt, Inc. As this investment does not specifically relate to any of our operating segments, we have allocated this impairment charge on a basis similar to other Corporate allocations.

In the fourth quarter of 2014, certain eligible participants in the defined benefit pension plans were given a lump sum payout offer. The payout of this program resulted in a settlement charge of \$5.2 million.

The following table summarizes changes in the severance accrual from September 30, 2016 through December 31, 2016:

(Dollars in thousands)	Severance related to headquarters relocation
Balance at September 30, 2016	\$ 88
Provisions	471
Payments	(89)
Balance at December 31, 2016	\$ 470

The following table summarizes the restructuring and impairment charges related to these activities recorded in our operating results in 2016 and 2014.

(Dollars in thousands)	2016	2014
Elastomeric Material Solutions		
Pension settlement charge	\$—	\$1,332
Severance and other related costs	176	—
Allocated Solicore impairment	—	42
Advanced Connectivity Solutions		
Pension settlement charge	—	1,954
Severance and other related costs	375	—
Allocated Solicore impairment	—	62
Power Electronics Solutions		
Pension settlement charge	—	1,921
Severance and other related costs	183	—
Allocated Solicore impairment	—	61
Other		
Pension settlement charge	—	17
Severance and other related costs	—	—
Allocated Solicore impairment	—	1
Total Charges for Restructuring and Impairment	\$734	\$5,390

NOTE 18 – QUARTERLY RESULTS OF OPERATIONS (UNAUDITED)

(Dollars in thousands, except per share amounts) 2016

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Net sales	\$160,566	\$157,489	\$165,259	\$173,000
Gross margin	\$60,508	\$60,199	\$61,929	\$66,849
Net income	\$14,928	\$5,377	\$16,065	\$11,913

Net income per share:

Basic	\$0.83	\$0.30	\$0.89	\$0.66
Diluted	\$0.82	\$0.29	\$0.88	\$0.65

2015

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Net sales	\$165,051	\$163,098	\$160,366	\$152,928
Gross margin	\$62,425	\$60,661	\$59,672	\$52,604
Net income	\$13,643	\$13,554	\$12,546	\$6,577

Net income per share:

Basic	\$0.74	\$0.73	\$0.68	\$0.37
Diluted	\$0.72	\$0.71	\$0.67	\$0.37

NOTE 19 – RECENT ACCOUNTING STANDARDS

In April 2015, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) No. 2015-03, Simplifying the Presentation of Debt Issuance Costs, which changed the presentation of debt issuance costs in the balance sheet. The new guidance required that debt issuance costs no longer be classified as an asset, but rather as an offset to the outstanding debt. The amortization of these costs continues to be recorded as interest expense. We retrospectively adopted this standard in the first quarter of 2016. The application of this guidance resulted in reclassifications of debt issuance costs of \$0.5 million from current assets to the current portion of long-term debt as of December 31, 2016 and 2015. The application of this guidance resulted

in reclassifications of debt issuance costs from long term assets to long-term debt of \$1.1 million and \$1.6 million as of December 31, 2016 and 2015, respectively.

In November 2015, the FASB issued ASU No. 2015-17, Income Taxes: Balance Sheet Classification of Deferred Taxes. This ASU requires all deferred tax assets and liabilities to be classified as non-current. ASU 2015-17 is effective for fiscal years and interim periods within those years beginning after December 15, 2016 with early adoption permitted. We elected to prospectively adopt ASU 2015-17 as of March 31, 2016. Had we applied this guidance retrospectively, \$9.6 million would have been reclassified from current deferred tax assets to long term deferred tax assets in our consolidated statement of financial position as of December 31, 2015. The adoption of this guidance did not have an impact on our consolidated statements of operations or cash flows.

In May 2014, the FASB issued ASU No. 2014-09, Revenue from Contracts with Customers, to achieve a consistent application of revenue recognition within the U.S., resulting in a single revenue model to be applied by reporting companies under U.S. generally accepted accounting principles. Under the new model, recognition of revenue occurs when a customer obtains control of promised goods or services in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. In addition, the new standard requires that reporting companies disclose the nature, amount, timing, and uncertainty of revenue and cash flows arising from contracts with customers. On July 9, 2015, the FASB agreed to delay the effective date by one year. In accordance with the agreed upon delay, the updated standard is effective for us beginning in the first quarter of 2018. Early adoption is permitted, but not before the original effective date of the standard. During 2016, the FASB issued new accounting standards updates regarding principal versus agent considerations in determining revenue recognition identifying performance obligations and licensing, collectability, sales tax, non-cash considerations, completed contracts, contract modifications and effect of accounting change. The new standard is required to be applied retrospectively to each prior reporting period presented or retrospectively with the cumulative effect of initially applying it recognized at the date of initial application. We have initiated our implementation plan, which includes assessing the contracts the company has in place and quantifying the accounting impact in accordance with the new accounting standard, if any. We expect to be in full compliance with the accounting standard beginning in fiscal year 2018.

In February 2016, the FASB issued ASU No. 2016-02, Leases, which sets out the principles for the recognition, measurement, presentation and disclosure of leases for both parties to a contract (i.e., lessees and lessors). The new standard requires lessees to apply a dual approach, classifying leases as either finance or operating leases based on whether the lease effectively finances a purchase by the lessee. This classification will determine whether lease expense is recognized based on an effective interest method (finance lease) or on a straight line basis over the term of the lease (operating lease). A lessee is also required to record a right-of-use asset and a lease liability for all leases with a term of greater than 12 months regardless of their classification. Leases with a term of 12 months or less will be accounted for similar to existing guidance for operating leases today. ASU No. 2016-2 supersedes the existing guidance on accounting for leases. The standard is effective for interim and annual reporting periods for fiscal years beginning after December 15, 2018. Early adoption of this standard is permitted and it is to be adopted using a modified retrospective approach. We have initiated our implementation plan, which includes ensuring appropriate classification of our lease agreements and quantifying the accounting impact in accordance with the new accounting standard. We expect to be in full compliance with the accounting standard beginning in fiscal year 2019.

In March 2016, the FASB issued ASU No. 2016-09, Improvements to Employee Share-Based Payment Accounting, which contains amendments intended to simplify various aspects of share-based payment accounting and presentation in the financial statements, including the income tax consequences, classification of awards as either equity or liabilities, treatment of forfeitures and statutory tax withholding requirements, and classification in the statement of cash flows. The update is effective for interim and annual reporting periods beginning after December 15, 2016. The new standard generally requires a modified retrospective transition through a cumulative effect adjustment as of the beginning of the period of adoption, with certain provisions requiring either a prospective or retrospective transition.

The Company adopted ASU 2016-09 on January 1, 2017. Upon adoption, the Company will recognize excess tax benefits of approximately \$13 million in deferred tax assets that were previously not recognized in a cumulative-effect adjustment to retained earnings. The Company will prospectively record a deferred tax benefit or expense associated with the difference between book and tax for stock compensation expense. As we progress through the remainder of the adoption process in the first quarter of 2017, we will continue to evaluate any other impacts on our financial statements.

In August 2016, the FASB issued ASU 2016-15, Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments, with the intention to reduce diversity in practice, as well as simplify elements of classification within the statement of cash flows for certain transactions. The update is effective for interim and annual reporting periods beginning after December 15, 2016. The accounting update is to be adopted using a retrospective approach. We adopted ASU 2016-15 effective January 1, 2017, and it is not expected to have a material impact on our financial statements.

NOTE 20 – SUBSEQUENT EVENTS

Acquisition

On January 6, 2017, we acquired the principal operating assets of Diversified Silicone Products, Inc. (DSP), a custom manufacturer of silicone sheet, extrusions, stripping and compounds for a stated purchase price of \$60.0 million. We used cash on hand and \$30.0 million in borrowings under our existing credit facility to fund the purchase price. DSP, headquartered in Santa Fe Springs, California, sells to customers across the automotive, aerospace, medical and oil and gas industries and has sales in North America, Central America, Europe and Asia.

Due to the timing of the acquisition, disclosures relating to the acquisition, including the allocation of the purchase price, have been omitted because the initial accounting for the transaction was incomplete as of the filing date of this report.

Third Amended Credit Agreement

On February 17, 2017, we entered into the Third Amended and Restated Credit Agreement with JPMorgan Chase Bank, N.A., as administrative agent, and the lenders party thereto (the “Third Amended Credit Agreement”), which amends and restates the Second Amended Credit Agreement. The Third Amended Credit Agreement refinances the Second Amended Credit Agreement, eliminates the term loan under the Second Amended Credit Agreement, and increases the principal amount of the revolving credit facility to up to \$450.0 million borrowing capacity, with an additional \$175.0 million accordion feature. All revolving loans under the Third Amended Credit Agreement are due on the maturity date, February 17, 2022. We are not required to make any quarterly principal payments under the Third Amended Credit Agreement.

The Third Amended Credit Agreement generally permits us to pay cash dividends to our shareholders, provided that (i) no default or event of default has occurred and is continuing or would result from the dividend payment and (ii) our leverage ratio does not exceed 2.75 to 1.00. If our leverage ratio exceeds 2.75 to 1.00, we may nonetheless make up to \$20.0 million in restricted payments, including cash dividends, during the fiscal year, provided that no default or event of default has occurred and is continuing or would result from the payments.

SCHEDULE II

Valuation and Qualifying Accounts

(Dollars in thousands)	Balance at Beginning of Period	Charged to (Reduction of) Costs and Expenses	Taken Against Allowance	Other (Deductions) Recoveries	Balance at End of Period
Allowance for Doubtful Accounts					
December 31, 2016	\$ 695	\$ 1,321	\$ (64)	\$ —	\$ 1,952
December 31, 2015	\$ 476	\$ 1,085	\$ (866)	\$ —	\$ 695
December 31, 2014	\$ 1,655	\$ 250	\$ (1,429)	\$ —	\$ 476

(Dollars in thousands)	Balance at Beginning of Period	Charged to (Reduction of) Costs and Expenses	Taken Against Allowance	Other (Deductions) Recoveries	Balance at End of Period
Valuation on Allowance for Deferred Tax Assets					
December 31, 2016	\$ 6,202	\$ 186	\$ —	\$ —	\$ 6,388
December 31, 2015	\$ 7,691	\$ (1,484)	\$ —	\$ (5)	\$ 6,202
December 31, 2014	\$ 7,302	\$ 159	\$ —	\$ 230	\$ 7,691

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

None.

Item 9A. Controls and Procedures

EVALUATION OF DISCLOSURE CONTROLS AND PROCEDURES

The Company, with the participation of our Chief Executive Officer and Chief Financial Officer, conducted an evaluation of the design and operation of our disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the “Exchange Act”), as of December 31, 2016. The Company’s disclosure controls and procedures are designed (i) to ensure that information required to be disclosed by it in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC’s rules and forms and (ii) to ensure that information required to be disclosed in the reports the Company files or submits under the Exchange Act is accumulated and communicated to its management, including its Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure. Based on their evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that the Company’s disclosure controls and procedures were effective as of December 31, 2016.

CHANGES IN INTERNAL CONTROL OVER FINANCIAL REPORTING

There were no changes in the Company’s internal control over financial reporting during the fourth quarter of the fiscal year ended December 31, 2016 that have materially affected or are reasonably likely to materially affect its internal control over financial reporting, as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act. This evaluation excluded the operations of DeWAL Industries LLC, which we acquired on November 23, 2016. As part of the ongoing integration activities, we will complete an assessment of DeWAL’s existing controls and incorporate our controls and procedures into the acquired operations, as appropriate.

Item 9B. Other Information

None.

Part III

Item 10. Directors, Executive Officers and Corporate Governance

Pursuant to General Instruction G to Form 10-K, there is hereby incorporated by this reference the information with respect to the Directors, Executive Officers and Corporate Governance set forth under the captions “Nominees for Director”, “Director Qualifications and Experience”, “Section 16(a) Beneficial Ownership Reporting Compliance” and “Board of Directors - Meetings of the Board and Committees” in our Definitive Proxy Statement for our 2017 Annual Meeting of Shareholders that will be filed within 120 days after the end of our fiscal year pursuant to Section 14(a) of the Exchange Act. Information with respect to Executive Officers of the Company is presented in Part I, Item 1 of this report and is hereby incorporated into this Item 10 by reference.

Code of Ethics

We have adopted a code of business conduct and ethics policy, which applies to all employees, officers and directors of Rogers Corporation. The Rogers Corporation Code of Business Conduct and Ethics Policy is posted on our website at <http://www.rogerscorp.com>. We intend to satisfy the disclosure requirements regarding any amendment to, or waiver of, a provision of the Code of Business Conduct and Ethics Policy for the Principal Executive Officer, Principal Financial Officer or Principal Accounting Officer (or others performing similar functions) by posting such information on our website. Our website is not incorporated into or a part of this Form 10-K.

Item 11. Executive Compensation

Pursuant to General Instruction G to Form 10-K, there is hereby incorporated by this reference the information with respect to Executive Compensation set forth under the captions “Board of Directors - Directors’ Compensation”, “Board of Directors - Meetings of the Board and Committees”, “Compensation Discussion and Analysis”, “Compensation and Organization Committee Report” and “2016 Compensation” in our Definitive Proxy Statement for our 2017 Annual Meeting of Shareholders that will be filed within 120 days after the end of our fiscal year pursuant to Section 14(a) of the Exchange Act.

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

The table and footnotes below describe those equity compensation plans approved and not approved by security holders of Rogers Corporation as of December 31, 2016.

EQUITY COMPENSATION PLANS AS OF DECEMBER 31, 2016

Plan Category	(a) Number of securities to be issued upon exercise of outstanding options, warrants and rights	(b) Weighted average exercise price of outstanding options, warrants and rights (1)	(c) Number of securities remaining available for future issuance under each equity compensation plan excluding securities referenced in column (a)
Equity Compensation Plans Approved by Security Holders			
Rogers Corporation			
2009 Long-Term Equity Compensation Plan	605,094 (2)	\$37.21	892,163
Rogers 2005 Equity Compensation Plan	34,235 (3)	39.65	—
Rogers 1998 Stock Incentive Plan	6,528 (4)	—	—
Rogers 1990 Stock Option Plan	12,200	28.00	—
Rogers Corporation Global Stock Ownership Plan For Employees (5)	—		133,113
Equity Compensation Plans Not Approved by Security Holders			
Rogers Corporation			
Stock Acquisition Program (6)	797	—	120,883
Inducement Awards for the CEO (7)	23,200	37.05	—
Total	682,054	\$36.86	1,146,159

(1) Weighted average exercise price does not take into account outstanding awards of deferred stock units, restricted stock units or phantom stock units.

(2) Consists of 50,467 shares for stock options, 542,727 shares for restricted stock unit awards and 11,900 shares for deferred stock unit awards.

(3) Consists of 30,708 shares for stock options and 3,527 shares for phantom stock unit awards.

(4) Consists of 6,528 shares for phantom stock unit awards.

(5) This is an employee stock purchase plan within the meaning of Section 432(b) of the Internal Revenue Code of 1986, as amended.

(6) The purpose of the Stock Acquisition Program was to enable non-management directors to acquire shares of Rogers' common stock in lieu of cash compensation, on either a current or deferred basis at the then current fair

market value of such common stock. As of December 31, 2016, the Company no longer offers capital stock to its directors under the Stock Acquisition Program.

(7) Bruce D. Hoechner was granted an inducement option to purchase 23,200 shares of the Company's common stock when he joined Rogers Corporation as its new President and Chief Executive Officer in October 2011. The Board of Directors (including a majority of its independent directors) approved this award in reliance on an employment inducement exception to shareholder approval in the New York Stock Exchange rules.

Pursuant to General Instruction G to Form 10-K, there is hereby incorporated by this reference the information with respect to Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters set forth under the captions "Stock Ownership of Management and Directors" and "Beneficial Ownership of More Than Five Percent of Rogers Stock" in our Definitive Proxy Statement for our 2017 Annual Meeting of Shareholders that will be filed within 120 days after the end of our fiscal year pursuant to Section 14(a) of the Exchange Act.

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

Pursuant to General Instruction G to Form 10-K, there is hereby incorporated by this reference the information with respect to Certain Relationships and Related Transactions and Director Independence as set forth under the captions “Related Party Transactions” and “Board of Directors-Director Independence” in our Definitive Proxy Statement for our 2017 Annual Meeting of Shareholders that will be filed within 120 days after the end of our fiscal year pursuant to Section 14(a) of the Exchange Act.

Item 14. Principal Accountant Fees and Services

Pursuant to General Instruction G to Form 10-K, there is hereby incorporated by this reference the information with respect to Accountant Fees and Services set forth under the caption “Fees of Independent Registered Public Accounting Firm” in our Definitive Proxy Statement for our 2017 Annual Meeting of Shareholders that will be filed within 120 days after the end of our fiscal year pursuant to Section 14(a) of the Exchange Act.

Part IV

Item 15. Exhibits, Financial Statement Schedules

(1) Financial Statements and Schedules

The following consolidated financial statements of the Company are included in Item 8 of this Form 10-K:

Report of Independent Registered Public Accounting Firm
Consolidated Statements of Operations
Consolidated Statements of Comprehensive Income (Loss)
Consolidated Statements of Financial Position
Consolidated Statements of Shareholders' Equity
Consolidated Statements of Cash Flows
Notes to Consolidated Financial Statements

(2) Financial Statement Schedules.

Schedule II - Valuation and Qualifying Accounts

Other than as set forth above, schedules are omitted because they are not applicable, or are not required, or because the information is included in the consolidated financial statements and notes thereto.

(3) Exhibits.

The following list of exhibits includes exhibits submitted with this Form 10-K as filed with the SEC and those incorporated by reference to other filings.

Stock Purchase Agreement, dated as of December 18, 2014, by and among Handy & Harman Group, Ltd., 2.1 Bairnco, LLC and Rogers Corporation, incorporated by reference to Exhibit 2.1 to the Registrant's Current Report on Form 8-K filed on December 22, 2014.

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Amendment No. 1 to Stock Purchase Agreement, dated January 22, 2015, by and among Handy & Harman Group, Ltd., Bairnco, LLC and Rogers Corporation, incorporated by reference to Exhibit 2.1 to the Registrant's Current Report on Form 8-K filed on January 26, 2015.

Restated Articles of Organization of Rogers Corporation, as amended, incorporated by reference to Exhibit 3a to the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2006 (the 2006 Form 10-K) (File No. 001-04347).

3.2 Amended and Restated Bylaws of Rogers Corporation, effective February 11, 2016, incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed on February 26, 2016.

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Shareholder Rights Agreement, dated as of February 22, 2007, between the Registrant and Registrar and Transfer Company, as Rights Agent, incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K filed on February 23, 2007 (File No. 001-04347).

10.1 The Restated Rogers Corporation 1990 Stock Option Plan, incorporated by reference to Exhibit 99.1 to the Registrant's Registration Statement on Form S-8 dated October 18, 1996.**

10.1.1 First Amendment to Rogers Corporation 1990 Stock Option Plan, dated December 21, 1999, incorporated by reference to Exhibit 10e to the Registrant's Annual Report on Form 10-K for the fiscal year ended January 2, 2000 (the 1999 Form 10-K) (File No. 001-04347).**

10.1.2 Second Amendment to Rogers Corporation 1990 Stock Option Plan, dated October 7, 2002, incorporated by reference to Exhibit 10e to the Registrant's Annual Report on Form 10-K for the fiscal year ended December 29, 2002 (the 2002 Form 10-K) (File No. 001-04347).**

10.1.3 Amendment to Plans, dated April 18, 2000, June 21, 2001, August 22, 2002 and December 5, 2002, incorporated by reference to Exhibits 10e through 10e-iii to the Registrant's 2003 Form 10-K (File No. 001-04347).**

10.1.4 Amendments to Certain Stock Option Plans and Certain Other Employee Benefit or Compensation Plans, dated October 27, 2006, incorporated by reference to Exhibit 10aab to the 2006 Form 10-K (File No. 001-04347).**

10.2 Rogers Corporation 1998 Stock Incentive Plan, incorporated by reference to Exhibit A to the Definitive Proxy Statement dated March 17, 1998 (File No. 001-04347).**

10.2.1 First Amendment and Second Amendment to Rogers Corporation 1998 Stock Incentive Plan, dated September 19, 1999 and December 21, 1999, incorporated by reference to Exhibit 10l to the 1999 Form 10-K (File No. 001-04347).**

10.2.2 Fifth Amendment and Sixth Amendment to Rogers Corporation 1998 Stock Incentive Plan, dated October 10, 2001 and November 7, 2002, incorporated by reference to Exhibit 10l to the 2002 Form 10-K (File No. 001-04347).**

10.2.3 Amendment to Plans, dated April 18, 2000, June 21, 2001, August 22, 2002 and December 5, 2002, incorporated by reference to Exhibits 10l through 10l-iii to the Registrant's Annual Report on Form 10-K for the fiscal year ended December 28, 2003 (the 2003 Form 10-K) (File No. 001-04347).**

10.2.4 Seventh Amendment to Rogers Corporation 1998 Stock Incentive Plan, dated February 19, 2004, incorporated by reference to Exhibit 10l-iv to the 2003 Form 10-K (File No. 001-04347).**

10.2.5 Eighth Amendment to Rogers Corporation 1998 Stock Incentive Plan, dated April 28, 2005, incorporated by reference to Exhibit 10.8 to the Registrant's Current Report on Form 8-K filed on May 2, 2005 (File No. 001-04347).**

10.2.6 Amendments to Certain Stock Option Plans and Certain Other Employee Benefit or Compensation Plans, dated October 27, 2006, incorporated by reference to Exhibit 10aab to the 2006 Form 10-K (File No. 001-04347).**

10.3

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Rogers Corporation 2005 Equity Compensation Plan, incorporated by reference to Exhibit 10.1 to the Registrant's Registration Statement on Form S-8 filed on April 29, 2005.**

First Amendment to Rogers Corporation 2005 Equity Compensation Plan, dated August 25, 2006, incorporated 10.3.1 by reference to Exhibit 10aj-1 to the Registrant's Quarterly Report on Form 10-Q filed November 20, 2006 (File No. 001-04347).**

Second Amendment to Rogers Corporation 2005 Equity Compensation Plan, dated October 27, 2006, 10.3.2 incorporated by reference to Exhibit 10aj-2 to the Registrant's Quarterly Report on Form 10-Q filed November 20, 2006 (File No. 001-04347).**

Third Amendment to Rogers Corporation 2005 Equity Compensation Plan, dated May 9, 2008, incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on May 9, 2008 (File No. 001-04347).**

10.3.4 Fourth Amendment to Rogers Corporation 2005 Equity Compensation Plan, dated October 3, 2008, incorporated by reference to Exhibit 10aj-4 to the Registrant's Quarterly Report on Form 10-Q filed on November 5, 2008 (File No. 001-04347).**

10.4 The Amended and Restated Rogers Corporation Voluntary Deferred Compensation Plan for Non-Management Directors, incorporated by reference to Exhibit 10i to the Registrant's Quarterly Report on Form 10-Q filed November 8, 2007 (File No. 001-04347).**

10.4.1 First Amendment to the Amended and Restated Rogers Corporation Voluntary Deferred Compensation Plan for Non-Management Directors, incorporated by reference to Exhibit 10.5 to the Registrant's Quarterly Report on Form 10-Q filed November 3, 2009 (File No. 001-04347).**

10.4.2 Second Amendment to the Amended and Restated Rogers Corporation Voluntary Deferred Compensation Plan for Non-Management Directors, incorporated by reference to Exhibit 10.5 to the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2010 (the 2010 Form 10-K) (File No. 001-04347).**

10.5 The Amended and Restated Rogers Corporation Voluntary Deferred Compensation Plan for Key Employees, incorporated by reference to Exhibit 10j to the Registrant's Quarterly Report on Form 10-Q filed November 8, 2007 (File No. 001-04347).**

10.5.1 First Amendment to the Amended and Restated Rogers Corporation Voluntary Deferred Compensation Plan for Key Employees, incorporated by reference to Exhibit 10j to the Registrant's Quarterly Report on Form 10-Q filed August 7, 2008 (File No. 001-04347).**

10.5.2 Second Amendment to the Amended and Restated Rogers Corporation Voluntary Deferred Compensation Plan for Key Employees, incorporated by reference to Exhibit 10.6 to the Registrant's Quarterly Report on Form 10-Q filed November 3, 2009 (File No. 001-04347).**

10.5.3 Third Amendment to the Amended and Restated Rogers Corporation Voluntary Deferred Compensation Plan for Key Employees, incorporated by reference to Exhibit 10.4 to the Registrant's Current Report on Form 8-K filed February 17, 2010 (File No. 001-04347).**

10.5.4 Fourth Amendment to the Amended and Restated Rogers Corporation Voluntary Deferred Compensation Plan for Key Employees, incorporated by reference to Exhibit 10.6 to the 2010 Form 10-K (File No. 001-04347).**

10.6 Rogers Corporation Amended and Restated Pension Restoration Plan, incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed December 17, 2008 (File No. 001-04347).**

10.6.1 First Amendment to Rogers Corporation Amended and Restated Pension Restoration Plan, incorporated by reference to Exhibit 10.4 to the Registrant's Quarterly Report on Form 10-Q filed November 3, 2009 (File No. 001-04347).**

10.6.2 Second Amendment to Rogers Corporation Amended and Restated Pension Restoration Plan, incorporated by reference to Exhibit 10.10 to the 2010 Form 10-K (File No. 001-04347).**

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Form of Indemnification Agreement between the Registrant and each of its executive officers, incorporated by reference to Exhibit 99.2 to the Registrant's Current Report on Form 8-K on December 14, 2004 (File No. 001-04347).**

10.8 Form of Indemnification Agreement between the Registrant and each of its directors, incorporated by reference to Exhibit 99.1 to the Registrant's Current Report on Form 8-K on December 14, 2004 (File No. 001-04347).**

10.9 Rogers Compensation Recovery Policy, incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed October 19, 2009 (File No. 001-04347).**

10.10 Amended Rogers Corporation 2009 Long-Term Equity Compensation Plan, incorporated by reference to Exhibit 10.1 to the Registrant's Registration Statement on Form S-8 filed May 7, 2012.**

10.11 Form of Performance-Based Restricted Stock Award Agreement under the 2009 Plan, incorporated by reference to Exhibit 10.14 to the Registrant's 2016 Form 10-K.**

10.12 Form of Time-Based Restricted Stock Unit Award Agreement under the 2009 Plan, incorporated by reference to Exhibit 10.16 to the Registrant's 2016 Form 10-K.**

10.13 Form of Non-Qualified Stock Option Agreement (for officers and employees) under the 2009 Plan, incorporated by reference to Exhibit 10.6 to the Registrant's Quarterly Report on Form 10-Q filed August 4, 2009 (File No. 001-04347).**

10.14 Form of Non-Qualified Stock Option Agreement (for officers and employees) under the 2009 Plan, incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q filed November 3, 2009 (File No. 001-04347).**

10.15 Second Amended and Restated Credit Agreement, dated as of June 18, 2015, with each of the lenders party thereto, JPMorgan Chase Bank, N.A. as administrative agent, HSBC Bank USA, National Association and Citizens Bank, N.A. as co-syndication agents, Fifth Third Bank and Citibank, N.A. as co-documentation agents and JPMorgan Securities LLC and HSBC Bank USA, National Association as joint bookrunners and joint lead arrangers, incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed June 24, 2015.

10.15.1 Amendment No. 1, dated as of October 29, 2015, to the Second Amended and Restated Credit Agreement, by and among the Registrant, JPMorgan Chase Bank, N.A. as an Issuing Bank and Administrative Agent, HSBC Bank USA, National Association as a Lender and an Issuing Bank, and Citizens Bank, N.A., Fifth Third Bank, Citibank, N.A., incorporated by reference to Exhibit 10.22 to the Registrant's 2016 Form 10-K.

10.16 Letter Agreement between the Registrant and Bruce D. Hoechner, dated September 15, 2011 and accepted on September 20, 2011, incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed September 26, 2011 (File No. 001-04347).**

10.17 Non-Qualified Stock Option Agreement between the Registrant and Bruce D. Hoechner, incorporated by reference to Exhibit 10.2 to the Registrant's Registration Statement on Form S-8 filed May 7, 2012.**

10.18 Time-Based Restricted Stock Unit Award Agreement between the Registrant and Bruce D. Hoechner, incorporated by reference to Exhibit 10.3 to the Registrant's Registration Statement on Form S-8 filed May 7, 2012.**

10.19 Time-Based Restricted Stock Unit Award Agreement (4 Year Cliff Vested) between the Registrant and Bruce D. Hoechner, incorporated by reference to Exhibit 10.4 to the Registrant's Registration Statement on Form S-8 filed May 7, 2012.**

10.20 Letter Agreement between the Company and Janice Stipp, dated October 1, 2015 and accepted on October 5, 2015, incorporated by reference to Exhibit 10.28 to the Registrant's 2016 Form 10-K.**

10.21

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Rogers Corporation 2009 Long-Term Equity Compensation Plan, as amended, incorporated by reference to Exhibit B to the Company's Definitive Proxy Statement filed March 24, 2014.**

10.22 Rogers Corporation Deferred Compensation Plan, incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed June 26, 2014.**

10.23 Form of Officer Special Severance Agreement between the Company and each of its executive officers, incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed July 30, 2015.**

10.24 Third Amended and Restated Credit Agreement, dated as of February 17, 2017 among Rogers Corporation, the lenders party thereto, JPMorgan Chase Bank, N.A., as administrative agent, HSBC Bank USA, National Association and Citizens Bank, N.A. as co-syndication agents, and Citibank, N.A. as documentation agent, filed herewith.

21 Subsidiaries of the Registrant, filed herewith.

23.1 Consent of PricewaterhouseCoopers, LLP, Independent Registered Public Accounting Firm, filed herewith

23.2 Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm, filed herewith.

31.1 Certification of President and Chief Executive Officer Pursuant to Rule 13a-14(a) of the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002, filed herewith.

31.2 Certification of Vice President, Finance and Chief Financial Officer Pursuant to Rule 13a-14(a) of the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002, filed herewith.

32 Certification of President and Chief Executive Officer and Vice President, Finance and Chief Financial Officer Pursuant to Rule 13a-14(b) of the Securities Exchange Act of 1934 and 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, filed herewith.

101 The following materials from Rogers Corporation's Annual Report on Form 10-K for the fiscal year ended December 31, 2016, formatted in XBRL (eXtensible Business Reporting Language): (i) Consolidated Statements of Financial Position for the fiscal years ended December 31, 2016 and 2015; (ii) Consolidated Statements of Operations for the fiscal years ended December 31, 2016, 2015 and 2014; (iii) Consolidated Statements of Shareholders' Equity for the fiscal years ended December 31, 2016, 2015 and 2014; and (iv) Consolidated Statements of Cash Flows for the fiscal years ended December 31, 2016, 2015 and 2014; and (v) Notes to Consolidated Financial Statements.

**Management contract or compensatory plan or arrangement.

Item 16. Form 10-K Summary

Not Applicable.

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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.

ROGERS CORPORATION

(Registrant)

/s/ Bruce D. Hoechner

Bruce D. Hoechner

President and Chief Executive Officer

Principal Executive Officer

Dated: February 21, 2017

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below on February 21, 2017, by the following persons on behalf of the Registrant and in the capacities indicated.

/s/ Bruce D. Hoechner

Bruce D. Hoechner

President and Chief Executive Officer

Director

Principal Executive Officer

/s/ Carol R. Jensen

Carol R. Jensen

Director

/s/ Janice E. Stipp

Janice E. Stipp

Senior Vice President, Finance and Chief Financial Officer, Principal Financial Officer and

Principal Accounting Officer

/s/ William E.

Mitchell

William E.

Mitchell

Director

/s/ Michael F. Barry

Michael F. Barry

Director

/s/ Ganesh Moorthy

Ganesh Moorthy

Director

/s/ Helene Simonet

Helene Simonet

Director

/s/ Peter C. Wallace

Peter C. Wallace

Director

/s/ Keith L. Barnes

Keith L. Barnes

Director