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

**FORM 10-K**

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

(Mark One)

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

For the fiscal year ended October 31, 2018

OR

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

For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission file number 0-7977

**NORDSON CORPORATION**

(Exact name of Registrant as specified in its charter)

Ohio  
(State of incorporation)

28601 Clemens Road Westlake, Ohio  
(Address of principal executive offices)

34-0590250  
(I.R.S. Employer  
Identification No.)

44145  
(Zip Code)

(440) 892-1580

(Registrant's Telephone Number, including area code)

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

Common Shares, without par value  
(Title)

Nasdaq Stock Market LLC  
(Name of exchange on which registered)

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, and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

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

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

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

|                         |                                     |                           |                          |
|-------------------------|-------------------------------------|---------------------------|--------------------------|
| Large accelerated filer | <input checked="" type="checkbox"/> | Accelerated filer         | <input type="checkbox"/> |
| Non-accelerated filer   | <input type="checkbox"/>            | Smaller reporting company | <input type="checkbox"/> |
| Emerging growth company | <input type="checkbox"/>            |                           |                          |

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

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

The aggregate market value of Common Shares, no par value per share, held by nonaffiliates (based on the closing sale price on the Nasdaq Stock Market) as of April 30, 2018 was approximately \$7,441,507.

There were 57,927,038 Common Shares outstanding as of November 30, 2018.

**Documents incorporated by reference:** Portions of the Proxy Statement for the 2019 Annual Meeting - Part III of the Form 10-K

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## **PART I**

### **NOTE REGARDING AMOUNTS AND FISCAL YEAR REFERENCES**

In this annual report, all amounts related to United States dollars and foreign currency and to the number of Nordson Corporation's common shares, except for per share earnings and dividend amounts, are expressed in thousands. Unless the context otherwise indicates, all references to "we," "us," "our," or the "Company" mean Nordson Corporation.

Unless otherwise noted, all references to years relate to our fiscal year ending October 31.

### **Item 1. Business**

#### **General Description of Business**

Nordson engineers, manufactures and markets differentiated products and systems used to dispense, apply and control adhesives, coatings, polymers, sealants, biomaterials, and other fluids, to test and inspect for quality, and to treat and cure surfaces. These products are supported with extensive application expertise and direct global sales and service. We serve a wide variety of consumer non-durable, consumer durable and technology end markets including packaging, nonwovens, electronics, medical, appliances, energy, transportation, building and construction, and general product assembly and finishing.

Our strategy for long-term growth is based on solving customers' needs globally. We were incorporated in the State of Ohio in 1954 and are headquartered in Westlake, Ohio. Our products are marketed through a network of direct operations in more than 35 countries. Consistent with this global strategy, approximately 68 percent of our revenues were generated outside the United States in 2018.

We have 7,536 employees worldwide. Principal manufacturing facilities are located in the United States, the People's Republic of China, Germany, Ireland, Israel, Mexico, the Netherlands, Thailand, and the United Kingdom.

#### **Corporate Purpose and Goals**

We strive to be a vital, self-renewing, worldwide organization that, within the framework of ethical behavior and enlightened citizenship, grows and produces wealth for our customers, employees, shareholders, and communities.

We operate for the purpose of creating balanced, long-term benefits for all of our constituencies.

Although every quarter may not produce increased sales, net income, or earnings per share, or exceed the comparative prior year's quarter, we expect to produce long-term gains. When short-term swings occur, we do not intend to alter our basic objectives in efforts to mitigate the impact of these temporary occurrences.

We drive organic growth by continually introducing new products and technology, providing high levels of customer service and support, capturing rapidly expanding opportunities in emerging geographies, and by leveraging existing technology into new applications. Additional growth comes through the acquisition of companies that serve international growth markets, share our business model characteristics and can leverage our global infrastructure. The primary goals of our acquisition strategy are to complement our current capabilities, diversify our business into new industry sectors and with new customers and expand the scope of the solutions we can offer to our customers.

We create benefits for our customers through a Package of Values®, which includes carefully engineered, durable products; strong service support; the backing of a well-established, worldwide company with financial and technical strengths; and a corporate commitment to deliver what was promised.

We strive to provide genuine customer satisfaction – it is the foundation upon which we continue to build our business.

Complementing our business strategy is the objective to provide opportunities for employee self-fulfillment, growth, security, recognition and equitable compensation. This goal is met through the Human Resources department's facilitation of employee training, leadership training and the creation of on-the-job growth opportunities. The result is a highly qualified and professional global team capable of meeting corporate objectives.

We recognize the value of employee participation in the planning process. Strategic and operating plans are developed by all business units, resulting in a sense of ownership and commitment on the part of employees in accomplishing our objectives.

We drive continuous improvement in all areas of the company through the Nordson Business System (NBS), our collected set of tools and best practices. Rooted in Lean Six Sigma methodologies, the NBS is applied throughout all business units and corporate functions. Closely tied to the NBS are a set of key performance indicators that help define and measure progress toward corporate goals. The NBS is underpinned by our timeless corporate values of customer passion, energy, excellence, integrity and respect for people.

We are an equal opportunity employer.

We are committed to contributing approximately five percent of domestic pretax earnings to human welfare services, education and other charitable activities, particularly in communities where we have significant operations.

## Principal Products and Uses

We engineer, manufacture and market differentiated products and systems used to dispense, apply and control adhesives, coatings, polymers, sealants, biomaterials, medical components, and other fluids, to test and inspect for quality, and to treat and cure surfaces. Our technology-based systems can be found in manufacturing facilities around the world producing a wide range of goods for consumer durable, consumer non-durable and technology end markets. Equipment ranges from single-use components to manual, stand-alone units for low-volume operations to microprocessor-based automated systems for high-speed, high-volume production lines.

We market our products globally, primarily through a direct sales force, and also through qualified distributors and sales representatives. We have built a worldwide reputation for creativity and expertise in the design and engineering of high-technology application equipment that meets the specific needs of our customers. We create value for our customers by developing solutions that increase uptime, enable faster line speeds and reduce consumption of materials.

The following is a summary of the product lines and markets served by our operating segments:

### 1. Adhesive Dispensing Systems

This segment delivers our proprietary precision dispensing and processing technology to diverse markets for applications that commonly reduce material consumption, increase line efficiency and enhance product strength, durability, brand and appearance.

- **Nonwovens** – Dispensing, coating and laminating systems for applying adhesives, lotions, liquids and fibers to disposable products and continuous roll goods. Key strategic markets include adult incontinence products, baby diapers and child-training pants, feminine hygiene products and surgical drapes, gowns, shoe covers and face masks.
- **Packaging** – Automated adhesive dispensing systems used in the rigid packaged goods industries. Key strategic markets include food and beverage packaging, pharmaceutical packaging, and other consumer goods packaging.
- **Polymer Processing** – Components and systems used in the thermoplastic melt stream in plastic extrusion, injection molding, compounding, polymerization and recycling processes. Key strategic markets include flexible packaging, electronics, medical, building and construction, transportation and aerospace, and general consumer goods.
- **Product Assembly** – Dispensing, coating and laminating systems for the assembly of plastic, metal and wood products, for paper and paperboard converting applications and for the manufacturing of continuous roll goods. Key strategic markets include appliances, automotive components, building and construction materials, electronics, furniture, solar energy, and the manufacturing of bags, sacks, books, envelopes and folding cartons.

## 2. Advanced Technology Systems

This segment integrates our proprietary product technologies found in progressive stages of a customer's production process, such as surface treatment, precisely controlled automated, semi-automated or manual dispensing of material, and post-dispense bond testing, optical inspection and x-ray inspection to ensure quality. Related single-use plastic molded syringes, cartridges, tips, tubing and fluid connection components are used to dispense or control fluids in production processes or within customers' end products. This segment primarily serves the specific needs of electronics, medical and related high-tech industries.

- **Electronics Systems** - Automated dispensing systems for high-speed, accurate application of a broad range of attachment, protection and coating fluids, and related gas plasma treatment systems for cleaning and conditioning surfaces prior to dispense. Key strategic markets include mobile phones, tablets, personal computers, wearable technology, liquid crystal displays, micro hard drives, microprocessors, printed circuit boards, flexible circuits, micro-electronic mechanical systems (MEMS), and semiconductor packaging.
- **Fluid Management** – Precision manual and semi-automated dispensers, minimally invasive interventional delivery devices, and highly engineered single-use plastic molded syringes, cartridges, tips, fluid connection components, tubing, balloons, and catheters. Products are used for applying and controlling the flow of adhesives, sealants, lubricants, and biomaterials in critical industrial production processes and within medical equipment and related surgical procedures. Key strategic markets include consumer goods, electronics, industrial assembly, and medical.
- **Test and Inspection** - Bond testing and automated optical, acoustic microscopy and x-ray inspection systems used in the semiconductor and printed circuit board industries. Key strategic markets include mobile phones, tablets, personal computers, wearable technology, liquid crystal displays, micro hard drives, microprocessors, printed circuit boards, flexible circuits, MEMS, and semiconductor packaging.

## 3. Industrial Coating Systems

This segment provides both standard and highly-customized equipment used primarily for applying coatings, paint, finishes, sealants and other materials, and for curing and drying of dispensed material. This segment primarily serves the industrial capital equipment and consumer durables markets.

- **Cold Materials** – Automated and manual dispensing products and systems used to apply multiple component adhesive and sealant materials in the general industrial and transportation manufacturing industries. Key strategic markets include aerospace, alternative energy, appliances, automotive, building and construction, composites, electronics and medical.
- **Container Coating** – Automated and manual dispensing and curing systems used to coat and cure containers. Key strategic markets include beverage containers and food cans.
- **Curing and Drying Systems** – Ultraviolet equipment used primarily in curing and drying operations for specialty coatings, semiconductor materials and paints. Key strategic markets include electronics, containers, and durable goods products.
- **Liquid Finishing** – Automated and manual dispensing systems used to apply liquid paints and coatings to consumer and industrial products. Key strategic markets include automotive components, agriculture, construction, metal shelving and drums.
- **Powder Coating** – Automated and manual dispensing systems used to apply powder paints and coatings to a variety of metal, plastic and wood products. Key strategic markets include agriculture and construction equipment, appliances, automotive components, home and office furniture, lawn and garden equipment, pipe coating, and wood and metal shelving.

## **Manufacturing and Raw Materials**

Our production operations include machining, molding and assembly. We manufacture specially designed parts and assemble components into finished equipment. Many components are made in standard modules that can be used in more than one product or in combination with other components for a variety of models. We have principal manufacturing operations and sources of supply in the United States in Ohio, Georgia, California, Colorado, Connecticut, Illinois, Massachusetts, Michigan, Minnesota, New Jersey, Rhode Island, Tennessee, and Wisconsin; as well as in the People's Republic of China, Germany, Ireland, Israel, Mexico, the Netherlands, Thailand and the United Kingdom.

Principal materials used to make our products are metals and plastics, typically in sheets, bar stock, castings, forgings, tubing and pellets. We also purchase many electrical and electronic components, fabricated metal parts, high-pressure fluid hoses, packings, seals and other items integral to our products. Suppliers are competitively selected based on cost, quality and service. All significant raw materials that we use are available through multiple sources. We purchase most raw materials and other components on the open market and rely on third parties to provide certain finished goods. While these items are generally available from multiple sources, the cost of products sold may be affected by changes in the market price of raw materials and tariffs on certain raw materials, particularly imports from China, as well as disruptions in availability of raw materials, components, and sourced finished goods.

We monitor and investigate alternative suppliers and materials based on numerous attributes including quality, service, and price. We currently source raw materials and components from a number of suppliers, but our ongoing efforts to improve the cost effectiveness of our products and services may result in a reduction in the number of our suppliers.

Senior operating management supervise an extensive quality control program for our equipment, machinery and systems, and manufacturing processes.

Natural gas and other fuels are our primary energy sources. However, standby capacity for alternative sources is available if needed.

## **Intellectual Property**

We maintain procedures to protect our intellectual property (including patents, trademarks and copyrights) both domestically and internationally. Risk factors associated with our intellectual property are discussed in Item 1A, Risk Factors.

Our intellectual property portfolios include valuable patents, trade secrets, know-how, domain names, trademarks and trade names. As of October 31, 2018, we held 545 United States patents and 1,405 foreign patents and had 193 United States patent applications pending and 856 foreign patent applications pending, but there is no assurance that any patent application will be issued. We continue to apply for and obtain patent protection for new products on an ongoing basis.

Patents covering individual products extend for varying periods according to the date of filing or grant and the legal term of patents in various countries where a patent is obtained. Our patent portfolio as of October 31, 2018 had expiration dates ranging from November 2018 to April 2038. The actual protection a patent provides, which can vary from country to country, depends upon the type of patent, the scope of its coverage, and the availability of legal remedies in each country. We believe, however, that the duration of our patents generally exceeds the life cycles of the technologies disclosed and claimed in the patents.

We believe our trademarks are important assets and we aggressively manage our brands. We also own a number of trademarks in the United States and foreign countries, including registered trademarks for Nordson, Asymtek, Avalon, Dage, EFD, Value Plastics and Xaloy and various common law trademarks which are important to our business, inasmuch as they identify Nordson and our products to our customers. As of October 31, 2018, we had a total of 884 trademark registrations in the United States and in various foreign countries.

We rely upon a combination of nondisclosure and other contractual arrangements and trade secret laws to protect our proprietary rights and also enter into confidentiality and intellectual property agreements with our employees that require them to disclose any inventions created during employment, convey all rights to inventions to us, and restrict the distribution of proprietary information.

We protect and promote our intellectual property portfolio and take those actions we deem appropriate to enforce our intellectual property rights and to defend our right to sell our products. Although in aggregate our intellectual property is important to our operations, we do not believe that the loss of any one patent, trademark, or group of related patents or trademarks would have a material adverse effect on our results of operations or financial position of our overall business.

**Seasonal Variation in Business**

Generally, the highest volume of sales occurs in the second half of the year due in large part to the timing of customers' capital spending programs. Accordingly, first quarter sales volume is typically the lowest of the year due to timing of customers' capital spending programs and customer holiday shutdowns.

**Working Capital Practices**

No special or unusual practices affect our working capital. We generally require advance payments as deposits on customized equipment and systems and, in certain cases, require progress payments during the manufacturing of these products. We continue to initiate new processes focused on reduction of manufacturing lead times, resulting in lower investment in inventory while maintaining the capability to respond promptly to customer needs.

**Customers**

We serve a broad customer base, both in terms of industries and geographic regions. In 2018, no single customer accounted for ten percent or more of sales.

**Backlog**

Our backlog of open orders were relatively consistent at approximately \$394,000 at October 31, 2018 and approximately \$397,000 at October 31, 2017, inclusive of approximately three percent decline in organic growth, offset by two percent growth due to acquisitions. The amounts for both years were calculated based upon exchange rates in effect at October 31, 2018. All orders in the 2018 year-end backlog are expected to be shipped to customers in 2019.

**Government Contracts**

Our business neither includes nor depends upon a significant amount of governmental contracts or subcontracts. Therefore, no material part of our business is subject to renegotiation or termination at the option of the government.

**Competitive Conditions**

Our equipment is sold in competition with a wide variety of alternative bonding, sealing, finishing, coating, processing, testing, inspecting, and fluid control techniques. Potential uses for our equipment include any production processes that require preparation, modification or curing of surfaces; dispensing, application, processing or control of fluids and materials; or testing and inspecting for quality.

Many factors influence our competitive position, including pricing, product quality and service. We maintain a leadership position in our business segments by delivering high-quality, innovative products and technologies, as well as service and technical support. Working with customers to understand their processes and developing the application solutions that help them meet their production requirements also contributes to our leadership position. Our worldwide network of direct sales and technical resources also is a competitive advantage.

**Environmental Compliance**

We are subject to federal, state, local and foreign environmental, safety and health laws and regulations concerning, among other things, emissions to the air, discharges to land and water and the generation, handling, treatment and disposal of hazardous waste and other materials. Under certain of these laws, we can be held strictly liable for hazardous substance contamination of any real property we have ever owned, operated or used as a disposal site or for natural resource damages associated with such contamination. We are also required to maintain various related permits and licenses, many of which require periodic modification and renewal. The operation of manufacturing plants unavoidably entails environmental, safety and health risks, and we could incur material unanticipated costs or liabilities in the future if any of these risks were realized in ways or to an extent that we did not anticipate.

We believe that we operate in compliance, in all material respects, with applicable environmental laws and regulations. Compliance with environmental laws and regulations requires continuing management effort and expenditures. We have incurred, and will continue to incur, costs and capital expenditures to comply with these laws and regulations and to obtain and maintain the necessary permits and licenses. We believe that the cost of complying with environmental laws and regulations will not have a material effect on our earnings, liquidity or competitive position but cannot assure that material compliance-related costs and expenses may not arise in the future. For example, future adoption of new or amended environmental laws, regulations or requirements or newly discovered contamination or other circumstances could require us to incur costs and expenses that may have a material effect, but cannot be presently anticipated.

We believe that policies, practices and procedures have been properly designed to prevent unreasonable risk of material environmental damage arising from our operations. We accrue for estimated environmental liabilities with charges to expense and believe our environmental accrual is adequate to provide for our portion of the costs of all such known environmental liabilities. Compliance with federal, state, local and foreign environmental protection laws during 2018 had no material effect on our capital expenditures, earnings or competitive position. Based upon consideration of currently available information, we believe liabilities for environmental matters will not have a material adverse effect on our financial position, operating results or liquidity, but we cannot assure that material environmental liabilities may not arise in the future.

### **Employees**

As of October 31, 2018, we had 7,536 full-time and part-time employees, including 134 at our Amherst, Ohio, facility who are represented by a collective bargaining agreement that expires on October 31, 2019.

### **Available Information**

Our proxy statement, annual report to the Securities and Exchange Commission (Form 10-K), quarterly reports (Form 10-Q) and current reports (Form 8-K) and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 are available free of charge at <http://www.nordson.com/investors> as soon as reasonably practical after such material is electronically filed with, or furnished to, the SEC. Copies of these reports may also be obtained free of charge by sending written requests to Corporate Communications, Nordson Corporation, 28601 Clemens Road, Westlake, Ohio 44145. The contents of our Internet website are not incorporated by reference herein and are not deemed to be a part of this report.

## **Item 1A. Risk Factors**

In an enterprise as diverse as ours, a wide range of factors could affect future performance. We discuss in this section some of the risk factors that, if they actually occurred, could materially and adversely affect our business, financial condition, value and results of operations. You should consider these risk factors in connection with evaluating the forward-looking statements contained in this Annual Report on Form 10-K because these factors could cause our actual results and financial condition to differ materially from those projected in forward-looking statements.

The significant risk factors affecting our operations include the following:

### **Changes in United States or international economic conditions, including declines in the industries we serve, could adversely affect the profitability of any of our operations.**

In 2018, approximately 32 percent of our revenue was generated in the United States, while approximately 68 percent was generated outside the United States. Our largest markets include appliance, automotive, construction, container, electronics assembly, food and beverage, furniture, medical, metal finishing, nonwovens, packaging, paper and paperboard converting, plastics processing and semiconductor. A slowdown in any of these specific end markets could directly affect our revenue stream and profitability.

A portion of our product sales is attributable to industries and markets, such as the semiconductor, mobile electronics, polymer processing and metal finishing industries, which historically have been cyclical and sensitive to relative changes in supply and demand and general economic conditions. The demand for our products depends, in part, on the general economic conditions of the industries or national economies of our customers. Downward economic cycles in our customers' industries or countries may reduce sales of some of our products. It is not possible to predict accurately the factors that will affect demand for our products in the future.

Any significant downturn in the health of the general economy, globally, regionally or in the markets in which we sell products, could have an adverse effect on our revenues and financial performance, resulting in impairment of assets.

### **If we fail to develop new products, or our customers do not accept the new products we develop, our revenue and profitability could be adversely impacted.**

Innovation is critical to our success. We believe that we must continue to enhance our existing products and to develop and manufacture new products with improved capabilities in order to continue to be a leading provider of precision technology solutions for the industrial equipment market. We also believe that we must continue to make improvements in our productivity in order to maintain our competitive position. Difficulties or delays in research, development or production of new products or failure to gain market acceptance of new products and technologies may reduce future sales and adversely affect our competitive position. We continue to invest in the development and marketing of new products. There can be no assurance that we will have sufficient resources to make such investments, that we will be able to make the technological advances necessary to maintain competitive advantages or that we can recover major research and development expenses. If we fail to make innovations, launch products with quality problems or the market does not accept our new products, our financial condition, results of operations, cash flows and liquidity could be adversely affected. In addition, as new or enhanced products are introduced, we must successfully manage the transition from older products to minimize disruption in customers' ordering patterns, avoid excessive levels of older product inventories and ensure that we can deliver sufficient supplies of new products to meet customers' demands.

### **Increased IT security threats and more sophisticated and targeted computer crime could pose a risk to our systems, networks, products, solutions and services.**

We have experienced and expect to continue to experience cyber-attacks to our systems and networks. To date, we have not experienced any material breaches or material losses related to cyber-attacks. To conduct our business, we rely extensively on information technology systems, networks and services, some of which are managed, hosted and provided by third-party service providers. Increased global IT security threats and more sophisticated and targeted computer crime pose a risk to the security of our systems and networks and those of our third-party service providers and the confidentiality, availability and integrity of our data. Depending on their nature and scope, such threats could potentially lead to the compromising of confidential information, including but not limited to confidential information relating to customer or employee data, improper use of our systems and networks, manipulation and destruction of data, defective products, production downtimes and operational disruptions, which in turn could adversely affect our reputation, competitiveness and results of operations. A cyber-attack or other disruption may also result in financial loss, including potential fines for failure to safeguard data. Our insurance coverage may not be adequate to cover all the costs arising from such events.

We have taken steps and incurred costs to further strengthen the security of our computer systems and continue to assess, maintain and enhance the ongoing effectiveness of our information security systems. While we attempt to mitigate these risks by employing a number of measures, including employee training, comprehensive monitoring of our networks and systems, and maintenance of backup and protective systems, our systems, networks, products, solutions and services remain potentially vulnerable to advanced persistent threats. The techniques used by criminals to obtain unauthorized access to sensitive data change frequently and often are not recognizable until launched against a target. Accordingly, we may be unable to anticipate these techniques or implement adequate preventative measures. It is therefore possible that in the future we may suffer a criminal attack, unauthorized parties may gain access to personal information in our possession and we may not be able to identify any such incident in a timely manner.

The interpretation and application of data protection laws, including federal, state and international laws, relating to the collection, use, retention, disclosure, security and transfer of personally identifiable data in the U.S., Europe (including but not limited to the European Union's General Data Protection Regulation), and elsewhere, are uncertain and evolving. It is possible that these laws may be interpreted and applied in a manner that is inconsistent with our data practices. In addition, as a result of existing or new data protection requirements, we incur and expect to continue to incur significant ongoing operating costs as part of our significant efforts to protect and safeguard our sensitive data and personal information. These efforts also may divert management and employee attention from other business and growth initiatives. A breach in information privacy could result in legal or reputational risks and could have a negative impact on our revenues and results of operations.

**Our results could be impacted by changes in tariffs, trade agreements or other trade restrictions imposed by the U.S. or other governments.**

Our ability to conduct business can be significantly impacted by changes in tariffs, changes or repeals of trade agreements, including withdrawal from or material modifications to North American Free Trade Agreement, the implementation of the United States-Mexico-Canada Agreement, or certain other international trade agreements, or other trade restrictions or retaliatory actions imposed by various governments. Other effects of these changes, including impacts on the price of raw materials, responsive actions from governments and the opportunity for competitors to establish a presence in markets where we participate, could also have significant impacts on our results.

**Our growth strategy includes acquisitions, and we may not be able to execute on our acquisition strategy or integrate acquisitions successfully.**

Our recent historical growth has depended, and our future growth is likely to continue to depend, in part on our acquisition strategy and the successful integration of acquired businesses into our existing operations. We intend to continue to seek additional acquisition opportunities both to expand into new markets and to enhance our position in existing markets throughout the world. We cannot assure we will be able to successfully identify suitable acquisition opportunities, prevail against competing potential acquirers, negotiate appropriate acquisition terms, obtain financing that may be needed to consummate such acquisitions, complete proposed acquisitions, successfully integrate acquired businesses into our existing operations or expand into new markets. In addition, we cannot assure that any acquisition, once successfully integrated, will perform as planned, be accretive to earnings, or prove to be beneficial to our operations and cash flow.

The success of our acquisition strategy is subject to other risks and uncertainties, including:

- our ability to realize operating efficiencies, synergies or other benefits expected from an acquisition, and possible delays in realizing the benefits of the acquired company or products;
- diversion of management's time and attention from other business concerns;
- difficulties in retaining key employees, customers or suppliers of the acquired business;
- difficulties in maintaining uniform standards, controls, procedures and policies throughout acquired companies;
- adverse effects on existing business relationships with suppliers or customers;
- the risks associated with the assumption of product liabilities, contingent or undisclosed liabilities of acquisition targets; and
- the ability to generate future cash flows or the availability of financing.

In addition, an acquisition could adversely impact our operating performance as a result of the incurrence of acquisition-related debt, pre-acquisition potential tax liabilities, acquisition expenses, the amortization of acquisition-acquired assets, or possible future impairments of goodwill or intangible assets associated with the acquisition.

We may also face liability with respect to acquired businesses for violations of environmental laws occurring prior to the date of our acquisition, and some or all of these liabilities may not be covered by environmental insurance secured to mitigate the risk or by indemnification from the sellers from which we acquired these businesses. We could also incur significant costs, including, but not limited to, remediation costs, natural resources damages, civil or criminal fines and sanctions and third-party claims, as a result of past or future violations of, or liabilities, associated with environmental laws.

**Significant movements in foreign currency exchange rates or change in monetary policy may harm our financial results.**

We are exposed to fluctuations in foreign currency exchange rates, particularly with respect to the euro, the yen, the pound sterling and the Chinese yuan. Any significant change in the value of the currencies of the countries in which we do business against the United States dollar could affect our ability to sell products competitively and control our cost structure, which could have a material adverse effect on our business, financial condition and results of operations. For additional detail related to this risk, see Item 7A, Quantitative and Qualitative Disclosure About Market Risk.

The majority of our consolidated revenues in 2018 were generated in currencies other than the United States dollar, which is our reporting currency. We recognize foreign currency transaction gains and losses arising from our operations in the period incurred. As a result, currency fluctuations between the United States dollar and the currencies in which we do business have caused and will continue to cause foreign currency transaction and translation gains and losses, which historically have been material and could continue to be material. We cannot predict the effects of exchange rate fluctuations upon our future operating results because of the number of currencies involved, the variability of currency exposures and the potential volatility of currency exchange rates. We take actions to manage our foreign currency exposure, such as entering into hedging transactions, where available, but we cannot assure that our strategies will adequately protect our consolidated operating results from the effects of exchange rate fluctuations. For example, the announcement of Brexit and subsequent steps taken by Britain to begin withdrawal from the European Union caused volatility in global currency exchange rate fluctuations that resulted in the strengthening of the United States dollar against foreign currencies in which we conduct business. Future adverse consequences arising from Brexit may include continued volatility in exchange rates. Any significant fluctuation in exchange rates may be harmful to our financial condition and results of operations. We also face risks arising from the imposition of exchange controls and currency devaluations. Exchange controls may limit our ability to convert foreign currencies into United States dollars or to remit dividends and other payments by our foreign subsidiaries or customers located in or conducting business in a country imposing controls. Currency devaluations diminish the United States dollar value of the currency of the country instituting the devaluation and, if they occur or continue for significant periods, could adversely affect our earnings or cash flow.

**Any impairment in the value of our intangible assets, including goodwill, would negatively affect our operating results and total capitalization.**

Our total assets reflect substantial intangible assets, primarily goodwill. The goodwill results from our acquisitions and represents the excess of cost over the fair value of the identifiable net assets we acquired. We assess at least annually whether there has been any impairment in the value of our intangible assets. If future operating performance at one or more of our business units were to fall significantly below current levels, if competing or alternative technologies emerge, if market conditions for acquired businesses decline, if significant and prolonged negative industry or economic trends exist, if our stock price and market capitalization declines, or if future cash flow estimates decline, we could incur, under current applicable accounting rules, a non-cash charge to operating earnings for goodwill impairment. Any determination requiring the write-off of a significant portion of unamortized intangible assets would negatively affect our results of operations and equity book value, the effect of which could be material.

**Changes in United States and international tax law may have a material adverse effect on our business, financial condition and results of operations.**

We are subject to income taxes in the United States and various foreign jurisdictions. Changes in applicable domestic or foreign tax laws and regulations, or their interpretation and application, including the possibility of retroactive effect, could affect our business, financial condition and profitability by increasing our tax liabilities. Our future results of operations could be adversely affected by changes in our effective tax rate as a result of a change in the mix of earnings in jurisdictions with differing statutory tax rates, changes in our overall profitability, changes in tax legislation and rates, changes in generally accepted accounting principles and changes in the valuation of deferred tax assets and liabilities. The U.S. federal government may adopt changes to international trade agreements, tariffs, taxes and other government rules and regulations. While we cannot predict what changes will actually occur with respect to any of these items, such changes could affect our business and results of operations.

**If our intellectual property protection is inadequate, others may be able to use our technologies and tradenames and thereby reduce our ability to compete, which could have a material adverse effect on us, our financial condition and results of operations.**

We regard much of the technology underlying our products and the trademarks under which we market our products as proprietary. The steps we take to protect our proprietary technology may be inadequate to prevent misappropriation of our technology, or third parties may independently develop similar technology. We rely on a combination of patents, trademark, copyright and trade secret laws, employee and third-party non-disclosure agreements and other contracts to establish and protect our technology and other intellectual property rights. The agreements may be breached or terminated, and we may not have adequate remedies for any breach, and existing trade secrets, patent and copyright law afford us limited protection. Policing unauthorized use of our intellectual property is difficult. A third party could copy or otherwise obtain and use our products or technology without authorization. Litigation may be necessary for us to defend against claims of infringement or to protect our intellectual property rights and could result in substantial cost to us and diversion of our efforts. Further, we might not prevail in such litigation, which could harm our business.

**Our products could infringe on the intellectual property of others, which may cause us to engage in costly litigation and, if we are not successful, could cause us to pay substantial damages and prohibit us from selling our products.**

Third parties may assert infringement or other intellectual property claims against us based on their patents or other intellectual property claims, and we may have to pay substantial damages, possibly including treble damages, if it is ultimately determined our products infringe. We may have to obtain a license to sell our products if it is determined that our products infringe upon another party's intellectual property. We might be prohibited from selling our products before we obtain a license, which, if available at all, may require us to pay substantial royalties. Even if infringement claims against us are without merit, defending these types of lawsuits takes significant time, may be expensive and may divert management attention from other business concerns.

**We may be exposed to liabilities under the Foreign Corrupt Practices Act (FCPA), which could have a material adverse effect on our business.**

We are subject to compliance with various laws and regulations, including the FCPA and similar worldwide anti-bribery and anti-corruption laws, which generally prohibit companies and their intermediaries from engaging in bribery or making other improper payments to private or public parties for the purpose of obtaining or retaining business or gaining an unfair business advantage. The FCPA also requires proper record keeping and characterization of such payments in our reports filed with the SEC. Our employees are trained and required to comply with these laws, and we are committed to legal compliance and corporate ethics. Violations of these laws could result in severe criminal or civil sanctions and financial penalties and other consequences that may have a material adverse effect on our business, reputation, financial condition or results of operations.

**Our inability to comply with our existing credit facilities' restrictive covenants or to access additional sources of capital could impede growth or the repayment or refinancing of existing indebtedness.**

The limits imposed on us by the restrictive covenants contained in our credit facilities could prevent us from making acquisitions or cause us to lose access to these facilities.

Our existing credit facilities contain restrictive covenants that limit our ability to, among other things:

- borrow money or guarantee the debts of others;
- use assets as security in other transactions;
- make restricted payments or distributions; and
- sell or acquire assets or merge with or into other companies.

In addition, our credit facilities require us to meet financial ratios, including a "Leverage Ratio" and an "Interest Coverage Ratio," both as defined in the credit facilities.

These restrictions could limit our ability to plan for or react to market conditions or meet extraordinary capital needs and could otherwise restrict our financing activities.

Our ability to comply with the covenants and other terms of our credit facilities will depend on our future operating performance. If we fail to comply with such covenants and terms, we may be in default and the maturity of the related debt could be accelerated and become immediately due and payable. We may be required to obtain waivers from our lenders in order to maintain compliance under our credit facilities, including waivers with respect to our compliance with certain financial covenants. If we are unable to obtain necessary waivers and the debt under our credit facilities is accelerated, we would be required to obtain replacement financing at prevailing market rates.

We may need new or additional financing in the future to expand our business or refinance existing indebtedness. If we are unable to access capital on satisfactory terms and conditions, we may not be able to expand our business or meet our payment requirements under our existing credit facilities. Our ability to obtain new or additional financing will depend on a variety of factors, many of which are beyond our control. We may not be able to obtain new or additional financing because we have substantial debt or because we may not have sufficient cash flow to service or repay our existing or future debt. In addition, depending on market conditions and our financial performance, neither debt nor equity financing may be available on satisfactory terms or at all. Finally, as a consequence of worsening financial market conditions, our credit facility providers may not provide the agreed credit if they become undercapitalized.

**Changes in interest rates could adversely affect us.**

Any period of interest rate increases may also adversely affect our profitability. At October 31, 2018, we had \$1,314,091 of total debt and notes payable outstanding, of which 51 percent was priced at interest rates that float with the market. A one percentage point increase in the interest rate on the floating rate debt in 2018 would have resulted in approximately \$10,672 of additional interest expense. A higher level of floating rate debt would increase the exposure to changes in interest rates. For additional detail related to this risk, see Item 7A, Quantitative and Qualitative Disclosure About Market Risk.

**Failure to retain our existing senior management team or the inability to attract and retain qualified personnel could hurt our business and inhibit our ability to operate and grow successfully.**

Our success will continue to depend to a significant extent on the continued service of our executive management team and the ability to recruit, hire and retain other key management personnel to support our growth and operational initiatives and replace executives who retire or resign. Failure to retain our leadership team and attract and retain other important management and technical personnel could place a constraint on our global growth and operational initiatives, possibly resulting in inefficient and ineffective management and operations, which would likely harm our revenues, operations and product development efforts and eventually result in a decrease in profitability.

**The level of returns on pension plan assets and changes in the actuarial assumptions used could adversely affect us.**

Our operating results may be positively or negatively impacted by the amount of expense we record for our defined benefit pension plans. U.S. GAAP requires that we calculate pension expense using actuarial valuations, which are dependent upon our various assumptions including estimates of expected long-term rate of return on plan assets, discount rates for future payment obligations, and the expected rate of increase in future compensation levels. Our pension expense and funding requirements may also be affected by our actual return on plan assets and by legislation and other government regulatory actions. Changes in assumptions, laws or regulations could lead to variability in operating results and could have a material adverse impact on liquidity.

**Political conditions in the U.S. and foreign countries in which we operate could adversely affect us.**

We conduct our manufacturing, sales and distribution operations on a worldwide basis and are subject to risks associated with doing business outside the United States. In 2018, approximately 68 percent of our total sales were generated outside the United States. We expect that international operations and United States export sales will continue to be important to our business for the foreseeable future. Both sales from international operations and export sales are subject in varying degrees to risks inherent in doing business outside the United States. Such risks include, but are not limited to, the following:

- risks of political or economic instability, such as Brexit;
- unanticipated or unfavorable circumstances arising from host country laws or regulations;
- threats of war, terrorism or governmental instability;
- changes in tax rates, adoption of new tax laws or other additional tax policies, including the implementation of the Tax Cuts and Jobs Act of 2017 and other proposals to reform United States and foreign tax laws that impact how United States multinational corporations are taxed on foreign earnings;
- restrictions on the transfer of funds into or out of a country;
- potential negative consequences from changes to taxation policies;
- the disruption of operations from labor and political disturbances;

- the imposition of tariffs, import or export licensing requirements and other potential changes in trade policies and relations arising from policy initiatives implemented by the current U.S. presidential administration; and
- exchange controls or other trade restrictions including transfer pricing restrictions when products produced in one country are sold to an affiliated entity in another country.

Any of these events could reduce the demand for our products, limit the prices at which we can sell our products, interrupt our supply chain, or otherwise have an adverse effect on our operating performance.

Our international operations also depend upon favorable trade relations between the U.S. and those foreign countries in which our customers, subcontractors and materials suppliers have operations. A protectionist trade environment in either the U.S. or those foreign countries in which we do business, such as a change in the current tariff structures, export compliance or other trade policies, may materially and adversely affect our ability to sell our products in foreign markets. The current U.S. presidential administration has criticized existing trade agreements, and while it is currently unclear what actions the administration may take with respect to existing and proposed trade agreements, or restrictions on trade generally, more stringent export and import controls may be ultimately imposed in the future.

**Our business and operating results may be adversely affected by natural disasters or other catastrophic events beyond our control.**

While we have taken precautions to prevent production and service interruptions at our global facilities, severe weather conditions such as hurricanes or tornadoes, as well as major earthquakes, wildfires and other natural disasters, as well as cyberterrorism, in areas in which we have manufacturing facilities or from which we obtain products may cause physical damage to our properties, closure of one or more of our manufacturing or distribution facilities, lack of an adequate work force in a market, temporary disruption in the supply of inventory, disruption in the transport of products and utilities, and delays in the delivery of products to our customers. Any of these factors may disrupt our operations and adversely affect our financial condition and results of operations.

**The insurance that we maintain may not fully cover all potential exposures.**

We maintain property, business interruption and casualty insurance but such insurance may not cover all risks associated with the hazards of our business and is subject to limitations, including deductibles and maximum liabilities covered. We are potentially at risk if one or more of our insurance carriers fail. Additionally, severe disruptions in the domestic and global financial markets could adversely impact the ratings and survival of some insurers. In the future, we may not be able to obtain coverage at current levels, and our premiums may increase significantly on coverage that we maintain.

**Item 1B. Unresolved Staff Comments**

None.

## Item 2. Properties

The following table summarizes our principal properties as of October 31, 2018:

| Location                                      | Description of Property                                         | Approximate Square Feet |
|-----------------------------------------------|-----------------------------------------------------------------|-------------------------|
| Amherst, Ohio <sup>2, 3</sup>                 | A manufacturing, laboratory and office complex                  | 521,000                 |
| Austintown, Ohio <sup>1</sup>                 | A manufacturing, warehouse and office building (leased)         | 207,000                 |
| Carlsbad, California <sup>2</sup>             | Three manufacturing and office buildings (leased)               | 181,000                 |
| Duluth, Georgia <sup>1</sup>                  | A manufacturing, laboratory and office building                 | 176,000                 |
| Norwich, Connecticut <sup>2</sup>             | A manufacturing, laboratory and office building                 | 159,000                 |
| Chippewa Falls, Wisconsin <sup>1</sup>        | Three manufacturing, warehouse and office buildings (leased)    | 151,000                 |
| Swainsboro, Georgia <sup>1</sup>              | A manufacturing building (leased)                               | 136,000                 |
| East Providence, Rhode Island <sup>2</sup>    | A manufacturing, warehouse and office building                  | 116,000                 |
| Loveland, Colorado <sup>2</sup>               | A manufacturing, warehouse and office building                  | 115,000                 |
| Robbinsville, New Jersey <sup>2</sup>         | A manufacturing, warehouse and office building (leased)         | 88,000                  |
| Minneapolis, Minnesota <sup>2</sup>           | Two office, laboratory and warehouse buildings (leased)         | 69,000                  |
| Wixom, Michigan <sup>3</sup>                  | A manufacturing, warehouse and office building (leased)         | 64,000                  |
| Salem, New Hampshire <sup>2</sup>             | A manufacturing, warehouse and office building (leased)         | 63,000                  |
| Vista, California <sup>2</sup>                | A manufacturing building (leased)                               | 41,000                  |
| Hickory, North Carolina <sup>1</sup>          | A manufacturing, warehouse and office building (leased)         | 41,000                  |
| Marlborough, Massachusetts <sup>2</sup>       | An office, laboratory and warehouse building (leased)           | 30,000                  |
| Westlake, Ohio                                | Corporate headquarters                                          | 28,000                  |
| Spokane, Washington <sup>2</sup>              | A manufacturing, warehouse and office building (leased)         | 27,000                  |
| Chattanooga, Tennessee <sup>2</sup>           | A manufacturing, warehouse and office building (leased)         | 25,000                  |
| Sunnyvale, California <sup>2</sup>            | Two office, laboratory and warehouse buildings (leased)         | 24,000                  |
| Boulder, Colorado <sup>2</sup>                | Two office and laboratory buildings (leased)                    | 21,000                  |
| Huntington Beach, California <sup>2</sup>     | An office, laboratory and warehouse building (leased)           | 21,000                  |
| Concord, California <sup>2</sup>              | A manufacturing and office building (leased)                    | 12,000                  |
| Ventura, California <sup>2</sup>              | Two manufacturing, warehouse and office buildings (leased)      | 11,000                  |
| Münster, Germany <sup>1</sup>                 | Four manufacturing, warehouse and office buildings (leased)     | 215,000                 |
| Shanghai, China <sup>1, 2, 3</sup>            | Three manufacturing, warehouse, laboratory and office buildings | 178,000                 |
| Shanghai, China <sup>1, 2, 3</sup>            | Three manufacturing, warehouse and office buildings (leased)    | 160,000                 |
| Lüneburg, Germany <sup>1</sup>                | A manufacturing and laboratory building                         | 129,000                 |
| Guaymas, Mexico <sup>2</sup>                  | Three manufacturing, warehouse and office buildings (leased)    | 89,000                  |
| Tokyo, Japan <sup>1, 2, 3</sup>               | Four office, laboratory and warehouse buildings (leased)        | 75,700                  |
| Bangalore, India <sup>1, 2, 3</sup>           | A manufacturing, warehouse and office building                  | 56,000                  |
| Maastricht, Netherlands <sup>1, 2, 3</sup>    | A manufacturing, warehouse and office building                  | 54,000                  |
| Chonburi, Thailand <sup>1</sup>               | A manufacturing, warehouse and office building                  | 52,000                  |
| Erkrath, Germany <sup>1, 2, 3</sup>           | An office, laboratory and warehouse building (leased)           | 48,000                  |
| Boyle, Ireland <sup>2</sup>                   | A manufacturing, warehouse and office building (leased)         | 47,000                  |
| Deurne, Netherlands <sup>2</sup>              | A manufacturing, warehouse and office building (leased)         | 46,000                  |
| Munich, Germany <sup>2</sup>                  | An office, laboratory and warehouse buildings (leased)          | 43,000                  |
| Suzhou, China <sup>2</sup>                    | A manufacturing, warehouse and office building (leased)         | 42,000                  |
| Aylesbury, U.K. <sup>1, 2</sup>               | A manufacturing, warehouse and office building (leased)         | 36,000                  |
| Galway, Ireland <sup>2</sup>                  | An office, laboratory and warehouse building (leased)           | 36,000                  |
| Seongnam-City, South Korea <sup>1, 2, 3</sup> | An office, laboratory and warehouse building (leased)           | 35,000                  |
| Pirmasens, Germany <sup>1</sup>               | A manufacturing, warehouse and office building (leased)         | 32,000                  |
| Sao Paulo, Brazil <sup>1, 2, 3</sup>          | An office, laboratory and warehouse building (leased)           | 23,000                  |
| El Marques, Mexico <sup>1, 2, 3</sup>         | A warehouse and office building (leased)                        | 22,000                  |
| Singapore <sup>1, 2, 3</sup>                  | Two warehouse and office buildings (leased)                     | 22,000                  |
| Katzrin, Israel <sup>2</sup>                  | An office, laboratory and warehouse building (leased)           | 20,000                  |
| Selangos, Malaysia <sup>1, 3</sup>            | A laboratory and office building (leased)                       | 17,000                  |

### Business Segment - Property Identification Legend

- 1 - Adhesive Dispensing Systems
- 2 - Advanced Technology Systems
- 3 - Industrial Coating Systems

The facilities listed have adequate, suitable and sufficient capacity (production and nonproduction) to meet present and foreseeable demand for our products.

Other properties at international subsidiary locations and at branch locations within the United States are leased. Lease terms do not exceed 25 years and generally contain a provision for cancellation with some penalty at an earlier date. Information about leases is reported in Note 10 of Notes to Consolidated Financial Statements that can be found in Part II, Item 8 of this document.

### Item 3. Legal Proceedings

We are involved in pending or potential litigation regarding environmental, product liability, patent, contract, employee and other matters arising from the normal course of business. Including the environmental matter discussed below, after consultation with legal counsel, we believe that the probability is remote that losses in excess of the amounts we have accrued would have a material adverse effect on our financial condition, quarterly or annual operating results or cash flows.

**Environmental** – We have voluntarily agreed with the City of New Richmond, Wisconsin and other Potentially Responsible Parties to share costs associated with the remediation of the City of New Richmond municipal landfill (the “Site”) and constructing a potable water delivery system serving the impacted area down gradient of the Site. At October 31, 2018 and 2017, our accrual for the ongoing operation, maintenance and monitoring obligation at the Site was \$439 and \$472, respectively.

The liability for environmental remediation represents management’s best estimate of the probable and reasonably estimable undiscounted costs related to known remediation obligations. The accuracy of our estimate of environmental liability is affected by several uncertainties such as additional requirements that may be identified in connection with remedial activities, the complexity and evolution of environmental laws and regulations, and the identification of presently unknown remediation requirements. Consequently, our liability could be different than our current estimate. However, we do not expect that the costs associated with remediation will have a material adverse effect on our financial condition or results of operations.

### Item 4. Mine Safety Disclosures

None.

### Executive Officers of the Company

Our executive officers as of October 31, 2018, were as follows:

| Name                | Age | Officer Since | Position or Office with The Company and Business Experience During the Past Five (5) Year Period |
|---------------------|-----|---------------|--------------------------------------------------------------------------------------------------|
| Michael F. Hilton   | 64  | 2010          | President and Chief Executive Officer, 2010                                                      |
| Gregory A. Thaxton  | 57  | 2007          | Executive Vice President, Chief Financial Officer, 2012                                          |
| Gina A. Beredo      | 44  | 2018          | Executive Vice President, General Counsel and Secretary, 2018                                    |
| James E. DeVries    | 59  | 2012          | Executive Vice President, 2012                                                                   |
| John J. Keane       | 57  | 2003          | Executive Vice President, 2005                                                                   |
| Stephen P. Lovass   | 49  | 2017          | Executive Vice President, 2017                                                                   |
| Gregory P. Merk     | 47  | 2006          | Executive Vice President, 2013                                                                   |
| Shelly M. Peet      | 53  | 2007          | Executive Vice President, 2009                                                                   |
| Jeffrey A. Pembroke | 51  | 2015          | Executive Vice President, 2015                                                                   |
| Joseph Stockunas    | 58  | 2015          | Executive Vice President, 2015                                                                   |

Effective January 1, 2018, Ms. Beredo was appointed Executive Vice President, General Counsel and Secretary. Ms. Beredo served as Deputy General Counsel and Assistant Secretary since joining the Company in 2013. Prior to joining the Company, Ms. Beredo served as Chief Litigation Counsel and Director of Compliance & Ethics at American Greetings Corporation, formerly traded on the NYSE. Prior to joining American Greetings, Ms. Beredo was an associate at BakerHostetler LLP.

On November 28, 2016, Mr. Lovass was elected as Corporate Vice President. Prior to joining the Company, Mr. Lovass served as President for one of the global sensors and controls businesses for Danaher Corporation, a publicly-traded, international Fortune 200, diversified science and technology company from 2012 to 2016. Prior to joining Danaher, Mr. Lovass served as a Senior Vice President and Corporate Officer for Gerber Scientific.

## PART II

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

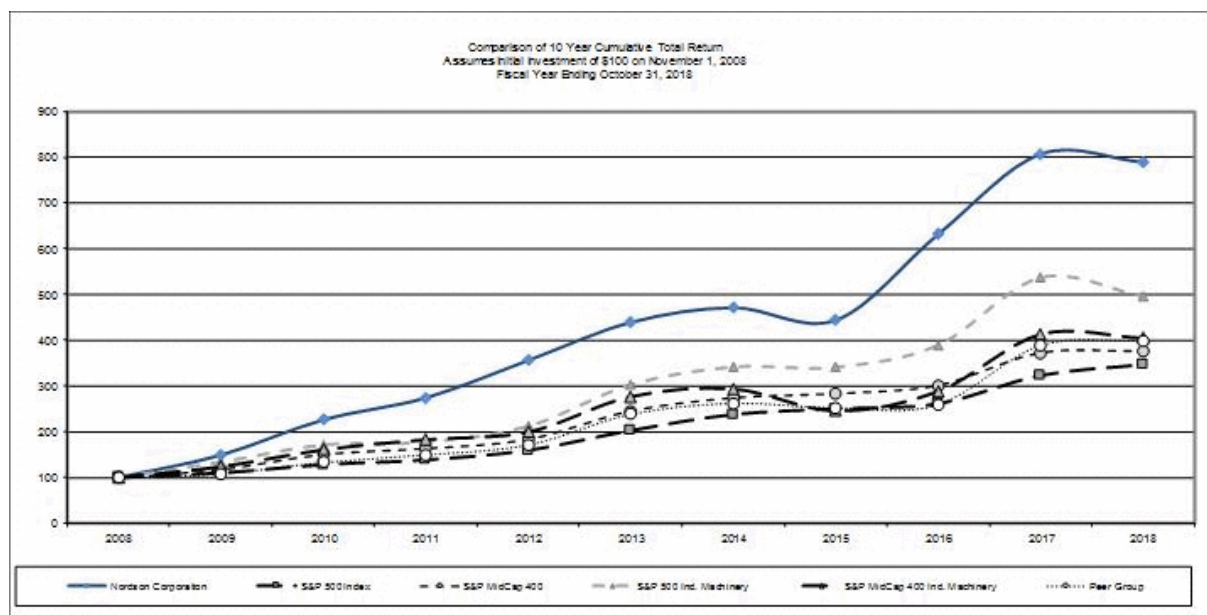
#### Market Information and Dividends

(a) Our common shares are listed on the Nasdaq Global Select Market under the symbol NDSN. As of November 30, 2018, there were 1,406 record shareholders.

While we have historically paid dividends to shareholders of our common stock on a quarterly basis, the declaration and payment of future dividends will depend on many factors, including but not limited to, our earnings, financial condition, business development needs and regulatory considerations, and are at the discretion of our board of directors.

#### Performance Graph

The following is a graph that compares the 10-year cumulative return, calculated on a dividend-reinvested basis, from investing \$100 on November 1, 2008 in Nordson common shares, the S&P 500 Index, the S&P MidCap 400 Index, the S&P 500 Industrial Machinery Index, the S&P MidCap 400 Industrial Machinery Index and our Proxy Peer Group, which includes: AIN, AME, ATU, B, DCI, ENTG, ESL, FLIR, GGG, GTLS, IEX, ITT, KEYS, LECO, ROP, TER, WTS, and WWD.



| Company/Market/Peer Group     | 2008      | 2009      | 2010      | 2011      | 2012      | 2013      | 2014      | 2015      | 2016      | 2017      | 2018      |
|-------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Nordson Corporation           | \$ 100.00 | \$ 149.23 | \$ 226.27 | \$ 274.10 | \$ 356.22 | \$ 439.17 | \$ 471.10 | \$ 443.80 | \$ 632.04 | \$ 807.21 | \$ 788.83 |
| S&P 500 Index                 | \$ 100.00 | \$ 109.80 | \$ 127.94 | \$ 138.29 | \$ 159.32 | \$ 202.61 | \$ 237.60 | \$ 249.95 | \$ 261.23 | \$ 322.96 | \$ 346.68 |
| S&P MidCap 400                | \$ 100.00 | \$ 118.18 | \$ 150.84 | \$ 163.74 | \$ 183.57 | \$ 245.03 | \$ 273.58 | \$ 282.95 | \$ 300.65 | \$ 371.23 | \$ 375.02 |
| S&P 500 Ind. Machinery        | \$ 100.00 | \$ 133.81 | \$ 171.21 | \$ 177.14 | \$ 211.99 | \$ 302.70 | \$ 341.34 | \$ 340.82 | \$ 389.16 | \$ 536.52 | \$ 495.05 |
| S&P MidCap 400 Ind. Machinery | \$ 100.00 | \$ 123.61 | \$ 160.67 | \$ 182.73 | \$ 199.57 | \$ 277.07 | \$ 293.61 | \$ 245.77 | \$ 288.44 | \$ 413.70 | \$ 404.98 |
| Peer Group                    | \$ 100.00 | \$ 108.45 | \$ 133.57 | \$ 150.02 | \$ 171.39 | \$ 238.19 | \$ 262.44 | \$ 252.27 | \$ 259.12 | \$ 388.10 | \$ 399.03 |

Source: Zack's Investment Research

(b) Use of Proceeds. Not applicable.

(c) Issuer Purchases of Equity Securities

|                                         | <b>Total Number<br/>of Shares<br/>Repurchased(1)</b> | <b>Average<br/>Price Paid<br/>per Share</b> | <b>Total Number of<br/>Shares Repurchased<br/>as Part of Publicly<br/>Announced Plans<br/>or Programs(2)</b> | <b>Maximum Value of<br/>Shares That May Yet<br/>Be Purchased Under<br/>the Plans or Programs</b> |
|-----------------------------------------|------------------------------------------------------|---------------------------------------------|--------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| August 1, 2018 to August 31, 2018       | —                                                    | \$ —                                        | —                                                                                                            | \$ 118,971                                                                                       |
| September 1, 2018 to September 30, 2018 | 25                                                   | \$ 144.63                                   | 24                                                                                                           | \$ 615,471                                                                                       |
| October 1, 2018 to October 31, 2018     | 121                                                  | \$ 127.33                                   | 121                                                                                                          | \$ 600,032                                                                                       |
| Total                                   | <u>146</u>                                           |                                             | <u>145</u>                                                                                                   |                                                                                                  |

(1) Includes shares tendered for taxes related to vesting of restricted stock.

(2) In December 2014, the board of directors authorized a \$300,000 common share repurchase program. In August 2015, the board of directors authorized the repurchase of up to an additional \$200,000 of the Company's common shares. In August 2018, the board of directors authorized the repurchase of an additional \$500,000 of the Company's common shares. Approximately \$600,032 of the total \$1,000,000 authorized remained available for share repurchases at October 31, 2018. Uses for repurchased shares include the funding of benefit programs including stock options, restricted stock and 401(k) matching. Shares purchased are treated as treasury shares until used for such purposes. The repurchase program is being funded using cash from operations and proceeds from borrowings under our credit facilities.

## Item 6. Selected Financial Data

|                                                                     | 2018          | 2017          | 2016          | 2015          | 2014          |
|---------------------------------------------------------------------|---------------|---------------|---------------|---------------|---------------|
| <b>(In thousands except for per-share amounts)</b>                  |               |               |               |               |               |
| <b>Operating Data (a)</b>                                           |               |               |               |               |               |
| Sales                                                               | \$ 2,254,668  | \$ 2,066,982  | \$ 1,808,994  | \$ 1,688,666  | \$ 1,704,021  |
| Cost of sales                                                       | 1,018,703     | 927,981       | 815,495       | 774,702       | 758,923       |
| % of sales                                                          | 45            | 45            | 45            | 46            | 45            |
| Selling and administrative expenses                                 | 734,856       | 678,861       | 594,293       | 584,823       | 575,442       |
| % of sales                                                          | 33            | 33            | 33            | 35            | 34            |
| Severance and restructuring costs                                   | 6,552         | 2,438         | 10,775        | 11,411        | 2,551         |
| Operating profit                                                    | 494,557       | 457,702       | 388,431       | 317,730       | 367,105       |
| % of sales                                                          | 22            | 22            | 21            | 19            | 22            |
| Net income                                                          | 377,375       | 295,802       | 271,843       | 211,111       | 246,773       |
| % of sales                                                          | 17            | 14            | 15            | 13            | 14            |
| <b>Financial Data (a) (e)</b>                                       |               |               |               |               |               |
| Working capital                                                     | \$ 533,822    | \$ 240,626    | \$ 414,032    | \$ 420,815    | \$ 301,815    |
| Net property, plant and equipment and other non-current assets      | 2,536,910     | 2,526,167     | 1,675,008     | 1,646,723     | 1,606,274     |
| Total capital (b)                                                   | 2,669,154     | 2,648,094     | 1,767,369     | 1,724,211     | 1,661,110     |
| Total assets                                                        | 3,421,012     | 3,414,539     | 2,420,583     | 2,358,314     | 2,278,957     |
| Long-term liabilities                                               | 1,619,991     | 1,611,300     | 1,237,437     | 1,407,522     | 1,003,292     |
| Shareholders' equity                                                | 1,450,741     | 1,155,493     | 851,603       | 660,016       | 904,797       |
| Return on average total capital — % (c)                             | 15            | 14            | 16            | 13            | 17            |
| Return on average shareholders' equity — % (d)                      | 28            | 30            | 37            | 26            | 27            |
| <b>Per-Share Data (a)</b>                                           |               |               |               |               |               |
| Average number of common shares                                     | 57,970        | 57,533        | 57,060        | 60,652        | 63,656        |
| <b>Average number of common shares and common share equivalents</b> | <b>58,931</b> | <b>58,204</b> | <b>57,530</b> | <b>61,151</b> | <b>64,281</b> |
| Basic earnings per share                                            | \$ 6.51       | \$ 5.14       | \$ 4.76       | \$ 3.48       | \$ 3.88       |
| Diluted earnings per share                                          | 6.40          | 5.08          | 4.73          | 3.45          | 3.84          |
| Dividends per common share                                          | 1.25          | 1.11          | 0.99          | 0.90          | 0.76          |
| Book value per common share                                         | 25.00         | 20.02         | 14.86         | 11.51         | 14.49         |

- (a) See accompanying Notes to Consolidated Financial Statements.
- (b) Notes payable, plus current portion of long-term debt, plus long-term debt, minus cash and marketable securities, plus shareholders' equity.
- (c) Net income plus after-tax interest expense on borrowings as a percentage of the average of quarterly borrowings (net of cash) plus shareholders' equity over the last five quarterly accounting periods.
- (d) Net income as a percentage of average quarterly shareholders' equity over the last five quarterly accounting periods.
- (e) Certain amounts for the years 2014 through 2016 have been adjusted to reflect the retrospective application of our reclassification of debt issuance costs upon the adoption of a new accounting standard in 2017.

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

### NOTE REGARDING AMOUNTS AND FISCAL YEAR REFERENCES

In this annual report, all amounts related to United States dollars and foreign currency and to the number of Nordson Corporation's common shares, except for per share earnings and dividend amounts, are expressed in thousands. Unless the context otherwise indicates, all references to "we," "us," "our," or the "Company" mean Nordson Corporation.

Unless otherwise noted, all references to years relate to our fiscal year ending October 31.

#### Critical Accounting Policies and Estimates

Our Consolidated Financial Statements and accompanying notes have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these financial statements requires management to make estimates, judgments and assumptions that affect reported amounts of assets, liabilities, revenues and expenses. On an ongoing basis, we evaluate the accounting policies and estimates that are used to prepare financial statements. We base our estimates on historical experience and assumptions believed to be reasonable under current facts and circumstances. Actual amounts and results could differ from these estimates used by management.

Certain accounting policies that require significant management estimates and are deemed critical to our results of operations or financial position are discussed below. On a regular basis, critical accounting policies are reviewed with the Audit Committee of the board of directors.

**Revenue recognition** – Most of our revenues are recognized upon shipment, provided that persuasive evidence of an arrangement exists, the sales price is fixed or determinable, collectibility is reasonably assured, and title and risk of loss have passed to the customer. Certain arrangements may include installation, installation supervision, training, and spare parts, which tend to be completed in a short period of time, at an insignificant cost, and utilizing skills not unique to us, and, therefore, are typically regarded as inconsequential or perfunctory. Revenue for undelivered items is deferred and included within accrued liabilities in the Consolidated Balance Sheet. Revenues deferred in 2018, 2017 and 2016 were not material.

**Business combinations** – The acquisitions of our businesses are accounted for under the acquisition method of accounting. The amounts assigned to the identifiable assets acquired and liabilities assumed in connection with acquisitions are based on estimated fair values as of the date of the acquisition, with the remainder, if any, recorded as goodwill. The fair values are determined by management, taking into consideration information supplied by the management of the acquired entities, and other relevant information. Such information typically includes valuations obtained from independent appraisal experts, which management reviews and considers in its estimates of fair values. The valuations are generally based upon future cash flow projections for the acquired assets, discounted to present value. The determination of fair values requires significant judgment by management, particularly with respect to the value of identifiable intangible assets. This judgment could result in either a higher or lower value assigned to amortizable or depreciable assets. The impact could result in either higher or lower amortization and/or depreciation expense.

**Goodwill** – Goodwill is the excess of purchase price over the fair value of tangible and identifiable intangible net assets acquired in various business combinations. Goodwill is not amortized but is tested for impairment annually at the reporting unit level, or more often if indications of impairment exist. Our reporting units are the Adhesive Dispensing Systems segment, the Industrial Coating Systems segment and one level below the Advanced Technology Systems segment.

We test goodwill in accordance with Accounting Standards Codification (ASC) 350. Goodwill impairment charge is recorded for the amount by which the carrying value of the reporting unit exceeds the fair value of the reporting unit, as calculated in the quantitative analysis described below. We did not record any goodwill impairment charges in 2018. We use an independent valuation specialist to assist with refining our assumptions and methods used to determine fair values using these methods. To test for goodwill impairment, we estimate the fair value of each of our reporting units using a combination of the Income Approach and the Market Approach.

The discounted cash flow method (Income Approach) uses assumptions for revenue growth, operating margin, and working capital turnover that are based on management's strategic plans tempered by performance trends and reasonable expectations about those trends. Terminal value calculations employ a published formula known as the Gordon Growth Model Method that essentially captures the present value of perpetual cash flows beyond the last projected period assuming a constant Weighted Average Cost of Capital (WACC) methodology and growth rate. For each reporting unit, a sensitivity analysis is performed to vary the discount and terminal growth rates in order to provide a range of reasonableness for detecting impairment. Discount rates are developed using a WACC methodology. The WACC represents the blended average required rate of return for equity and debt capital based on observed market return data and company specific risk factors. For 2018, the discount rates used ranged from 9.5 percent to 12 percent depending upon the reporting unit's size, end market volatility, and projection risk.

In the application of the guideline public company method (Market Approach), fair value is determined using transactional evidence for similar publicly traded equity. The comparable company guideline group is determined based on relative similarities to each reporting unit since exact correlations are not available. An indication of fair value for each reporting unit is based on the placement of each reporting unit within a range of multiples determined for its comparable guideline company group. Valuation multiples are derived by dividing latest twelve-month performance for revenues and EBITDA into total invested capital, which is the sum of traded equity plus interest bearing debt less cash. These multiples are applied against the revenue and EBITDA of each reporting unit. While the implied indications of fair value using the guideline public company method yield meaningful results, the discounted cash flow method of the income approach includes management's thoughtful projections and insights as to what the reporting units will accomplish in the near future. Accordingly, the reasonable, implied fair value of each reporting unit is a blend based on the consideration of both the Income and Market approaches.

In 2018, 2017, and 2016, the results of our annual impairment tests indicated no impairment.

The excess of fair value (FV) over carrying value (CV) was compared to the carrying value for each reporting unit. Based on the results shown in the table below and based on our measurement date of August 1, 2018, our conclusion is that no goodwill was impaired in 2018. Potential events or circumstances, such as a sustained downturn in global economies, could have a negative effect on estimated fair values.

|                                                           | WACC  | Excess of<br>FV over CV | Goodwill     |
|-----------------------------------------------------------|-------|-------------------------|--------------|
| Adhesive Dispensing Systems Segment                       | 9.5%  | 497%                    | \$ 392,740   |
| Industrial Coating Systems Segment                        | 11.5% | 488%                    | \$ 24,058    |
| Advanced Technology Systems Segment - Electronics Systems | 11.0% | 564%                    | \$ 27,916    |
| Advanced Technology Systems Segment - Fluid Management    | 10.5% | 119%                    | \$ 1,095,969 |
| Advanced Technology Systems Segment - Test & Inspection   | 12.0% | 141%                    | \$ 71,050    |

**Pension plans and postretirement medical plans** - The measurement of liabilities related to our pension plans and postretirement medical plans is based on management's assumptions related to future factors, including interest rates, return on pension plan assets, compensation increases, mortality and turnover assumptions, and health care cost trend rates.

The weighted-average discount rate used to determine the present value of our domestic pension plan obligations was 4.53 percent at October 31, 2018 and 3.80 percent at October 31, 2017. The weighted-average discount rate used to determine the present value of our various international pension plan obligations was 2.14 percent at October 31, 2018, compared to 2.07 percent at October 31, 2017. The discount rates used for all plans were determined by using quality fixed income investments with a duration period approximately equal to the period over which pension obligations are expected to be settled.

In determining the expected return on plan assets, we consider both historical performance and an estimate of future long-term rates of return on assets similar to those in our plans. We consult with and consider the opinions of financial and actuarial experts in developing appropriate return assumptions. The expected rate of return (long-term investment rate) on domestic pension assets used to determine net benefit costs was 6.00 percent in 2018 and 6.25 percent in 2017. The average expected rate of return on international pension assets used to determine net benefit costs was 3.91 percent in 2018 and 3.51 percent in 2017.

The assumed rate of compensation increases used to determine the present value of our domestic pension plan obligations was 3.90 percent at October 31, 2018, compared to 3.61 percent at October 31, 2017. The assumed rate of compensation increases used to determine the present value of our international pension plan obligations was 3.12 percent at October 31, 2018, compared to 3.13 percent at October 31, 2017.

Annual expense amounts are determined based on the discount rate used at the end of the prior year. Differences between actual and assumed investment returns on pension plan assets result in actuarial gains or losses that are amortized into expense over a period of years.

Economic assumptions have a significant effect on the amounts reported. The effect of a one percent change in the discount rate, expected return on assets and compensation increase is shown in the table below. Bracketed numbers represent decreases in expense and obligation amounts.

|                                                              | United States     |                   | International     |                   |
|--------------------------------------------------------------|-------------------|-------------------|-------------------|-------------------|
|                                                              | 1% Point Increase | 1% Point Decrease | 1% Point Increase | 1% Point Decrease |
| Discount rate:                                               |                   |                   |                   |                   |
| Effect on total service and interest cost components in 2018 | \$ (6,081)        | \$ 7,000          | \$ (1,212)        | \$ 1,418          |
| Effect on pension obligation as of October 31, 2018          | \$ (53,084)       | \$ 66,632         | \$ (14,279)       | \$ 17,644         |
| Expected return on assets:                                   |                   |                   |                   |                   |
| Effect on total service and interest cost components in 2018 | \$ (3,660)        | \$ 3,660          | \$ (391)          | \$ 391            |
| Compensation increase:                                       |                   |                   |                   |                   |
| Effect on total service and interest cost components in 2018 | \$ 4,648          | \$ (3,266)        | \$ 553            | \$ (534)          |
| Effect on pension obligation as of October 31, 2018          | \$ 21,688         | \$ (18,104)       | \$ 3,588          | \$ (2,944)        |

With respect to the domestic postretirement medical plan, the discount rate used to value the benefit plan was 4.56 percent at October 31, 2018 and 3.86 percent at October 31, 2017. The annual rate of increase in the per capita cost of covered benefits (the health care cost trend rate) is assumed to be 3.75 percent in 2019, decreasing gradually to 3.27 percent in 2026.

For the international postretirement plan, the discount rate used to value the benefit obligation was 3.88 percent at October 31, 2018 and 3.52 percent at October 31, 2017. The annual rate of increase in the per capita cost of covered benefits (the health care cost trend rate) is assumed to be 6.35 percent in 2019, decreasing gradually to 3.50 percent in 2037.

The discount rate and the health care cost trend rate assumptions have a significant effect on the amounts reported. For example, a one-percentage point change in the discount rate and the assumed health care cost trend rate would have the following effects. Bracketed numbers represent decreases in expense and obligation amounts.

|                                                              | United States     |                   | International     |                   |
|--------------------------------------------------------------|-------------------|-------------------|-------------------|-------------------|
|                                                              | 1% Point Increase | 1% Point Decrease | 1% Point Increase | 1% Point Decrease |
| Discount rate:                                               |                   |                   |                   |                   |
| Effect on total service and interest cost components in 2018 | \$ (631)          | \$ 760            | \$ (4)            | \$ 4              |
| Effect on postretirement obligation as of October 31, 2018   | \$ (9,204)        | \$ 11,482         | \$ (96)           | \$ 127            |
| Health care trend rate:                                      |                   |                   |                   |                   |
| Effect on total service and interest cost components in 2018 | \$ 516            | \$ (411)          | \$ 11             | \$ (8)            |
| Effect on postretirement obligation as of October 31, 2018   | \$ 9,316          | \$ (7,659)        | \$ 120            | \$ (93)           |

Employees hired after January 1, 2002, are not eligible to participate in the domestic postretirement medical plan.

In the fourth quarter of 2016, we adopted a change in the method to be used to estimate the service and interest cost components of net periodic benefit cost for defined benefit pension plans. Historically, for the vast majority of our plans, the service and interest cost components were estimated using a single weighted-average discount rate derived from the yield curve used to measure the benefit obligation at the beginning of the period. Beginning in 2017, we used a spot rate approach by applying the specific spot rates along the yield curve to the relevant projected cash flows in the estimation of the service and interest components of benefit cost, resulting in a more precise measurement. This change did not affect the measurement of total benefit obligations. The change was accounted for as a change in estimate that is inseparable from a change in accounting principle and, accordingly, was accounted for prospectively starting in 2017. The reductions in service and interest costs for 2017 associated with this change were \$1,200 and \$3,100, respectively.

Pension and postretirement expenses in 2019 are expected to be approximately \$990 lower than 2018.

**Income taxes** – Income taxes are estimated based on income for financial reporting purposes. Deferred income taxes reflect the net tax effect of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes and certain changes in valuation allowances. We provide valuation allowances against deferred tax assets if, based on available evidence, it is more likely than not that some portion or all of the deferred tax assets will not be realized.

Management believes the valuation allowances are adequate after considering future taxable income, allowable carryforward periods and ongoing prudent and feasible tax planning strategies. In the event we were to determine that we would be able to realize the deferred tax assets in the future in excess of the net recorded amount (including the valuation allowance), an adjustment to the valuation allowance would increase income in the period such determination was made. Conversely, should we determine that we would not be able to realize all or part of the net deferred tax asset in the future, an adjustment to the valuation allowance would be expensed in the period such determination was made.

Further, at each interim reporting period, we estimate an effective income tax rate that is expected to be applicable for the full year. Judgment is involved regarding the application of global income tax laws and regulations and when projecting the jurisdictional mix of income. Additionally, interpretation of tax laws, court decisions or other guidance provided by taxing authorities influences our estimate of the effective income tax rates. As a result, our actual effective income tax rates and related income tax liabilities may differ materially from our estimated effective tax rates and related income tax liabilities. Any resulting differences are recorded in the period they become known.

## **2018 compared to 2017**

**Sales** – Worldwide sales for 2018 were \$2,254,668, an increase of 9.1 percent from 2017 sales of \$2,066,982. Sales volume increased 7.1 percent and favorable currency translation effects increased sales by 2.0 percent. The volume increase consisted of 2.5 percent from organic growth and 4.6 percent from acquisitions. We had two acquisitions during 2018, Sonoscan, Inc. (“Sonoscan”), and Cladach Nua Teoranta (“Clada”), which are both included within the Advanced Technology Systems segment. We had four acquisitions during 2017, ACE Production Technologies, Inc. (“ACE”), Plas-Pak Industries, Inc. (“Plas-Pak”), InterSelect GmbH (“InterSelect”), and Vention Medical’s Advanced Technologies business (“Vention”), which are also included within the Advanced Technology Systems segment. As used throughout this Form 10-K, geographic regions include the Americas (Canada, Mexico and Central and South America), Asia Pacific (excluding Japan), Europe, Japan, and the United States.

Sales of the Adhesive Dispensing Systems segment were \$955,192 in 2018, an increase of \$39,173, or 4.3 percent, from 2017 sales of \$916,019. The increase was the result of a sales volume increase of 1.5 percent and favorable currency effects that increased sales by 2.8 percent. Within this segment, sales volume increased in all geographic regions with the exception of the United States. Growth in packaging and product assembly product lines was offset by softness in product lines serving polymer processing end markets.

Sales of the Advanced Technology Systems segment were \$1,039,366 in 2018, an increase of \$141,743 or 15.8 percent, from 2017 sales of \$897,623. The increase was the result of a sales volume increase of 14.5 percent and favorable currency effects that increased sales by 1.3 percent. The sales volume increase consisted of 3.8 percent from organic volume and 10.7 percent from the first-year effect of acquisitions. Within this segment, sales volume, inclusive of acquisitions, increased in all geographic regions with the exception of the Asia Pacific region. Organic volume was driven by demand in our fluid management product lines serving industrial and medical end markets.

Sales of the Industrial Coating Systems segment were \$260,110 in 2018, an increase of \$6,770, or 2.7 percent, from 2017 sales of \$253,340. The increase was the result of a sales volume increase of 1.1 percent and favorable currency effects that increased sales by 1.6 percent. Within this segment, sales volume increased in Europe, Japan and the Asia Pacific regions. Growth in powder, liquid and container product lines serving industrial end markets was offset by softness in cold materials product lines serving automotive end markets.

Sales outside the United States accounted for 68.0 percent of our sales in 2018, as compared to 68.7 percent in 2017. On a geographic basis, sales in the United States were \$720,832, an increase of 11.3 percent from 2017. The increase in sales volume consisted of 1.9 percent from organic volume and 9.4 percent from acquisitions. In the Americas region, sales were \$158,837, an increase of 8.0 percent from 2017, with volume increasing 8.8 percent partially offset by unfavorable currency effects of 0.8 percent. The increase in sales volume consisted of 3.5 percent from organic volume and 5.3 percent from acquisitions. Sales in Europe were \$622,108, an increase of 17.2 percent from 2017, with volume increasing 11.4 percent and favorable currency effects of 5.8 percent. The increase in sales volume consisted of 9.2 percent from organic volume and 2.2 percent from acquisitions. Sales in Japan were \$161,771, an increase of 9.9 percent from 2017, with volume increasing 8.6 percent and favorable currency effects of 1.3 percent. The increase in sales volume consisted of 7.0 percent from organic volume and 1.6 percent from acquisitions. Sales in the Asia Pacific region were \$591,120, a decrease of 0.5 percent from 2017, with volume decreasing 2.2 percent partially offset by favorable currency effects of 1.7 percent. The decrease in sales volume consisted of lower organic volume of 4.4 percent, offset by 2.2 percent growth from acquisitions.

It is estimated that the effect of pricing on 2018 total sales was not material relative to 2017.

**Operating profit** – Cost of sales were \$1,018,703 in 2018, up 9.8 percent from \$927,981 in 2017. Gross profit, expressed as a percentage of sales, decreased to 54.8 percent in 2018 from 55.1 percent in 2017. Of the 0.3 percentage point decrease in gross margin, unfavorable product mix contributed 0.7 percentage points offset by 0.4 percentage points due to favorable currency translation effects.

Selling and administrative expenses were \$734,856 in 2018, compared to \$678,861 in 2017. The 8.2 percent increase includes 8.7 percent primarily in support of higher sales growth and 1.7 percent due to unfavorable currency translation effects, offset by 2.2 percent due to lower acquisition transaction costs in the current year.

Selling and administrative expenses as a percentage of sales decreased to 32.6 percent in 2018 from 32.8 percent in 2017. Of the 0.2 percentage point improvement, 0.7 percentage points is due to lower acquisition transaction costs, offset by 0.5 percentage points due to higher base business costs.

Severance and restructuring costs of \$6,552 were recorded in 2018. Within the Adhesives Dispensing Systems segment, a restructuring initiative to consolidate certain polymer processing product line facilities in the U.S. resulted in severance and restructuring costs of \$5,631. Within the Advanced Technology Systems segment, severance costs of \$401 were recorded in Europe. Severance costs of \$520 were recorded in the U.S. due to a Corporate restructuring initiative. No costs related to severance and restructuring were recorded in the Industrial Coating Systems segment in 2018. Additional costs related to these initiatives are not expected to be material in future periods. All severance and restructuring costs are included in selling and administrative expenses in the Consolidated Statements of Income.

Operating capacity for each of our segments can support fluctuations in order activity without significant changes in operating costs. Also, currency translation affects reported operating margins. Operating margins for each segment were favorably impacted by a weaker dollar primarily against the Euro during 2018 as compared to 2017.

Operating profit as a percentage of sales decreased to 21.9 percent in 2018 compared to 22.1 percent in 2017. Of the 0.2 percentage point decline in operating margin, unfavorable leverage of our selling and administrative expenses contributed 0.9 percentage points, higher severance and restructuring expenses contributed 0.2 percentage points, and unfavorable product mix contributed 0.7 percentage points. This decline was offset by 0.3 percentage points due to the first year effect of acquisitions, 0.7 percentage points due to lower acquisition transaction costs, and 0.6 percentage points due to favorable foreign currency translation effects.

For the Adhesive Dispensing Systems segment, operating profit as a percentage of sales decreased to 27.2 percent in 2018 compared to 27.7 percent in 2017. Of the 0.5 percentage point decline in operating margin, dilution in gross margin of 0.8 percentage points was due to the consolidation of certain facilities in the U.S., and higher severance and restructuring expenses contributed 0.3 percentage points, offset by favorable foreign currency translation effects of 0.6 percentage points.

For the Advanced Technology Systems segment, operating profit as a percentage of sales decreased to 23.4 percent in 2018 compared to 25.4 percent in 2017. Of the 2.0 percentage point decline in operating margin, unfavorable product mix contributed 1.2 percentage points, incremental amortization expense contributed 1.1 percentage points, and higher severance and restructuring expenses contributed 0.1 percentage points. This decline was partially offset by 0.4 percentage points due to favorable foreign currency translation effects.

For the Industrial Coating Systems segment, operating profit as a percentage of sales increased to 19.5 percent in 2018 compared to 17.4 percent in 2017. Of the 2.1 percentage point improvement in operating margin, 1.9 percentage points related to favorable product mix and 0.4 percentage points related to favorable foreign currency translation effects. This improvement was partially offset by 0.2 percentage points due to unfavorable leverage of our selling and administrative expenses.

**Interest and other income (expense)** - Interest expense in 2018 was \$49,576, an increase of \$12,975, or 35.4 percent, from 2017. The increase was due to higher average borrowing levels between periods. Other income in 2018 was \$2,154 compared to other expense of \$1,934 in 2017. Included in the current year's other income are foreign currency gains of \$1,133 and a non-recurring gain of \$2,512. Included in the prior year's other expense were foreign currency losses of \$686.

#### **Income taxes –**

Income tax expense in 2018 was \$71,144, or 15.9 percent of pre-tax income, as compared to \$124,489, or 29.6 percent of pre-tax income in 2017.

On December 22, 2017, the U.S. Tax Cuts and Jobs Act ("the Act") was enacted. It reduced the U.S. federal corporate income tax rate from 35 percent to 21 percent. We have an October 31 fiscal year-end, therefore the lower corporate income tax rate will be phased in, resulting in a U.S. statutory federal rate of 23.34 percent for our fiscal year ended October 31, 2018, and 21 percent for subsequent fiscal years. The statutory tax rate of 23.34 percent was applied to earnings in the current year.

The Act requires us to revalue our existing U.S. deferred tax balance to reflect the lower statutory tax rate and pay a one-time transition tax on earnings of certain foreign subsidiaries that were previously deferred from U.S. taxes. As a result, during 2018, we recorded a provisional tax benefit of \$49,082 to reflect the revaluation of our tax assets and liabilities at the reduced corporate tax rate. We also recorded a provisional tax expense of \$27,618 to reflect the transition tax on previously deferred foreign earnings. The net tax effect of these discrete items resulted in a decrease of \$21,464 in income tax expense for 2018. We intend to pay the transition tax in installments over the eight-year period allowable under the Act. The transition tax is primarily included in other long-term liabilities in the Consolidated Balance Sheet at October 31, 2018. Incremental adjustments have been made to these estimates during the three months ended October 31, 2018 based on availability of additional information. The amounts recorded are considered a provisional estimate under the U.S. Securities and Exchange Commission Staff Accounting Bulletin No. 118. The provisional calculations may change after various components of the computation are finalized. Furthermore, we are still analyzing certain aspects of the Act and related interpretive guidance and refining our calculations, which could potentially affect the measurement of these balances or give rise to new or additional deferred tax amounts. Certain provisions of the Act will impact the Company starting in 2019. These provisions include, but are not limited to, the creation of the base erosion anti-abuse tax, a general limitation of U.S. federal income taxes on dividends from foreign subsidiaries, a new provision designed to tax global intangible low-taxed income and the repeal of the domestic production activities deduction. We continue to evaluate the future impacts of these provisions and, as of October 31, 2018, have not recorded any impact of any of these future provisions.

In March 2016, the FASB issued a new standard which simplifies the accounting for share-based payment transactions, which we adopted in the first quarter of 2018. This guidance requires that excess tax benefits and tax deficiencies be recognized as income tax expense or benefit in the Consolidated Statements of Income rather than as additional paid-in capital. Our income tax provision for 2018 also includes a favorable adjustment to unrecognized tax benefits of \$1,120 related to the lapse of the statute of limitations.

Our income tax provision for 2017 includes a discrete tax expense of \$1,070 related to nondeductible acquisition costs.

**Net income** – Net income was \$377,375, or \$6.40 per diluted share, in 2018, compared to net income of \$295,802, or \$5.08 per diluted share, in 2017. This represents a 27.6 percent increase in net income and a 26.0 percent increase in diluted earnings per share.

## **2017 compared to 2016**

**Sales** – Worldwide sales for 2017 were \$2,066,982, an increase of 14.3 percent from 2016 sales of \$1,808,994. Sales volume increased 14.8 percent and unfavorable currency translation effects reduced sales by 0.5 percent. The volume increase consisted of 7.9 percent from organic growth and 6.9 percent from acquisitions. We had four acquisitions during 2017, ACE Production Technologies, Inc. ("ACE"), Plas-Pak Industries, Inc. ("Plas-Pak"), InterSelect GmbH ("InterSelect"), and Vention Medical's Advanced Technologies business ("Vention"), which are all included within the Advanced Technology Systems segment. We had one acquisition during 2016, LinkTech, which is also included within the Advanced Technology Systems segment. As used throughout this Form 10-K, geographic regions include the Americas (Canada, Mexico and Central and South America), Asia Pacific (excluding Japan), Europe, Japan, and the United States.

Sales of the Adhesive Dispensing Systems segment were \$916,019 in 2017, an increase of \$36,446, or 4.1 percent, from 2016 sales of \$879,573. The increase was the net result of a sales volume increase of 4.3 percent partially offset by unfavorable currency effects that reduced sales by 0.2 percent. Within this segment, sales volume increased in all geographic regions with the exception of Europe. Growth in product lines serving rigid packaging, consumer non-durable, disposable hygiene and general product assembly end markets, was offset by softness in product lines serving polymer processing end markets.

Sales of the Advanced Technology Systems segment were \$897,623 in 2017, an increase of \$221,294 or 32.7 percent, from 2016 sales of \$676,329. The increase was the result of a sales volume increase of 33.4 percent partially offset by unfavorable currency effects that reduced sales by 0.7 percent. The sales volume increase consisted of 15.1 percent from organic volume and 18.3 percent from the first-year effect of acquisitions. Within the segment, sales volume, inclusive of acquisitions, increased in all geographic regions. Organic volume increased in most product lines, and was driven by demand in electronics and medical end markets.

Sales of the Industrial Coating Systems segment were \$253,340 in 2017, an increase of \$248, or 0.1 percent, from 2016 sales of \$253,092. The increase was the result of a sales volume increase of 0.8 percent partially offset by unfavorable currency effects that reduced sales by 0.7 percent. Within this segment, sales volume increased in Europe, Japan and the Americas regions. Sales volume increased in most product lines, and was driven by demand for liquid and UV curing, powder coating and container product lines serving industrial end markets.

Sales outside the United States accounted for 68.7 percent of our sales in 2017, as compared to 70.6 percent in 2016. On a geographic basis, sales in the United States were \$647,657, an increase of 21.9 percent from 2016. The increase in sales volume consisted of 5.3 percent from organic volume and 16.6 percent from acquisitions. In the Americas region, sales were \$147,026, an increase of 17.9 percent from 2016, with volume increasing 18.0 percent partially offset by unfavorable currency effects of 0.1 percent. The increase in sales volume consisted of 7.7 percent from organic volume and 10.3 percent from acquisitions. Sales in Europe were \$530,812, an increase of 5.3 percent from 2016, with volume increasing 5.5 percent partially offset by unfavorable currency effects of 0.2 percent. The increase in sales volume consisted of 2.2 percent from organic volume and 3.3 percent from acquisitions. Sales in Japan were \$147,189, an increase of 20.6 percent from 2016, with volume increasing 24.5 percent partially offset by unfavorable currency effects of 3.9 percent. The increase in sales volume consisted of 23.1 percent from organic volume and 1.4 percent from acquisitions. Sales in the Asia Pacific region were \$594,298, an increase of 12.7 percent from the prior year, with volume increasing 13.2 percent partially offset by unfavorable currency effects of 0.5 percent. The increase in sales volume consisted of 12.3 percent from organic growth and 0.9 percent from acquisitions.

It is estimated that the effect of pricing on 2017 total sales was not material relative to 2016.

**Operating profit** – Cost of sales were \$927,981 in 2017, up 13.8 percent from \$815,495 in 2016. Gross profit, expressed as a percentage of sales, increased to 55.1 percent in 2017 from 54.9 percent in 2016. Of the 0.2 percentage point improvement in gross margin, favorable product mix added 0.3 percentage points primarily related to higher sales growth in our Adhesive Dispensing Systems and Advanced Technology Systems segments, which have higher margins than the Industrial Coating Systems segment. The 0.1 percentage point offset is primarily due to unfavorable currency translation effects.

Selling and administrative expenses were \$678,861 in 2017, compared to \$594,293 in 2016. The 14.2 percentage point increase includes 6.1 percent primarily in support of higher sales growth, 6.1 percent related to the first year effect of acquisitions and 2.5 percent of corporate charges related to acquisition transaction costs, offset by 0.5 percentage points due to currency translation effects.

Selling and administrative expenses as a percentage of sales decreased to 32.8 percent in 2017 from 32.9 percent in 2016. Of the 0.1 percentage point improvement, 2.5 percentage points is due to leveraging higher sales growth in our Adhesive Dispensing Systems and Advanced Technology Systems segments. This improvement was partially offset by 1.7 percentage points due to the first year effect of acquisitions and 0.7 percentage points due to corporate charges related to acquisition transaction costs.

Severance and restructuring costs of \$2,438 were recorded in 2017. Within the Adhesives Dispensing Systems segment, restructuring initiatives to optimize operations in the U.S. and Belgium and consolidate certain polymer processing product line facilities in the U.S. resulted in severance and restructuring costs of \$2,618. Within the Advanced Technology Systems segment, costs of \$180 were reversed during 2017 related to a 2015 restructuring initiative. No costs related to severance and restructuring were recorded in the Industrial Coating Systems segment in 2017. Additional costs related to these initiatives are not expected to be material in future periods. All severance and restructuring costs are included in selling and administrative expenses in the Consolidated Statements of Income.

Operating capacity for each of our segments can support fluctuations in order activity without significant changes in operating costs. Also, currency translation affects reported operating margins. Operating margins for each segment were unfavorably impacted by a stronger dollar primarily against the Euro during 2017 as compared to 2016.

Operating profit as a percentage of sales increased to 22.1 percent in 2017 compared to 21.5 percent in 2016. Of the 0.6 percentage point improvement in operating margin, favorable leverage of our selling and administrative expenses contributed 2.4 percentage points, lower severance and restructuring expenses added 0.5 percentage points, and favorable product mix added 0.2 percentage points primarily related to higher sales growth in our Adhesives Dispensing Systems and Advanced Technology Systems segments. This improvement was offset by 1.7 percentage points due to the first year effect of acquisitions, 0.7 percentage points due to corporate charges related to acquisition transaction costs, and 0.1 percentage points due to short term purchase price accounting charges for acquired inventory.

For the Adhesive Dispensing Systems segment, operating profit as a percentage of sales increased to 27.7 percent in 2017 compared to 26.1 percent in 2016. Of the 1.6 percentage point improvement in operating margin, favorable product mix added 0.7 percentage points due to increased sales to consumer non-durable, disposable hygiene and rigid packaging end markets, lower severance and restructuring expenses added 0.6 percentage points, favorable foreign currency translation effects added 0.2 percentage points and favorable leverage of selling and administrative expenses added 0.1 percentage points.

For the Advanced Technology Systems segment, operating profit as a percentage of sales increased to 25.4 percent in 2017 compared to 23.6 percent in 2016. Of the 1.8 percentage point improvement in operating margin, favorable leverage of our selling and administrative expenses due to higher sales contributed 5.6 percentage points, favorable product mix added 0.4 percentage points, and lower severance and restructuring expenses contributed 0.2 percentage points. These increases were partially offset by 4.0 percentage points due to the first year effect of acquisitions, 0.3 percentage points due to unfavorable currency translation effects, and 0.1 percentage points due to short term purchase price accounting charges for acquired inventory.

For the Industrial Coating Systems segment, operating profit as a percentage of sales increased to 17.4 percent in 2017 compared to 17.2 percent in 2016. Of the 0.2 percentage point improvement in operating margin, lower severance and restructuring expenses added 0.8 percentage points and favorable leverage of our selling and administrative expenses added 0.4 percentage points. These increases were offset by 0.7 percentage points related to unfavorable product mix and 0.3 percentage points related to unfavorable foreign currency translation effects.

**Interest and other income (expense)** - Interest expense in 2017 was \$36,601, an increase of \$15,279, or 71.7 percent, from 2016. The increase was due to higher average borrowing levels between periods. Other expense in 2017 was \$1,934 compared to other income of \$657 in 2016. Included in the current year's other expense are foreign currency losses of \$686. Included in the prior year's other income were a litigation settlement of \$800 and foreign currency gains of \$2,004. These gains were partially offset by \$1,530 of net unfavorable adjustments primarily related to the reversal of an indemnification asset resulting from the effective settlement of a tax exam.

**Income taxes** - Income tax expense in 2017 was \$124,489, or 29.6 percent of pre-tax income, as compared to \$96,651, or 26.2 percent of pre-tax income in 2016.

Our income tax provision for 2017 includes a discrete tax expense of \$1,070 related to nondeductible acquisition costs.

On December 18, 2015, the Protecting Americans from Tax Hikes Act of 2015 was enacted which retroactively reinstated the Federal Research and Development Tax Credit (Federal R&D Tax Credit) as of January 1, 2015, and made it permanent. As a result, our income tax provision for 2016 includes a discrete tax benefit of \$2,200 related to 2015. The tax rate for 2016 also includes a discrete tax benefit of \$6,154 related to dividends paid from previously taxed foreign earnings generated prior to 2015, and a benefit of \$2,682 related to the effective settlement of a tax exam.

**Net income** - Net income was \$295,802, or \$5.08 per diluted share, in 2017, compared to net income of \$271,843, or \$4.73 per diluted share, in 2016. This represents an 8.8 percent increase in net income and a 7.4 percent increase in diluted earnings per share.

#### **Liquidity and Capital Resources**

Cash and cash equivalents increased \$5,295 in 2018. Cash provided by operating activities was \$504,638 in 2018, compared to \$356,752 in 2017. The primary sources were net income adjusted for non-cash income and expenses (consisting of depreciation and amortization, non-cash stock compensation, provision for losses on receivables, deferred income taxes, other non-cash expense, and loss on sale of property, plant and equipment) which was \$476,757 in 2018, compared to \$413,341 in 2017. The increase in cash provided by operating activities was primarily due to higher net income. Also, changes in operating assets and liabilities provided \$27,881 of cash in 2018, compared to \$56,589 used in 2017.

Cash used in investing activities was \$139,918 in 2018, compared to \$877,694 in 2017. In the current year, cash of \$50,586 was used for the Clada and Sonoscan acquisitions, partially offset by cash received of \$458 which was primarily due to the sale of a building in the U.S. Capital expenditures were \$89,790 in 2018 compared to \$71,558 in 2017. The increase in capital expenditures was primarily due to the purchase of a new production and development manufacturing facility in China for product lines within our Adhesives Dispensing Systems segment.

Cash used in financing activities was \$353,690 in 2018, compared to cash of \$540,750 provided in 2017. Net repayment of long-term debt and short-term borrowings used \$268,887 of cash in 2018, compared to net short and long-term proceeds of debt of \$602,221 in 2017. Issuance of common shares related to employee benefit plans generated \$18,811 of cash in 2018, up from \$14,086 in 2017. This increase was the result of higher stock option exercises. In 2018, cash of \$24,012 was used for the purchase of treasury shares, up from \$3,216 in 2017. Dividend payments were \$72,443 in 2018, up from \$63,840 in 2017 due to an increase in the annual dividend to \$1.25 per share from \$1.11 per share.

The following is a summary of significant changes by balance sheet caption from October 31, 2017 to October 31, 2018. Net property, plant and equipment increased \$40,255 due to capital expenditures of \$89,790, offset by depreciation expense. Goodwill increased \$18,808 due primarily to acquisitions completed during 2018. Net intangible assets decreased \$47,439, primarily due to amortization expense, offset by acquisitions completed during 2018. Current maturities of long-term debt decreased \$297,853 as a result of repayments and a reclassification to long-term debt in 2018.

In December 2014, the board of directors authorized a \$300,000 common share repurchase program. In August 2015, the board of directors authorized the repurchase of up to an additional \$200,000 of the Company's common shares. In August 2018, the board of directors authorized the repurchase of an additional \$500,000 of the Company's common shares. Approximately \$600,032 of the total \$1,000,000 authorized remained available for share repurchases at October 31, 2018. Uses for repurchased shares include the funding of benefit programs including stock options, restricted stock and 401(k) matching. Shares purchased are treated as treasury shares until used for such purposes. The repurchase program is being funded using cash from operations and proceeds from borrowings under our credit facilities.

As of October 31, 2018, approximately 91 percent of our consolidated cash and cash equivalents were held at various foreign subsidiaries. Deferred income taxes are not provided on undistributed earnings of international subsidiaries that are intended to be permanently invested in those operations. These undistributed earnings represent the post-income tax earnings under U.S. GAAP not adjusted for previously taxed income which aggregated approximately \$1,088,183 and \$1,026,793 at October 31, 2018 and 2017, respectively. Should these earnings be distributed, applicable foreign tax credits, distributions of previously taxed income, and utilization of other attributes would substantially offset taxes due upon the distribution. It is not practical to estimate the amount of additional taxes that might be payable on such undistributed earnings.

### Contractual Obligations

The following table summarizes contractual obligations as of October 31, 2018:

|                                                                  | Payments Due by Period |                     |                   |                   |                   |
|------------------------------------------------------------------|------------------------|---------------------|-------------------|-------------------|-------------------|
|                                                                  | Total                  | Less than<br>1 Year | 1-3<br>Years      | 4-5<br>Years      | After 5<br>Years  |
| Long-term debt (1)                                               | \$ 1,318,064           | \$ 28,734           | \$ 476,091        | \$ 466,587        | \$ 346,652        |
| Interest payments on long-term debt (1)                          | 132,947                | 23,769              | 40,162            | 34,378            | 34,638            |
| Capital lease obligations (2)                                    | 18,198                 | 6,161               | 6,393             | 1,574             | 4,070             |
| Operating leases (2)                                             | 66,098                 | 16,603              | 20,914            | 13,349            | 15,232            |
| Contributions related to pension and postretirement benefits (3) | 24,400                 | 24,400              | —                 | —                 | —                 |
| Purchase obligations (4)                                         | 74,207                 | 71,084              | 3,123             | —                 | —                 |
| Total obligations                                                | <u>\$ 1,633,914</u>    | <u>\$ 170,751</u>   | <u>\$ 546,683</u> | <u>\$ 515,888</u> | <u>\$ 400,592</u> |

- (1) In October 2018, we entered into a €150,000 agreement with Bank of America Merrill Lynch International Limited. The interest rate is variable based on the EUR LIBOR rate. The weighted average interest rate at October 31, 2018 was 0.88 percent. At October 31, 2018, the balance outstanding was €15,000 (\$16,967). We were in compliance with all covenants at October 31, 2018.

In June 2018, we entered into a Note Purchase Agreement with a group of insurance companies under which we sold \$350,000 of Senior Notes to the insurance companies and their affiliates. The notes start to mature in June 2023 and mature through June 2030 and bear interest at fixed rates between 3.71 percent and 4.17 percent. We used the proceeds from the sale of the notes to repay approximately \$315,000 of the outstanding balance under our existing syndicated revolving credit facility at that time, and the remainder for general corporate purposes. We were in compliance with all covenants at October 31, 2018.

In March 2017, we entered into a \$705,000 term loan facility with a group of banks. The Term Loan Agreement provides for the following term loans in three tranches: \$200,000 due in October 2018, \$200,000 due in March 2020, and \$305,000 due in March 2022. In May 2018, we entered into a Second Amendment to our \$705,000 term loan facility to extend the maturity due date of the first \$200,000 tranche from October 2018 to October 2021. In October 2018, we paid down \$100,000 of the portion due in March 2020. The weighted average interest rate for borrowings under this agreement was 3.23 percent at October 31, 2018. Borrowings under this agreement were used for the single purpose of acquiring Vention during the second quarter of 2017. We were in compliance with all covenants at October 31, 2018.

In February 2015, we increased, amended and extended our existing syndicated revolving credit agreement that was scheduled to expire in December 2016. We entered into a \$600,000 unsecured, multicurrency credit facility with a group of banks. This facility has a five-year term and includes a \$50,000 subfacility for swing-line loans and was increased to \$850,000 in June 2018. It expires in February 2020. Balances outstanding under the prior facility were transferred to the new facility. At October 31, 2018, \$52,200 was outstanding under this facility, compared to \$249,138 outstanding at October 31, 2017. The weighted average interest rate for borrowings under this agreement was 3.10 percent at October 31, 2018. We were in compliance with all covenants at October 31, 2018, and the amount we could borrow under the facility would not have been limited by any debt covenants.

We entered into a \$150,000 three-year Note Purchase and Private Shelf agreement with New York Life Investment Management LLC in 2011. In 2015, the amount of the facility was increased to \$180,000, and in 2016 it was increased to \$200,000. Notes issued under the agreement may have a maturity of up to 12 years, with an average life of up to 10 years, and are unsecured. The interest rate on each note can be fixed or floating and is based upon the market rate at the borrowing date. At October 31, 2018, there was \$36,111 outstanding under this facility, compared to \$146,666 at October 31, 2017. We paid down \$100,000 of the outstanding balance during October 2018. Existing notes mature between January 2020 and September 2020. The interest rate on each borrowing is fixed based upon the market rate at the borrowing date or is variable based upon the LIBOR rate. At October 31, 2018, the amount outstanding under this facility was at fixed rates of 2.21 percent and 2.56 percent. This agreement contains customary events of default and covenants related to limitations on indebtedness and the maintenance of certain financial ratios. We were in compliance with all covenants at October 31, 2018, and the amount we could borrow would not have been limited by any debt covenants.

In 2012, we entered into a Note Purchase Agreement with a group of insurance companies under which we sold \$200,000 of Senior Notes. At October 31, 2018, \$156,700 was outstanding under this agreement. Existing notes mature between July 2019 and July 2025 and bear interest at fixed rates between 2.62 percent and 3.13 percent. We were in compliance with all covenants at October 31, 2018.

In April 2015, we entered into a \$200,000 term loan facility with a group of banks, of which we paid down \$100,000 in April 2018 and \$100,000 in August 2018.

In July 2015, we entered into a Note Purchase Agreement under which \$100,000 of Senior Unsecured Notes were purchased primarily by a group of insurance companies. The notes mature in July 2019 and July 2027 and bear interest at fixed rates of 2.89 percent and 3.19 percent. We were in compliance with all covenants at October 31, 2018.

See Note 9 for additional information.

- (2) See Note 10 for additional information.
- (3) Pension and postretirement plan funding amounts after 2018 will be determined based on the future funded status of the plans and therefore cannot be estimated at this time. See Note 6 for additional information.
- (4) Purchase obligations primarily represent commitments for materials used in our manufacturing processes that are not recorded in our Consolidated Balance Sheet.

We believe that the combination of present capital resources, cash from operations and unused financing sources are more than adequate to meet cash requirements for 2019. There are no significant restrictions limiting the transfer of funds from international subsidiaries to the parent company.

## Outlook

Our operating performance, balance sheet position, and financial ratios for 2018 remained strong relative to recent years, although uncertainties persisted in global financial markets and the general economic environment. Going forward, we are well-positioned to manage our liquidity needs that arise from working capital requirements, capital expenditures, contributions related to pension and postretirement obligations, and principal and interest payments on indebtedness. Primary sources of capital to meet these needs as well as other opportunistic investments are cash provided by operations and borrowings under our loan agreements. In 2018, cash from operations was 22.4 percent of revenue. With respect to borrowings under existing loan agreements, as of October 31, 2018, we had \$797,800 available capacity under our five-year term, \$850,000 unsecured, multicurrency credit facility. This credit facility expires in February 2020.

Respective to all of these loans are two primary covenants, the leverage ratio that restricts indebtedness (net of cash) to a maximum 3.50 times consolidated four-quarter trailing EBITDA and the interest coverage ratio that requires four-quarter trailing EBITDA to be at minimum 2.5 times consolidated trailing four-quarter interest expense. (Debt, EBITDA, and interest expense are as defined in respective credit agreements.)

Regarding expectations for 2019, we are optimistic about longer term growth opportunities in the diverse consumer durable, non-durable, medical, electronics and industrial end markets we serve. For 2019, organic sales are expected to increase 3 percent to 5 percent compared to the prior year, offset by an unfavorable currency effect of 2 percent based on the current exchange rate environment as compared to the prior year. We move forward with caution given continued slower growth in emerging markets than previous years, expectations for global GDP indicating a low-growth macroeconomic environment, tax reform and trade agreement implications, and marketplace effects of political instability in certain areas of the world. Though the pace of improvement in the global economy remains unclear, our growth potential has been demonstrated over time from our capacity to build and enhance our core businesses by entering emerging markets, pursuing market adjacencies and driving growth initiatives. We drive value for our

customers through our application expertise, differentiated technology, and direct sales and service support. Our priorities also are focused on operational efficiencies by employing continuous improvement methodologies in our business processes. We expect our efforts will continue to provide more than sufficient cash from operations for meeting our liquidity needs and paying dividends to common shareholders, as well as enabling us to invest in the development of new applications and markets for our technologies. Cash from operations have been 16 to 22 percent of revenues over the past five years, which, when combined with, our available borrowing capacity and ready access to capital markets, is more than adequate to fund our liquidity needs over the next year.

With respect to contractual spending, the table above presents our financial obligations as \$1,633,914, of which \$170,751 is payable in 2019. In December 2014, the board of directors authorized a \$300,000 common share repurchase program. In August 2015, the board of directors authorized the repurchase of up to an additional \$200,000 of the Company's common shares. In August 2018, the board of directors authorized the repurchase of an additional \$500,000 of the Company's common shares. Approximately \$600,032 of the total \$1,000,000 authorized remained available for share repurchases at October 31, 2018. The repurchase program is funded using cash from operations and proceeds from borrowings under our credit facilities. Timing and actual number of shares subject to repurchase are contingent on a number of factors including levels of cash generation from operations, cash requirements for acquisitions, repayment of debt and our share price. We intend to focus on capital expenditures for 2019 on continued investments in our information systems and projects that improve both capacity and efficiency of manufacturing and distribution operations.

### **Effects of Foreign Currency**

The impact of changes in foreign currency exchange rates on sales and operating results cannot be precisely measured due to fluctuating selling prices, sales volume, product mix and cost structures in each country where we operate. As a general rule, a weakening of the United States dollar relative to foreign currencies has a favorable effect on sales and net income, while a strengthening of the dollar has a detrimental effect.

In 2018, as compared with 2017, the United States dollar was generally weaker against foreign currencies. If 2017 exchange rates had been in effect during 2018, sales would have been approximately \$41,800 lower and third-party costs would have been approximately \$21,708 higher. In 2017, as compared with 2016, the United States dollar was generally stronger against foreign currencies. If 2016 exchange rates had been in effect during 2017, sales would have been approximately \$8,210 higher and third-party costs would have been approximately \$5,791 higher. These effects on reported sales do not include the impact of local price adjustments made in response to changes in currency exchange rates.

### **Inflation**

Inflation affects profit margins as the ability to pass cost increases on to customers is restricted by the need for competitive pricing. Although inflation has been modest in recent years and has had no material effect on the years covered by the financial statements included in this report, we continue to seek ways to minimize the impact of inflation through focused efforts to increase productivity.

### **Trends**

The Five-Year Summary in Item 6 documents our historical financial trends. Over this period, the world's economic conditions fluctuated significantly. Our solid performance is attributed to our participation in diverse geographic and industrial markets and our long-term commitment to develop and provide quality products and worldwide service to meet our customers' changing needs.

### **Safe Harbor Statements Under the Private Securities Litigation Reform Act of 1995**

This Form 10-K, particularly "Management's Discussion and Analysis," contains forward-looking statements within the meaning of the Securities Act of 1933, as amended, the Securities Exchange Act of 1934, as amended, and the Private Securities Litigation Reform Act of 1995. Such statements relate to, among other things, income, earnings, cash flows, changes in operations, operating improvements, businesses in which we operate and the United States and global economies. Statements in this 10-K that are not historical are hereby identified as "forward-looking statements" and may be indicated by words or phrases such as "anticipates," "supports," "plans," "projects," "expects," "believes," "should," "would," "could," "hope," "forecast," "management is of the opinion," use of the future tense and similar words or phrases.

In light of these risks and uncertainties, actual events and results may vary significantly from those included in or contemplated or implied by such statements. Readers are cautioned not to place undue reliance on such forward-looking statements. These forward-looking statements speak only as of the date made. We undertake no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law. Factors that could cause our actual results to differ materially from the expected results are discussed in Item 1A, Risk Factors.

**Item 7A. Quantitative and Qualitative Disclosures About Market Risk**

We operate internationally and enter into intercompany transactions denominated in foreign currencies. Consequently, we are subject to market risk arising from exchange rate movements between the dates foreign currencies are recorded and the dates they are settled. We regularly use foreign exchange contracts to reduce our risks related to most of these transactions. These contracts, primarily associated with the euro, yen and pound sterling, typically have maturities of 90 days or less, and generally require the exchange of foreign currencies for United States dollars at rates stated in the contracts. Gains and losses from changes in the market value of these contracts offset foreign exchange losses and gains, respectively, on the underlying transactions. Other transactions denominated in foreign currencies are designated as hedges of our net investments in foreign subsidiaries or are intercompany transactions of a long-term investment nature. As a result of the use of foreign exchange contracts on a routine basis to reduce the risks related to most of our transactions denominated in foreign currencies, as of October 31, 2018, we did not have material foreign currency exposure.

Note 12 to the financial statements contains additional information about our foreign currency transactions and the methods and assumptions used to record these transactions.

A portion of our operations is financed with short-term and long-term borrowings and is subject to market risk arising from changes in interest rates.

The tables that follow present principal repayments and weighted-average interest rates on outstanding borrowings of fixed-rate debt.

**At October 31, 2018**

|                                                                             | <u>2019</u> | <u>2020</u> | <u>2021</u> | <u>2022</u> | <u>2023</u> | <u>Thereafter</u> | <u>Total<br/>Value</u> | <u>Fair<br/>Value</u> |
|-----------------------------------------------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------------|------------------------|-----------------------|
| Annual repayments of long-term debt                                         | \$ 28,734   | \$ 68,738   | \$ 38,187   | \$ 30,791   | \$ 130,796  | \$ 346,652        | \$ 643,898             | \$ 622,283            |
| Average interest rate on total<br>borrowings outstanding<br>during the year | 3.5%        | 3.5%        | 3.6%        | 3.7%        | 3.7%        | 3.8%              | 3.5%                   |                       |

**At October 31, 2017**

|                                                                             | <u>2018</u> | <u>2019</u> | <u>2020</u> | <u>2021</u> | <u>2022</u> | <u>Thereafter</u> | <u>Total<br/>Value</u> | <u>Fair<br/>Value</u> |
|-----------------------------------------------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------------|------------------------|-----------------------|
| Annual repayments of long-term debt                                         | \$ 26,586   | \$ 28,734   | \$ 68,738   | \$ 38,187   | \$ 30,791   | \$ 127,448        | \$ 320,484             | \$ 324,965            |
| Average interest rate on total<br>borrowings outstanding<br>during the year | 2.9%        | 3.0%        | 3.0%        | 3.1%        | 3.1%        | 3.1%              | 2.9%                   |                       |

We also have variable-rate notes payable and long-term debt. The weighted average interest rate of this debt was 3.2 percent at October 31, 2018 and 2.3 percent at October 31, 2017. A one percent increase in interest rates would have resulted in additional interest expense of approximately \$10,672 on the variable rate notes payable and long-term debt in 2018.

## Item 8. Financial Statements and Supplementary Data

### Consolidated Statements of Income

| Years ended October 31, 2018, 2017 and 2016<br>(In thousands except for per-share amounts)                                  | 2018                | 2017                | 2016                |
|-----------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------|---------------------|
| <b>Sales</b>                                                                                                                | <b>\$ 2,254,668</b> | <b>\$ 2,066,982</b> | <b>\$ 1,808,994</b> |
| Operating costs and expenses:                                                                                               |                     |                     |                     |
| Cost of sales                                                                                                               | 1,018,703           | 927,981             | 815,495             |
| Selling and administrative expenses                                                                                         | 741,408             | 681,299             | 605,068             |
|                                                                                                                             | <u>1,760,111</u>    | <u>1,609,280</u>    | <u>1,420,563</u>    |
| <b>Operating profit</b>                                                                                                     | <b>494,557</b>      | <b>457,702</b>      | <b>388,431</b>      |
| Other income (expense):                                                                                                     |                     |                     |                     |
| Interest expense                                                                                                            | (49,576)            | (36,601)            | (21,322)            |
| Interest and investment income                                                                                              | 1,384               | 1,124               | 728                 |
| Other - net                                                                                                                 | 2,154               | (1,934)             | 657                 |
|                                                                                                                             | <u>(46,038)</u>     | <u>(37,411)</u>     | <u>(19,937)</u>     |
| <b>Income before income taxes</b>                                                                                           | <b>448,519</b>      | <b>420,291</b>      | <b>368,494</b>      |
| Income tax provision:                                                                                                       |                     |                     |                     |
| Current                                                                                                                     | 105,093             | 124,961             | 100,248             |
| Deferred                                                                                                                    | (33,949)            | (472)               | (3,597)             |
|                                                                                                                             | <u>71,144</u>       | <u>124,489</u>      | <u>96,651</u>       |
| <b>Net income</b>                                                                                                           | <b>\$ 377,375</b>   | <b>\$ 295,802</b>   | <b>\$ 271,843</b>   |
| <b>Average common shares</b>                                                                                                | <b>57,970</b>       | <b>57,533</b>       | <b>57,060</b>       |
| Incremental common shares attributable to outstanding stock options, restricted stock and deferred stock-based compensation | 961                 | 671                 | 470                 |
| <b>Average common shares and common share equivalents</b>                                                                   | <b>58,931</b>       | <b>58,204</b>       | <b>57,530</b>       |
| <b>Basic earnings per share</b>                                                                                             | <b>\$ 6.51</b>      | <b>\$ 5.14</b>      | <b>\$ 4.76</b>      |
| <b>Diluted earnings per share</b>                                                                                           | <b>\$ 6.40</b>      | <b>\$ 5.08</b>      | <b>\$ 4.73</b>      |
| <b>Dividends declared per common share</b>                                                                                  | <b>\$ 1.25</b>      | <b>\$ 1.11</b>      | <b>\$ 0.99</b>      |

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

## Consolidated Statements of Comprehensive Income

Years ended October 31, 2018, 2017 and 2016

(In thousands)

|                                                                      | 2018              | 2017              | 2016              |
|----------------------------------------------------------------------|-------------------|-------------------|-------------------|
| <b>Net income</b>                                                    | <b>\$ 377,375</b> | <b>\$ 295,802</b> | <b>\$ 271,843</b> |
| Components of other comprehensive income (loss), net of tax:         |                   |                   |                   |
| Foreign currency translation adjustments                             | (28,619)          | 22,697            | (8,693)           |
| Pension and postretirement benefit plans:                            |                   |                   |                   |
| Prior service (cost) credit arising during the year                  | (45)              | —                 | 1,831             |
| Net actuarial gain (loss) arising during the year                    | (7,783)           | 2,641             | (22,482)          |
| Amortization of prior service (cost) credit                          | (322)             | (210)             | 92                |
| Amortization of actuarial loss                                       | 10,536            | 7,972             | 6,724             |
| Settlement loss recognized                                           | 200               | 712               | 111               |
| Curtailment (gain) loss recognized                                   | —                 | —                 | (1,144)           |
| Total pension and postretirement benefit plans                       | 2,586             | 11,115            | (14,868)          |
| Total other comprehensive income (loss)                              | (26,033)          | 33,812            | (23,561)          |
| Reclassification due to adoption of new accounting standard (Note 2) | (18,846)          | —                 | —                 |
| <b>Total comprehensive income</b>                                    | <b>\$ 332,496</b> | <b>\$ 329,614</b> | <b>\$ 248,282</b> |

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

## Consolidated Balance Sheets

| October 31, 2018 and 2017                                                                                    | 2018                | 2017                |
|--------------------------------------------------------------------------------------------------------------|---------------------|---------------------|
| (In thousands)                                                                                               |                     |                     |
| <b>Assets</b>                                                                                                |                     |                     |
| Current assets:                                                                                              |                     |                     |
| Cash and cash equivalents                                                                                    | \$ 95,678           | \$ 90,383           |
| Receivables - net                                                                                            | 491,423             | 505,087             |
| Inventories - net                                                                                            | 264,477             | 264,266             |
| Prepaid expenses                                                                                             | 32,524              | 28,636              |
| <b>Total current assets</b>                                                                                  | <b>884,102</b>      | <b>888,372</b>      |
| Property, plant and equipment - net                                                                          | 386,666             | 346,411             |
| Goodwill                                                                                                     | 1,608,018           | 1,589,210           |
| Intangible assets - net                                                                                      | 499,741             | 547,180             |
| Deferred income taxes                                                                                        | 9,780               | 11,020              |
| Other assets                                                                                                 | 32,705              | 32,346              |
|                                                                                                              | <b>\$ 3,421,012</b> | <b>\$ 3,414,539</b> |
| <b>Liabilities and shareholders' equity</b>                                                                  |                     |                     |
| Current liabilities:                                                                                         |                     |                     |
| Accounts payable                                                                                             | \$ 83,590           | \$ 86,016           |
| Income taxes payable                                                                                         | 19,319              | 22,310              |
| Accrued liabilities                                                                                          | 175,085             | 173,366             |
| Customer advance payments                                                                                    | 38,997              | 34,654              |
| Current maturities of long-term debt                                                                         | 28,734              | 326,587             |
| Current obligations under capital leases                                                                     | 4,555               | 4,813               |
| <b>Total current liabilities</b>                                                                             | <b>350,280</b>      | <b>647,746</b>      |
| Long-term debt                                                                                               | 1,285,357           | 1,256,397           |
| Obligations under capital leases                                                                             | 8,850               | 9,693               |
| Pension obligations                                                                                          | 113,222             | 111,666             |
| Postretirement obligations                                                                                   | 70,154              | 73,589              |
| Deferred income taxes                                                                                        | 100,704             | 134,090             |
| Other liabilities                                                                                            | 41,704              | 25,865              |
| Shareholders' equity:                                                                                        |                     |                     |
| Preferred shares, no par value; 10,000 shares authorized;<br>none issued                                     | —                   | —                   |
| Common shares, no par value; 160,000 shares authorized;<br>98,023 shares issued at October 31, 2018 and 2017 | 12,253              | 12,253              |
| Capital in excess of stated value                                                                            | 446,555             | 412,785             |
| Retained earnings                                                                                            | 2,488,375           | 2,164,597           |
| Accumulated other comprehensive loss                                                                         | (179,314)           | (134,435)           |
| Common shares in treasury, at cost                                                                           | (1,317,128)         | (1,299,707)         |
| <b>Total shareholders' equity</b>                                                                            | <b>1,450,741</b>    | <b>1,155,493</b>    |
|                                                                                                              | <b>\$ 3,421,012</b> | <b>\$ 3,414,539</b> |

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

## Consolidated Statements of Shareholders' Equity

Years ended October 31, 2018, 2017 and 2016

(In thousands)

|                                                                                                                                 | 2018                  | 2017                  | 2016                  |
|---------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|
| <b>Number of common shares in treasury</b>                                                                                      |                       |                       |                       |
| Balance at beginning of year                                                                                                    | 40,308                | 40,716                | 40,665                |
| Shares issued under company stock and employee benefit plans                                                                    | (503)                 | (438)                 | (421)                 |
| Purchase of treasury shares                                                                                                     | 181                   | 30                    | 472                   |
| Balance at end of year                                                                                                          | <u>39,986</u>         | <u>40,308</u>         | <u>40,716</u>         |
| <b>Common shares</b>                                                                                                            |                       |                       |                       |
| Balance at beginning and ending of year                                                                                         | <u>\$ 12,253</u>      | <u>\$ 12,253</u>      | <u>\$ 12,253</u>      |
| <b>Capital in excess of stated value</b>                                                                                        |                       |                       |                       |
| Balance at beginning of year                                                                                                    | \$ 412,785            | \$ 376,625            | \$ 348,986            |
| Shares issued under company stock and employee benefit plans                                                                    | 12,220                | 8,913                 | 5,952                 |
| Tax benefit from stock option and restricted stock transactions                                                                 | —                     | 7,079                 | 3,476                 |
| Stock-based compensation                                                                                                        | 21,550                | 20,168                | 18,211                |
| Balance at end of year                                                                                                          | <u>\$ 446,555</u>     | <u>\$ 412,785</u>     | <u>\$ 376,625</u>     |
| <b>Retained earnings</b>                                                                                                        |                       |                       |                       |
| Balance at beginning of year                                                                                                    | \$ 2,164,597          | \$ 1,932,635          | \$ 1,717,228          |
| Net income                                                                                                                      | 377,375               | 295,802               | 271,843               |
| Dividends declared (\$1.25 per share in 2018, \$1.11 per share in 2017, and \$0.99 per share in 2016)                           | (72,443)              | (63,840)              | (56,436)              |
| Reclassification due to adoption of new accounting standard (Note 2)                                                            | 18,846                | —                     | —                     |
| Balance at end of year                                                                                                          | <u>\$ 2,488,375</u>   | <u>\$ 2,164,597</u>   | <u>\$ 1,932,635</u>   |
| <b>Accumulated other comprehensive loss</b>                                                                                     |                       |                       |                       |
| Balance at beginning of year                                                                                                    | \$ (134,435)          | \$ (168,247)          | \$ (144,686)          |
| Foreign currency translation adjustments                                                                                        | (28,619)              | 22,697                | (8,693)               |
| Settlement and curtailment loss (gain) recognized, net of tax of \$(52) in 2018, \$(299) in 2017 and \$332 in 2016              | 200                   | 712                   | (1,033)               |
| Defined benefit and OPEB activity - prior service cost, net of tax of \$189 in 2018, \$75 in 2017 and \$(558) in 2016           | (367)                 | (210)                 | 1,923                 |
| Defined benefit and OPEB activity - actuarial gain (loss), net of tax of \$(802) in 2018, \$(4,628) in 2017 and \$8,642 in 2016 | 2,753                 | 10,613                | (15,758)              |
| Reclassification due to adoption of new accounting standard (Note 2)                                                            | (18,846)              | —                     | —                     |
| Balance at end of year                                                                                                          | <u>\$ (179,314)</u>   | <u>\$ (134,435)</u>   | <u>\$ (168,247)</u>   |
| <b>Common shares in treasury, at cost</b>                                                                                       |                       |                       |                       |
| Balance at beginning of year                                                                                                    | \$ (1,299,707)        | \$ (1,301,663)        | \$ (1,273,765)        |
| Shares issued under company stock and employee benefit plans                                                                    | 6,591                 | 5,342                 | 5,735                 |
| Purchase of treasury shares                                                                                                     | (24,012)              | (3,386)               | (33,633)              |
| Balance at end of year                                                                                                          | <u>\$ (1,317,128)</u> | <u>\$ (1,299,707)</u> | <u>\$ (1,301,663)</u> |
| <b>Total shareholders' equity</b>                                                                                               | <u>\$ 1,450,741</u>   | <u>\$ 1,155,493</u>   | <u>\$ 851,603</u>     |

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

## Consolidated Statements of Cash Flows

| Years ended October 31, 2018, 2017 and 2016                                       | 2018             | 2017             | 2016             |
|-----------------------------------------------------------------------------------|------------------|------------------|------------------|
| (In thousands)                                                                    |                  |                  |                  |
| <b>Cash flows from operating activities:</b>                                      |                  |                  |                  |
| Net income                                                                        | \$ 377,375       | \$ 295,802       | \$ 271,843       |
| Adjustments to reconcile net income to net cash provided by operating activities: |                  |                  |                  |
| Depreciation                                                                      | 52,959           | 45,947           | 41,243           |
| Amortization                                                                      | 55,448           | 44,907           | 29,061           |
| Provision for losses on receivables                                               | 1,185            | 4,030            | 1,867            |
| Deferred income taxes                                                             | (33,949)         | (472)            | (3,597)          |
| Non-cash stock compensation                                                       | 21,550           | 20,168           | 18,211           |
| Loss on sale of property, plant and equipment                                     | 830              | 188              | 859              |
| Other non-cash                                                                    | 1,359            | 2,770            | 2,973            |
| Changes in operating assets and liabilities:                                      |                  |                  |                  |
| Receivables                                                                       | 10,236           | (46,152)         | (41,247)         |
| Inventories                                                                       | 5,532            | (19,667)         | 1,784            |
| Prepaid expenses                                                                  | (4,046)          | 4,737            | (8,667)          |
| Other assets                                                                      | 320              | (3,429)          | 7,773            |
| Accounts payable                                                                  | (2,671)          | 4,805            | 7,296            |
| Income taxes payable                                                              | (2,718)          | 7,522            | (2,684)          |
| Accrued liabilities                                                               | 2,134            | (5,629)          | 23,328           |
| Customer advance payments                                                         | 5,047            | 5,163            | 3,631            |
| Other liabilities                                                                 | 18,402           | 2,266            | (17,739)         |
| Other                                                                             | (4,355)          | (6,204)          | (1,301)          |
| Net cash provided by operating activities                                         | 504,638          | 356,752          | 334,634          |
| <b>Cash flows from investing activities:</b>                                      |                  |                  |                  |
| Additions to property, plant and equipment                                        | (89,790)         | (71,558)         | (60,851)         |
| Proceeds from sale of property, plant and equipment                               | 458              | 4,007            | 1,300            |
| Acquisition of businesses, net of cash acquired                                   | (50,586)         | (805,943)        | (42,650)         |
| Equity investments                                                                | —                | (4,470)          | —                |
| Net cash used in investing activities                                             | (139,918)        | (877,964)        | (102,201)        |
| <b>Cash flows from financing activities:</b>                                      |                  |                  |                  |
| Proceeds from short-term borrowings                                               | 996              | 6,017            | 13,456           |
| Repayment of short-term borrowings                                                | (1,006)          | (8,149)          | (12,059)         |
| Proceeds from long-term debt                                                      | 585,661          | 841,536          | 261,161          |
| Repayment of long-term debt                                                       | (854,538)        | (237,183)        | (392,775)        |
| Repayment of capital lease obligations                                            | (5,333)          | (5,287)          | (5,059)          |
| Payment of debt issuance costs                                                    | (1,826)          | (3,214)          | (99)             |
| Issuance of common shares                                                         | 18,811           | 14,086           | 11,476           |
| Purchase of treasury shares                                                       | (24,012)         | (3,216)          | (33,421)         |
| Dividends paid                                                                    | (72,443)         | (63,840)         | (56,436)         |
| Net cash provided by (used in) financing activities                               | (353,690)        | 540,750          | (213,756)        |
| <b>Effect of exchange rate changes on cash</b>                                    | <b>(5,735)</b>   | <b>3,606</b>     | <b>(1,706)</b>   |
| <b>Increase in cash and cash equivalents</b>                                      | <b>5,295</b>     | <b>23,144</b>    | <b>16,971</b>    |
| <b>Cash and cash equivalents at beginning of year</b>                             | <b>90,383</b>    | <b>67,239</b>    | <b>50,268</b>    |
| <b>Cash and cash equivalents at end of year</b>                                   | <b>\$ 95,678</b> | <b>\$ 90,383</b> | <b>\$ 67,239</b> |

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

## Notes to Consolidated Financial Statements

### NOTE REGARDING AMOUNTS AND FISCAL YEAR REFERENCES

In this annual report, all amounts related to United States dollars and foreign currency and to the number of Nordson Corporation's common shares, except for per share earnings and dividend amounts, are expressed in thousands. Unless the context otherwise indicates, all references to "we" or the "Company" mean Nordson Corporation.

Unless otherwise noted, all references to years relate to our fiscal year.

#### Note 1 — Significant accounting policies

**Consolidation** — The consolidated financial statements include the accounts of Nordson Corporation and its majority-owned and controlled subsidiaries. Investments in affiliates and joint ventures in which our ownership is 50 percent or less or in which we do not have control but have the ability to exercise significant influence, are accounted for under the equity method. All significant intercompany accounts and transactions have been eliminated in consolidation.

**Use of estimates** — The preparation of financial statements in conformity with generally accepted accounting principles in the United States requires management to make estimates and assumptions that affect the amounts reported in the Consolidated Financial Statements and notes. Actual amounts could differ from these estimates.

**Fiscal year** — Our fiscal year is November 1 through October 31.

**Revenue recognition** — Most of our revenues are recognized upon shipment, provided that persuasive evidence of an arrangement exists, the sales price is fixed or determinable, collectibility is reasonably assured, and title and risk of loss have passed to the customer.

Certain arrangements may include installation, installation supervision, training, and spare parts, which tend to be completed in a short period of time, at an insignificant cost, and utilizing skills not unique to us, therefore, are typically regarded as inconsequential or perfunctory. Revenue for undelivered items is deferred and included within accrued liabilities in the Consolidated Balance Sheet. Revenues deferred in 2018, 2017 and 2016 were not material.

**Shipping and handling costs** — Amounts billed to customers for shipping and handling are recorded as revenue. Shipping and handling expenses are included in cost of sales.

**Advertising costs** — Advertising costs are expensed as incurred and were \$12,451, \$11,296 and \$11,095 in 2018, 2017 and 2016, respectively.

**Research and development** — Investments in research and development are important to our long-term growth, enabling us to keep pace with changing customer and marketplace needs through the development of new products and new applications for existing products. We place strong emphasis on technology developments and improvements through internal engineering and research teams. Research and development costs are expensed as incurred and were \$58,806, \$52,462 and \$46,247 in 2018, 2017 and 2016, respectively. As a percentage of sales, research and development expenses were 2.6, 2.5 and 2.6 percent in 2018, 2017 and 2016, respectively.

**Earnings per share** — Basic earnings per share are computed based on the weighted-average number of common shares outstanding during each year, while diluted earnings per share are based on the weighted-average number of common shares and common share equivalents outstanding. Common share equivalents consist of shares issuable upon exercise of stock options computed using the treasury stock method, as well as restricted stock and deferred stock-based compensation. Options whose exercise price is higher than the average market price are excluded from the calculation of diluted earnings per share because the effect would be anti-dilutive. No options were excluded from the calculation of diluted earnings per share in 2018 and 2017. Options for 396 common shares were excluded from the diluted earnings per share calculation in 2016, because their effect would have been anti-dilutive. Under the Amended & Restated 2012 Stock Incentive and Award Plan, executive officers and selected other key employees receive common share awards based on corporate performance measures over three-year performance periods. Awards for which performance measures have not been met were excluded from the calculation of diluted earnings per share.

**Cash** — Highly liquid instruments with maturities of 90 days or less at date of purchase are considered to be cash equivalents.

**Allowance for doubtful accounts** — An allowance for doubtful accounts is maintained for estimated losses resulting from the inability of customers to make required payments. The amount of the allowance is determined principally on the basis of past collection experience and known factors regarding specific customers. Accounts are written off against the allowance when it becomes evident that collection will not occur. Credit is extended to customers satisfying pre-defined credit criteria. We believe we have limited concentration of credit risk due to the diversity of our customer base.

**Inventories** — Inventories are valued at net realizable value. Cost was determined using the last-in, first-out (LIFO) method for 15 percent of consolidated inventories at October 31, 2018 and 16 percent of consolidated inventories at October 31, 2017. The first-in, first-out (FIFO) method is used for all other inventories. Consolidated inventories would have been \$6,545 and \$6,684 higher than reported at October 31, 2018 and 2017, respectively, had the FIFO method, which approximates current cost, been used for valuation of all inventories.

**Property, plant and equipment and depreciation** — Property, plant and equipment are carried at cost. Additions and improvements that extend the lives of assets are capitalized, while expenditures for repairs and maintenance are expensed as incurred. Plant and equipment are depreciated for financial reporting purposes using the straight-line method over the estimated useful lives of the assets or, in the case of property under capital leases, over the terms of the leases. Leasehold improvements are depreciated over the shorter of the lease term or their useful lives. Useful lives are as follows:

|                               |             |
|-------------------------------|-------------|
| Land improvements             | 15-25 years |
| Buildings                     | 20-40 years |
| Machinery and equipment       | 3-18 years  |
| Enterprise management systems | 5-13 years  |

Depreciation expense is included in cost of sales and selling and administrative expenses.

Internal use software costs are expensed or capitalized depending on whether they are incurred in the preliminary project stage, application development stage or the post-implementation stage. Amounts capitalized are amortized over the estimated useful lives of the software beginning with the project's completion. All re-engineering costs are expensed as incurred. Interest costs on significant capital projects are capitalized. No interest was capitalized in 2018, 2017 or 2016.

**Goodwill and intangible assets** — Goodwill is the excess of cost of an acquired entity over the amounts assigned to assets acquired and liabilities assumed in a business combination. Goodwill relates to and is assigned directly to specific reporting units. Goodwill is not amortized but is subject to annual impairment testing. Our annual impairment testing is performed as of August 1. Testing is done more frequently if an event occurs or circumstances change that would indicate the fair value of a reporting unit is less than the carrying amount of those assets.

Other amortizable intangible assets, which consist primarily of patent/technology costs, customer relationships, noncompete agreements, and trade names, are amortized over their useful lives on a straight-line basis. At October 31, 2018, the weighted-average useful lives for each major category of amortizable intangible assets were:

|                         |          |
|-------------------------|----------|
| Patent/technology costs | 13 years |
| Customer relationships  | 14 years |
| Noncompete agreements   | 3 years  |
| Trade names             | 15 years |

**Foreign currency translation** — The financial statements of subsidiaries outside the United States are generally measured using the local currency as the functional currency. Assets and liabilities of these subsidiaries are translated at the rates of exchange at the balance sheet dates. Income and expense items are translated at average monthly rates of exchange. The resulting translation adjustments are included in accumulated other comprehensive income (loss), a separate component of shareholders' equity. Generally, gains and losses from foreign currency transactions, including forward contracts, of these subsidiaries and the United States parent are included in net income. Gains and losses from intercompany foreign currency transactions of a long-term investment nature are included in accumulated other comprehensive income (loss).

**Accumulated other comprehensive loss** — Accumulated other comprehensive loss at October 31, 2018 and 2017 consisted of:

|                                                                         | Cumulative<br>translation<br>adjustments | Pension and<br>postretirement benefit<br>plan adjustments | Accumulated<br>other comprehensive<br>loss |
|-------------------------------------------------------------------------|------------------------------------------|-----------------------------------------------------------|--------------------------------------------|
| Balance at October 31, 2017                                             | \$ (28,423)                              | \$ (106,012)                                              | \$ (134,435)                               |
| Pension and postretirement plan changes, net of<br>tax of \$(665)       | —                                        | 2,586                                                     | 2,586                                      |
| Reclassification due to adoption of new accounting<br>standard (Note 2) | —                                        | (18,846)                                                  | (18,846)                                   |
| Currency translation losses                                             | (28,619)                                 | —                                                         | (28,619)                                   |
| Balance at October 31, 2018                                             | <u>\$ (57,042)</u>                       | <u>\$ (122,272)</u>                                       | <u>\$ (179,314)</u>                        |

**Warranties** — We offer warranties to our customers depending on the specific product and terms of the customer purchase agreement. A typical warranty program requires that we repair or replace defective products within a specified time period (generally one year) measured from the date of delivery or first use. We record an estimate for future warranty-related costs based on actual historical return rates. Based on analysis of return rates and other factors, the adequacy of our warranty provisions are adjusted as necessary. The liability for warranty costs is included in accrued liabilities in the Consolidated Balance Sheet.

Following is a reconciliation of the product warranty liability for 2018 and 2017:

|                                    | 2018             | 2017             |
|------------------------------------|------------------|------------------|
| Balance at beginning of year       | \$ 13,377        | \$ 11,770        |
| Accruals for warranties            | 11,937           | 11,394           |
| Warranty assumed from acquisitions | —                | 75               |
| Warranty payments                  | (12,966)         | (10,090)         |
| Currency adjustments               | (153)            | 228              |
| Balance at end of year             | <u>\$ 12,195</u> | <u>\$ 13,377</u> |

## Note 2 — Recently issued accounting standards

### New accounting guidance adopted:

In March 2016, the Financial Accounting Standards Board (“FASB”) issued a new standard which simplifies the accounting for share-based payment transactions. This guidance requires that excess tax benefits and tax deficiencies be recognized as income tax expense or benefit in the statements of income rather than additional paid-in capital. Additionally, the excess tax benefits will be classified along with other income tax cash flows as an operating activity, rather than a financing activity, in the statements of cash flows. Further, the update allows an entity to make a policy election to recognize forfeitures as they occur or estimate the number of awards expected to be forfeited. We adopted this new standard during the first quarter of 2018. As a result, net excess tax benefits of \$9,498 were recognized as a reduction of income tax expense during 2018. The cash flow classification requirements of this new standard were applied retrospectively. As a result, excess tax benefits of \$9,498 were reported as net cash provided by operating activities in 2018 and \$7,079 and \$3,476 of excess tax benefits were reclassified from net cash used in financing activities to net cash provided by operating activities in 2017 and 2016, respectively. This new standard also requires that employee taxes paid when an employer withholds shares for tax-withholding purposes be reported as financing activities in the statements of cash flows on a retrospective basis. Previously, this activity was included in operating activities. The impact of this change was immaterial to the statements of cash flows. Additionally, we elected to continue to estimate forfeitures rather than account for them as they occur.

In February 2018, the FASB issued a new standard which gives entities the option to reclassify tax effects stranded in accumulated other comprehensive income as a result of the Tax Cuts and Jobs Act (“the Act”) into retained earnings. The guidance allows entities to reclassify from accumulated other comprehensive income to retained earnings stranded tax effects resulting from the Act's new federal corporate income tax rate. The guidance also allows entities to elect to reclassify other stranded tax effects that relate to the Act but do not directly relate to the change in the federal tax rate (e.g., state taxes, changing from a worldwide tax system to a territorial system). Tax effects that are stranded in accumulated other comprehensive income for other reasons (e.g., prior changes in tax law, a change in valuation allowance) may not be reclassified. This standard is effective for us beginning November 1, 2019; with early adoption permitted. We early adopted this standard in the fourth quarter of 2018. As a result, we reclassified \$18,846 of stranded tax effects from accumulated other comprehensive income to retained earnings.

In March 2018, the FASB issued amendments which incorporate various Securities and Exchange Commission (“SEC”) paragraphs pursuant to the issuance of the December 2017 SEC Staff Accounting Bulletin No. 118 (“SAB 118”), Income Tax Accounting Implications of the Tax Cuts and Jobs Act, effective immediately. The SEC issued SAB 118 to address concerns about reporting entities’ ability to timely comply with the accounting requirements to recognize all of the effects of the Act in the period of enactment. SAB 118 allows disclosure that timely determination of some or all of the income tax effects from the Act are incomplete by the due date of the financial statements and if possible to provide a reasonable estimate. We have accounted for the tax effects of the Act under the guidance of SAB 118, on a provisional basis. Our accounting for certain income tax effects is incomplete, but we have determined reasonable estimates for those effects and have recorded provisional amounts in our Consolidated Financial Statements. Refer to Note 7 for additional information.

**New accounting guidance issued and not yet adopted:**

In May 2014, the FASB issued a new standard regarding revenue recognition. Under this standard, a company recognizes revenue when it transfers promised goods or services to customers in an amount that reflects the consideration to which the company expects to be entitled in exchange for those goods or services. The standard implements a five-step process for customer contract revenue recognition that focuses on transfer of control. 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 (modified retrospective method). We adopted the standard beginning November 1, 2018 using the modified retrospective method.

We have established our accounting policy, provided training to our reporting units and completed our evaluation of the new standard, including the impact on our business processes, systems, and controls as well as differences in the timing and/or method of revenue recognition for our contracts. We also designed and implemented specific controls over the evaluation of the impact of the new standard, including the calculation of the cumulative effect of adopting the new standard. We determined that the revenue recognition for our products and services will remain largely unchanged; and therefore, the adoption of this new standard did not have a material impact on our Consolidated Financial Statements. We will provide expanded disclosures as required under this standard in the Consolidated Financial Statements subsequent to adoption.

In February 2016, the FASB issued a new standard which requires a lessee to recognize on the balance sheet the assets and liabilities for the rights and obligations created by those leases with a lease term of more than twelve months. Leases will continue to be classified as either financing or operating, with classification affecting the recognition, measurement and presentation of expenses and cash flows arising from a lease. It will be effective for us beginning November 1, 2019. Early adoption is permitted. We are currently assessing the impact this standard will have on our Consolidated Financial Statements.

In March 2017, the FASB issued a new standard which requires the presentation of the service cost component of the net periodic benefit cost in the same income statement line item as other employee compensation costs arising from services rendered during the period. All other components of net periodic benefit cost will be presented below operating income. Additionally, only the service cost component will be eligible for capitalization in assets. It will be effective for us beginning November 1, 2018. The adoption of this standard is not expected to have a material impact on our Consolidated Financial Statements.

In August 2018, the FASB issued a new standard which removes, modifies, and adds certain disclosure requirements on fair value measurements. The guidance removes disclosure requirements pertaining to the amount of and reasons for transfers between Level 1 and Level 2 of the fair value hierarchy, the policy for timing of transfers between levels, and the valuation processes for Level 3 fair value measurements. For investments in certain entities that calculate net asset value, an entity is required to disclose the timing of liquidation of an investee’s assets and the date when restrictions from redemption might lapse only if the investee has communicated the timing to the entity or announced the timing publicly. In addition, the amendment clarifies that the measurement uncertainty disclosure is to communicate information about the uncertainty in measurement as of the reporting date. The guidance adds disclosure requirements for changes in unrealized gains and losses for the period included in other comprehensive income for recurring Level 3 fair value measurements held at the end of the reporting period as well as the range and weighted average of significant unobservable inputs used to develop Level 3 fair value measurements. It will be effective for us beginning November 1, 2020. Early adoption is permitted. We are currently assessing the impact this standard will have on our Consolidated Financial Statements.

In August 2018, the FASB issued a new standard which addresses defined benefit plans. The amendments modify the following disclosure requirements for employers that sponsor defined benefit pension or other postretirement plans: the amounts in accumulated other comprehensive income expected to be recognized as components of net period benefit cost over the next fiscal year; amount and timing of plan assets expected to be returned to the employer; related party disclosure about the amount of future annual benefits covered by insurance and annuity contracts and significant transactions between the employer or related parties and the plan, and the effects of a one-percentage point change in assumed health care cost trend rates on the (a) aggregate of the service and interest cost components of net periodic benefit costs and (b) benefit obligation for postretirement health care benefits are removed. A disclosure requirement was added for the explanation of the reasons for significant gains and losses related to changes in the benefit obligation for the period. Additionally, the standard clarifies disclosure requirement surrounding the projected benefit obligation (PBO) and fair value of plan assets for plans with PBOs in excess of plan assets and the accumulated benefit obligation (ABO) and fair value of plan assets for plans with ABOs in excess of plan assets. It will be effective for us beginning November 1, 2020. Early adoption is permitted. We are currently assessing the impact this standard will have on our Consolidated Financial Statements.

### **Note 3 — Acquisitions**

Business acquisitions have been accounted for using the acquisition method, with the acquired assets and liabilities recorded at estimated fair value on the dates of acquisition. The cost in excess of the net assets of the business acquired is included in goodwill. Operating results since the respective dates of acquisitions are included in the Consolidated Statement of Income.

#### **2018 acquisitions**

On October 17, 2018, we purchased 100 percent of the outstanding shares of Cladach Nua Teoranta (“Clada”), a Galway, Ireland designer and developer primarily focused on medical balloons and balloon catheters. Clada’s technologies are used in key applications such as angioplasty and the treatment of vascular disease. We acquired Clada for an aggregate purchase price of \$5,222, which included an earn-out liability of \$1,131. Based on the fair value of the assets acquired and the liabilities assumed, goodwill of \$2,905 and identifiable intangible assets of \$1,218 were recorded. The identifiable intangible assets consist primarily of \$812 of customer relationships (amortized over 10 years), \$203 of tradenames (amortized over 15 years) and \$203 of technology (amortized over 15 years). Goodwill associated with this acquisition is not tax deductible. This acquisition is being reported in our Advanced Technology Systems segment. As of October 31, 2018, the purchase price allocations remain preliminary as we complete our assessments of goodwill, intangible assets, income taxes and certain reserves.

On January 2, 2018, we purchased 100 percent of the outstanding shares of Sonoscan, Inc. (“Sonoscan”), an Elk Grove Village, Illinois leading designer and manufacturer of acoustic microscopes and sophisticated acoustic micro imaging systems used in a variety of microelectronic, automotive, aerospace and industrial electronic assembly applications. We acquired Sonoscan for an aggregate purchase price of \$46,018, net of \$655 of cash. Based on the fair value of the assets acquired and the liabilities assumed, goodwill of \$22,775 and identifiable intangible assets of \$7,910 were recorded. The identifiable intangible assets consist primarily of \$1,700 of customer relationships (amortized over 7 years), \$3,300 of tradenames (amortized over 11 years), \$2,500 of technology (amortized over 7 years) and \$410 of non-compete agreements (amortized over 5 years). Goodwill associated with this acquisition is tax deductible. This acquisition is being reported in our Advanced Technology Systems segment. As of October 31, 2018, the purchase price allocations remain preliminary as we complete our assessments of income taxes.

Pro forma sales and results of operations for our 2018 acquisitions, had they occurred at the beginning of the applicable fiscal year ended October 31, are not material and, accordingly, are not provided.

#### **2017 acquisitions**

On March 31, 2017, we completed the acquisition of Vention Medical’s Advanced Technologies business (“Vention”), a Salem, New Hampshire leading designer, developer and manufacturer of minimally invasive interventional delivery devices, catheters and advanced components for the global medical technology market. This is a highly complementary business that adds significant scale and enhances strategic capabilities of our existing medical platform. We acquired Vention for an aggregate purchase price of \$705,000, net of \$3,313 of cash and other closing adjustments of \$10,726. The acquisition was funded primarily through a new term loan facility, as well as through cash and borrowings on our credit facility. The purchase price was allocated to the underlying assets acquired and liabilities assumed based upon their estimated fair values at the date of acquisition. We determined the estimated fair values based on independent appraisals, discounted cash flow analyses, quoted market prices, replacement cost analyses and estimates made by management.

Based on the fair value of the assets acquired and the liabilities assumed, goodwill of \$434,123, of which \$37,200 is tax deductible, and identifiable intangible assets of \$286,000 were recorded. The identifiable intangible assets consist primarily of \$240,000 of customer relationships (amortized over 14 years), \$2,000 of tradenames (amortized over 6 years), and \$44,000 of technology, consisting of \$36,000 (amortized over 14 years) and \$8,000 (amortized over 10 years). Goodwill represents the value we expect to achieve through the expansion of our existing medical platform. This acquisition is being reported in our Advanced Technology Systems segment.

The following table summarizes the purchase price allocation of the estimated fair values of the assets acquired and liabilities assumed at the acquisition date:

|                               |            |
|-------------------------------|------------|
| Assets acquired:              |            |
| Cash                          | \$ 3,313   |
| Receivables                   | 26,742     |
| Inventories                   | 14,279     |
| Prepaid expenses              | 3,079      |
| Property, plant and equipment | 34,319     |
| Goodwill                      | 434,123    |
| Intangible assets             | 286,000    |
| Other assets                  | 1,071      |
| Total assets acquired         | \$ 802,926 |
| Liabilities assumed:          |            |
| Current liabilities           | 19,130     |
| Deferred tax liabilities      | 64,757     |
| Total liabilities assumed     | \$ 83,887  |
| Net assets acquired           | \$ 719,039 |

On February 16, 2017, we purchased 100 percent of the outstanding shares of InterSelect GmbH (“InterSelect”), a German designer and manufacturer of selective soldering systems used in a variety of automotive, aerospace and industrial electronics assembly applications. We acquired InterSelect for an aggregate purchase price of \$5,432, net of cash acquired of \$492. Based on the fair value of the assets acquired and the liabilities assumed, goodwill of \$3,548 and identifiable intangible assets of \$1,879 were recorded. The identifiable intangible assets consist primarily of \$1,109 of customer relationships (amortized over 9 years), \$348 of tradenames (amortized over 12 years), and \$422 of technology (amortized over 9 years). Goodwill associated with this acquisition is not tax deductible. This acquisition is being reported in our Advanced Technology Systems segment.

On February 1, 2017, we purchased 100 percent of the outstanding shares of Plas-Pak Industries, Inc. (“Plas-Pak”), a Norwich, Connecticut designer and manufacturer of injection molded, single-use plastic dispensing products. Plas-Pak’s broad product offering includes two-component (2K) cartridges for industrial and commercial do-it-yourself adhesives, dial-a-dose calibrated syringes for veterinary and animal health applications, and specialty syringes for pesticide, dental and other markets. We acquired Plas-Pak for an aggregate purchase price of \$70,798, net of cash acquired of \$543. Based on the fair value of the assets acquired and the liabilities assumed, goodwill of \$24,995 and identifiable intangible assets of \$33,800 were recorded. The identifiable intangible assets consist primarily of \$23,700 of customer relationships (amortized over 17 years), \$4,100 of tradenames (amortized over 12 years), \$5,000 of technology (amortized over 9 years) and \$1,000 of non-compete agreements (amortized over 5 years). Goodwill associated with this acquisition is tax deductible. This acquisition is being reported in our Advanced Technology Systems segment.

On January 3, 2017, we purchased certain assets of ACE Production Technologies, Inc. (“ACE”), a Spokane, Washington based designer and manufacturer of selective soldering systems used in a variety of automotive and industrial electronics assembly applications. We acquired the assets for an aggregate purchase price of \$13,761. Based on the fair value of the assets acquired and the liabilities assumed, goodwill of \$6,383 and identifiable intangible assets of \$5,010 were recorded. The identifiable intangible assets consist primarily of \$2,800 of customer relationships (amortized over 7 years), \$1,000 of tradenames (amortized over 11 years), \$1,100 of technology (amortized over 7 years) and \$110 of non-compete agreements (amortized over 3 years). Goodwill associated with this acquisition is tax deductible. This acquisition is being reported in our Advanced Technology Systems segment.

## 2016 acquisition

On September 1, 2016, we purchased 100 percent of the outstanding shares of LinkTech Quick Couplings, Inc. ("LinkTech"), a Ventura, California designer, manufacturer and distributor of highly engineered precision couplings and fittings. We acquired LinkTech for an aggregate purchase price of \$43,348, net of cash acquired of \$36. Based on the fair value of the assets acquired and the liabilities assumed, goodwill of \$25,867 and identifiable intangible assets of \$14,610 were recorded. The identifiable intangible assets consist primarily of \$8,600 of customer relationships (amortized over 11 years), \$2,800 of tradenames (amortized over 12 years), \$2,300 of technology (amortized over 8 years) and \$910 of non-compete agreements (amortized over 5 years). Goodwill associated with this acquisition is tax deductible. This acquisition is being reported in our Advanced Technology Systems segment.

## Note 4 — Details of Consolidated Balance Sheet

|                                           | 2018              | 2017              |
|-------------------------------------------|-------------------|-------------------|
| Receivables:                              |                   |                   |
| Accounts                                  | \$ 475,638        | \$ 491,224        |
| Notes                                     | 4,476             | 5,121             |
| Other                                     | 20,889            | 18,533            |
|                                           | <u>501,003</u>    | <u>514,878</u>    |
| Allowance for doubtful accounts           | (9,580)           | (9,791)           |
|                                           | <u>\$ 491,423</u> | <u>\$ 505,087</u> |
| Inventories:                              |                   |                   |
| Raw materials and component parts         | \$ 112,823        | \$ 105,424        |
| Work-in-process                           | 47,126            | 45,743            |
| Finished goods                            | 148,618           | 152,923           |
|                                           | <u>308,567</u>    | <u>304,090</u>    |
| Obsolescence and other reserves           | (37,545)          | (33,140)          |
| LIFO reserve                              | (6,545)           | (6,684)           |
|                                           | <u>\$ 264,477</u> | <u>\$ 264,266</u> |
| Property, plant and equipment:            |                   |                   |
| Land                                      | \$ 10,544         | \$ 10,598         |
| Land improvements                         | 4,294             | 4,292             |
| Buildings                                 | 252,127           | 190,611           |
| Machinery and equipment                   | 456,307           | 424,006           |
| Enterprise management system              | 53,234            | 52,936            |
| Construction-in-progress                  | 24,266            | 49,713            |
| Leased property under capitalized leases  | 26,118            | 25,715            |
|                                           | <u>826,890</u>    | <u>757,871</u>    |
| Accumulated depreciation and amortization | (440,224)         | (411,460)         |
|                                           | <u>\$ 386,666</u> | <u>\$ 346,411</u> |
| Accrued liabilities:                      |                   |                   |
| Salaries and other compensation           | \$ 72,364         | \$ 73,234         |
| Pension and retirement                    | 5,095             | 4,768             |
| Taxes other than income taxes             | 8,060             | 7,663             |
| Other                                     | 89,566            | 87,701            |
|                                           | <u>\$ 175,085</u> | <u>\$ 173,366</u> |

## Note 5 — Goodwill and intangible assets

We account for goodwill and other intangible assets in accordance with the provisions of ASC 350 and account for business combinations using the acquisition method of accounting and accordingly, the assets and liabilities of the entities acquired are recorded at their estimated fair values at the acquisition date. Goodwill is the excess of purchase price over the fair value of tangible and identifiable intangible net assets acquired in various business combinations. Goodwill is not amortized but is tested for impairment annually at the reporting unit level, or more often if indications of impairment exist. We assess the fair value of reporting units on a non-recurring basis using a combination of two valuation methods, a market approach and an income approach, to estimate the fair value of our reporting units. The implied fair value of our reporting units is determined based on significant unobservable inputs; accordingly, these inputs fall within Level 3 of the fair value hierarchy.

Our reporting units are the Adhesive Dispensing Systems segment, the Industrial Coating Systems segment and one level below the Advanced Technology Systems segment.

In the fourth quarter of each year, we estimate a reporting unit's fair value using a combination of the discounted cash flow method of the Income Approach and the guideline public company method of the Market Approach and compare the result against the reporting unit's carrying value of net assets. An impairment charge is recorded for the amount by which the carrying value of the reporting unit exceeds the fair value of the reporting unit, as calculated in the quantitative analysis described above. We did not record any goodwill impairment charges in 2018, 2017, or 2016.

Changes in the carrying amount of goodwill during 2018 by operating segment:

|                             | Adhesive<br>Dispensing<br>Systems | Advanced<br>Technology<br>Systems | Industrial<br>Coating<br>Systems | Total               |
|-----------------------------|-----------------------------------|-----------------------------------|----------------------------------|---------------------|
| Balance at October 31, 2017 | \$ 392,295                        | \$ 1,172,857                      | \$ 24,058                        | \$ 1,589,210        |
| Acquisitions                | —                                 | 24,679                            | —                                | 24,679              |
| Currency effect             | (3,304)                           | (2,567)                           | —                                | (5,871)             |
| Balance at October 31, 2018 | <u>\$ 388,991</u>                 | <u>\$ 1,194,969</u>               | <u>\$ 24,058</u>                 | <u>\$ 1,608,018</u> |

Changes in the carrying amount of goodwill during 2017 by operating segment:

|                             | Adhesive<br>Dispensing<br>Systems | Advanced<br>Technology<br>Systems | Industrial<br>Coating<br>Systems | Total               |
|-----------------------------|-----------------------------------|-----------------------------------|----------------------------------|---------------------|
| Balance at October 31, 2016 | \$ 385,733                        | \$ 697,346                        | \$ 24,058                        | \$ 1,107,137        |
| Acquisition                 | —                                 | 470,248                           | —                                | 470,248             |
| Currency effect             | 6,562                             | 5,263                             | —                                | 11,825              |
| Balance at October 31, 2017 | <u>\$ 392,295</u>                 | <u>\$ 1,172,857</u>               | <u>\$ 24,058</u>                 | <u>\$ 1,589,210</u> |

Accumulated impairment losses, which were recorded in 2009, were \$232,789 at October 31, 2018 and October 31, 2017. Of these losses, \$229,173 related to the Advanced Technology Systems segment and \$3,616 related to the Industrial Coating Systems segment.

Information regarding intangible assets subject to amortization:

|                         | October 31, 2018   |                             |                   |
|-------------------------|--------------------|-----------------------------|-------------------|
|                         | Carrying<br>Amount | Accumulated<br>Amortization | Net Book Value    |
| Customer relationships  | \$ 480,404         | \$ 137,640                  | \$ 342,764        |
| Patent/technology costs | 153,602            | 59,845                      | 93,757            |
| Trade name              | 96,433             | 34,768                      | 61,665            |
| Noncompete agreements   | 11,469             | 9,919                       | 1,550             |
| Other                   | 1,386              | 1,381                       | 5                 |
| Total                   | <u>\$ 743,294</u>  | <u>\$ 243,553</u>           | <u>\$ 499,741</u> |

|                         | October 31, 2017   |                             |                   |
|-------------------------|--------------------|-----------------------------|-------------------|
|                         | Carrying<br>Amount | Accumulated<br>Amortization | Net Book Value    |
| Customer relationships  | \$ 480,536         | \$ 102,033                  | \$ 378,503        |
| Patent/technology costs | 150,581            | 48,669                      | 101,912           |
| Trade name              | 93,281             | 28,366                      | 64,915            |
| Noncompete agreements   | 11,142             | 9,298                       | 1,844             |
| Other                   | 1,384              | 1,378                       | 6                 |
| Total                   | <u>\$ 736,924</u>  | <u>\$ 189,744</u>           | <u>\$ 547,180</u> |

Amortization expense for 2018, 2017 and 2016 was \$55,448, \$44,907 and \$29,061 respectively.

Estimated amortization expense for each of the five succeeding years:

| Year | Amounts   |
|------|-----------|
| 2019 | \$ 48,523 |
| 2020 | \$ 48,055 |
| 2021 | \$ 42,703 |
| 2022 | \$ 38,730 |
| 2023 | \$ 37,885 |

#### Note 6 — Retirement, pension and other postretirement plans

**Retirement plans** — We have funded contributory retirement plans covering certain employees. Our contributions are primarily determined by the terms of the plans, subject to the limitation that they shall not exceed the amounts deductible for income tax purposes. We also sponsor unfunded contributory supplemental retirement plans for certain employees. Generally, benefits under these plans vest gradually over a period of approximately three years from date of employment, and are based on the employee's contribution. The expense applicable to retirement plans for 2018, 2017 and 2016 was approximately \$22,634, \$19,259 and \$17,194, respectively.

**Pension plans** — We have various pension plans covering a portion of our United States and international employees. Pension plan benefits are generally based on years of employment and, for salaried employees, the level of compensation. Actuarially determined amounts are contributed to United States plans to provide sufficient assets to meet future benefit payment requirements. We also sponsor an unfunded supplemental pension plan for certain employees. International subsidiaries fund their pension plans according to local requirements.

A reconciliation of the benefit obligations, plan assets, accrued benefit cost and the amount recognized in financial statements for pension plans is as follows:

|                                                 | United States |             | International |             |
|-------------------------------------------------|---------------|-------------|---------------|-------------|
|                                                 | 2018          | 2017        | 2018          | 2017        |
| Change in benefit obligation:                   |               |             |               |             |
| Benefit obligation at beginning of year         | \$ 430,816    | \$ 409,459  | \$ 88,761     | \$ 91,396   |
| Service cost                                    | 13,543        | 12,456      | 2,069         | 2,378       |
| Interest cost                                   | 14,306        | 12,844      | 1,635         | 1,537       |
| Participant contributions                       | —             | —           | 90            | 85          |
| Plan amendments                                 | —             | —           | 50            | —           |
| Settlements                                     | —             | (1,548)     | (1,431)       | (1,309)     |
| Foreign currency exchange rate change           | —             | —           | (2,676)       | 4,896       |
| Actuarial (gain) loss                           | (20,502)      | 9,351       | 107           | (7,602)     |
| Benefits paid                                   | (12,558)      | (11,746)    | (1,378)       | (2,620)     |
| Benefit obligation at end of year               | \$ 425,605    | \$ 430,816  | \$ 87,227     | \$ 88,761   |
| Change in plan assets:                          |               |             |               |             |
| Beginning fair value of plan assets             | \$ 369,234    | \$ 333,867  | \$ 37,504     | \$ 35,604   |
| Actual return on plan assets                    | (13,890)      | 29,620      | 2,370         | 612         |
| Company contributions                           | 18,287        | 19,041      | 3,728         | 3,165       |
| Participant contributions                       | —             | —           | 90            | 85          |
| Settlements                                     | —             | (1,548)     | (1,431)       | (1,309)     |
| Foreign currency exchange rate change           | —             | —           | (1,266)       | 1,967       |
| Benefits paid                                   | (12,558)      | (11,746)    | (1,378)       | (2,620)     |
| Ending fair value of plan assets                | \$ 361,073    | \$ 369,234  | \$ 39,617     | \$ 37,504   |
| Funded status at end of year                    | \$ (64,532)   | \$ (61,582) | \$ (47,610)   | \$ (51,257) |
| Amounts recognized in financial statements:     |               |             |               |             |
| Noncurrent asset                                | \$ 1,544      | \$ —        | \$ 748        | \$ 64       |
| Accrued benefit liability                       | (1,176)       | (1,201)     | (36)          | (36)        |
| Long-term pension and retirement obligations    | (64,900)      | (60,381)    | (48,322)      | (51,285)    |
| Total amount recognized in financial statements | \$ (64,532)   | \$ (61,582) | \$ (47,610)   | \$ (51,257) |

|                                                                    | United States     |                   | International    |                  |
|--------------------------------------------------------------------|-------------------|-------------------|------------------|------------------|
|                                                                    | 2018              | 2017              | 2018             | 2017             |
| Amounts recognized in accumulated other comprehensive (gain) loss: |                   |                   |                  |                  |
| Net actuarial (gain) loss                                          | \$ 130,788        | \$ 124,917        | \$ 23,304        | \$ 27,134        |
| Prior service credit                                               | (161)             | (184)             | (2,844)          | (3,279)          |
| Accumulated other comprehensive loss                               | <u>\$ 130,627</u> | <u>\$ 124,733</u> | <u>\$ 20,460</u> | <u>\$ 23,855</u> |
| Amounts expected to be recognized during next fiscal year:         |                   |                   |                  |                  |
| Amortization of net actuarial (gain) loss                          | \$ 6,221          | \$ 8,672          | \$ 1,700         | \$ 2,074         |
| Amortization of prior service credit                               | (61)              | (23)              | (302)            | (313)            |
| Total                                                              | <u>\$ 6,160</u>   | <u>\$ 8,649</u>   | <u>\$ 1,398</u>  | <u>\$ 1,761</u>  |

The following table summarizes the changes in accumulated other comprehensive loss:

|                                                        | United States     |                   | International    |                  |
|--------------------------------------------------------|-------------------|-------------------|------------------|------------------|
|                                                        | 2018              | 2017              | 2018             | 2017             |
| Balance at beginning of year                           | \$ 124,733        | \$ 134,447        | \$ 23,855        | \$ 31,645        |
| Net (gain) loss arising during the year                | 15,351            | 515               | (752)            | (6,867)          |
| Prior service cost arising during the year             | —                 | —                 | 50               | —                |
| Net (gain) loss recognized during the year             | (9,479)           | (9,537)           | (2,115)          | (2,605)          |
| Prior service (cost) credit recognized during the year | 22                | (44)              | 316              | 302              |
| Settlement loss                                        | —                 | (648)             | (252)            | (363)            |
| Exchange rate effect during the year                   | —                 | —                 | (642)            | 1,743            |
| Balance at end of year                                 | <u>\$ 130,627</u> | <u>\$ 124,733</u> | <u>\$ 20,460</u> | <u>\$ 23,855</u> |

Information regarding the accumulated benefit obligation is as follows:

|                                                              | United States |            | International |           |
|--------------------------------------------------------------|---------------|------------|---------------|-----------|
|                                                              | 2018          | 2017       | 2018          | 2017      |
| For all plans:                                               |               |            |               |           |
| Accumulated benefit obligation                               | \$ 403,590    | \$ 420,035 | \$ 74,690     | \$ 76,032 |
| For plans with benefit obligations in excess of plan assets: |               |            |               |           |
| Projected benefit obligation                                 | 373,531       | 430,816    | 46,292        | 83,289    |
| Accumulated benefit obligation                               | 351,516       | 420,035    | 42,363        | 70,985    |
| Fair value of plan assets                                    | 307,455       | 369,234    | 5,355         | 32,325    |

Net pension benefit costs include the following components:

|                                             | United States    |                  |                  | International   |                 |                 |
|---------------------------------------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|
|                                             | 2018             | 2017             | 2016             | 2018            | 2017            | 2016            |
| Service cost                                | \$ 13,543        | \$ 12,456        | \$ 11,490        | \$ 2,069        | \$ 2,378        | \$ 2,448        |
| Interest cost                               | 14,306           | 12,844           | 15,932           | 1,635           | 1,537           | 2,294           |
| Expected return on plan assets              | (21,964)         | (20,784)         | (19,666)         | (1,512)         | (1,338)         | (1,501)         |
| Amortization of prior service cost (credit) | (22)             | 44               | 76               | (316)           | (302)           | (203)           |
| Amortization of net actuarial gain (loss)   | 9,479            | 9,537            | 8,480            | 2,115           | 2,605           | 1,723           |
| Settlement (gain) loss                      | —                | 648              | —                | 252             | 363             | 160             |
| Curtailment (gain) loss                     | —                | —                | —                | —               | —               | (1,526)         |
| Total benefit cost                          | <u>\$ 15,342</u> | <u>\$ 14,745</u> | <u>\$ 16,312</u> | <u>\$ 4,243</u> | <u>\$ 5,243</u> | <u>\$ 3,395</u> |

Net periodic pension cost for 2018 included a settlement loss of \$252 due to lump sum retirement payments. Net periodic pension cost for 2017 included a settlement loss of \$1,011 due to lump sum retirement payments. Net periodic pension cost for 2016 included a settlement loss of \$160 due to lump sum retirement payments and a curtailment gain of \$1,526 due to a plan amendment allowing participants to elect a new defined contribution plan or a new defined benefit plan.

The weighted average assumptions used in the valuation of pension benefits were as follows:

|                                                                                 | United States |       |       | International |       |       |
|---------------------------------------------------------------------------------|---------------|-------|-------|---------------|-------|-------|
|                                                                                 | 2018          | 2017  | 2016  | 2018          | 2017  | 2016  |
| Assumptions used to determine benefit obligations at October 31:                |               |       |       |               |       |       |
| Discount rate                                                                   | 4.53%         | 3.80% | 3.94% | 2.14%         | 2.07% | 1.86% |
| Rate of compensation increase                                                   | 3.90          | 3.61  | 3.61  | 3.12          | 3.13  | 3.12  |
| Assumptions used to determine net benefit costs for the years ended October 31: |               |       |       |               |       |       |
| Discount rate - benefit obligation                                              | 3.80          | 3.94  | 4.39  | 2.07          | 1.86  | 2.81  |
| Discount rate - service cost                                                    | 4.01          | 4.31  | 4.39  | 1.76          | 1.55  | 2.81  |
| Discount rate - interest cost                                                   | 3.31          | 3.20  | 4.39  | 1.83          | 1.66  | 2.81  |
| Expected return on plan assets                                                  | 6.00          | 6.25  | 6.72  | 3.91          | 3.51  | 4.22  |
| Rate of compensation increase                                                   | 3.61          | 3.61  | 3.50  | 3.13          | 3.12  | 3.22  |

The amortization of prior service cost is determined using a straight-line amortization of the cost over the average remaining service period of employees expected to receive benefits under the plans.

The discount rate reflects the current rate at which pension liabilities could be effectively settled at the end of the year. The discount rate used considers a yield derived from matching projected pension payments with maturities of a portfolio of available bonds that receive the highest rating given from a recognized investments ratings agency. The changes in the discount rates in 2018, 2017, and 2016 are due to changes in yields for these types of investments as a result of the economic environment.

In determining the expected return on plan assets using the calculated value of plan assets, we consider both historical performance and an estimate of future long-term rates of return on assets similar to those in our plans. We consult with and consider the opinions of financial and other professionals in developing appropriate return assumptions. The rate of compensation increase is based on managements' estimates using historical experience and expected increases in rates.

Net actuarial gains or losses are amortized to expense on a plan-by-plan basis when they exceed the accounting corridor, which is set at 10% of the greater of the plan assets or benefit obligations. Gains or losses outside of the corridor are subject to amortization over an average employee future service period that differs by plan. If substantially all of the plan's participants are no longer actively accruing benefits, the average life expectancy is used.

In the fourth quarter of 2016, we adopted a change in the method to be used to estimate the service and interest cost components of net periodic benefit cost for defined benefit pension plans. Historically, for the vast majority of our plans, the service and interest cost components were estimated using a single weighted-average discount rate derived from the yield curve used to measure the benefit obligation at the beginning of the period. Beginning in 2017, we used a spot rate approach by applying the specific spot rates along the yield curve to the relevant projected cash flows in the estimation of the service and interest components of benefit cost, resulting in a more precise measurement. This change did not affect the measurement of total benefit obligations. The change was accounted for as a change in estimate that is inseparable from a change in accounting principle and, accordingly, was accounted for prospectively starting in 2017. The reductions in service and interest costs for 2017 associated with this change in estimate were \$1,200 and \$3,100, respectively.

The allocation of pension plan assets as of October 31, 2018 and 2017 is as follows:

| Asset Category          | United States |      | International |      |
|-------------------------|---------------|------|---------------|------|
|                         | 2018          | 2017 | 2018          | 2017 |
| Equity securities       | 13%           | 13%  | —%            | —%   |
| Debt securities         | 50            | 48   | —             | —    |
| Insurance contracts     | —             | —    | 55            | 56   |
| Pooled investment funds | 36            | 39   | 44            | 42   |
| Other                   | 1             | —    | 1             | 2    |
| Total                   | 100%          | 100% | 100%          | 100% |

Our investment objective for defined benefit plan assets is to meet the plans' benefit obligations, while minimizing the potential for future required plan contributions.

Our United States plans comprise 90 percent of the worldwide pension assets. In general, the investment strategies focus on asset class diversification, liquidity to meet benefit payments and an appropriate balance of long-term investment return and risk. Target ranges for asset allocations are determined by dynamically matching the actuarial projections of the plans' future liabilities and benefit payments with expected long-term rates of return on the assets, taking into account investment return volatility and correlations across asset classes. For 2018, the target in "return-seeking assets" is 35 percent and 65 percent in fixed income. Plan assets are diversified across several investment managers and are invested in liquid funds that are selected to track broad market indices. Investment risk is carefully controlled with plan assets rebalanced to target allocations on a periodic basis and continual monitoring of investment managers' performance relative to the investment guidelines established with each investment manager.

Our international plans comprise 10 percent of the worldwide pension assets. Asset allocations are developed on a country-specific basis. Our investment strategy is to cover pension obligations with insurance contracts or to employ independent managers to invest the assets.

The fair values of our pension plan assets at October 31, 2018 by asset category are in the table below:

|                                               | United States |           |            |         | International |         |         |           |
|-----------------------------------------------|---------------|-----------|------------|---------|---------------|---------|---------|-----------|
|                                               | Total         | Level 1   | Level 2    | Level 3 | Total         | Level 1 | Level 2 | Level 3   |
| Cash                                          | \$ 1,083      | \$ 1,083  | \$ —       | \$ —    | \$ 528        | \$ 528  | \$ —    | \$ —      |
| Money market funds                            | 1,620         | 1,620     | —          | —       | —             | —       | —       | —         |
| Equity securities:                            |               |           |            |         |               |         |         |           |
| Basic materials                               | 2,763         | 2,763     | —          | —       | —             | —       | —       | —         |
| Consumer goods                                | 3,703         | 3,703     | —          | —       | —             | —       | —       | —         |
| Financial                                     | 5,306         | 5,306     | —          | —       | —             | —       | —       | —         |
| Healthcare                                    | 4,179         | 4,179     | —          | —       | —             | —       | —       | —         |
| Industrial goods                              | 2,516         | 2,516     | —          | —       | —             | —       | —       | —         |
| Technology                                    | 4,690         | 4,690     | —          | —       | —             | —       | —       | —         |
| Utilities                                     | 732           | 732       | —          | —       | —             | —       | —       | —         |
| Mutual funds                                  | 21,987        | 21,987    | —          | —       | —             | —       | —       | —         |
| Fixed income securities:                      |               |           |            |         |               |         |         |           |
| U.S. Government                               | 50,602        | 10,224    | 40,378     | —       | —             | —       | —       | —         |
| Corporate                                     | 123,159       | —         | 123,159    | —       | —             | —       | —       | —         |
| Other                                         | 5,589         | —         | 5,589      | —       | —             | —       | —       | —         |
| Other types of investments:                   |               |           |            |         |               |         |         |           |
| Insurance contracts                           | —             | —         | —          | —       | 21,645        | —       | —       | 21,645    |
| Other                                         | 1,967         | 1,967     | —          | —       | —             | —       | —       | —         |
| Total investments in the fair value hierarchy | \$ 229,896    | \$ 60,770 | \$ 169,126 | \$ —    | \$ 22,173     | \$ 528  | \$ —    | \$ 21,645 |
| Investments measured at Net Asset Value:      |               |           |            |         |               |         |         |           |
| Real estate collective funds                  | 23,109        |           |            |         | —             |         |         |           |
| Pooled investment funds                       | 108,068       |           |            |         | 17,444        |         |         |           |
| Total Investments at Fair Value               | \$ 361,073    |           |            |         | \$ 39,617     |         |         |           |

The fair values of our pension plan assets at October 31, 2017 by asset category are in the table below:

|                                               | United States |           |            |         | International |         |         |           |
|-----------------------------------------------|---------------|-----------|------------|---------|---------------|---------|---------|-----------|
|                                               | Total         | Level 1   | Level 2    | Level 3 | Total         | Level 1 | Level 2 | Level 3   |
| Cash                                          | \$ 959        | \$ 959    | \$ —       | \$ —    | \$ 566        | \$ 566  | \$ —    | \$ —      |
| Money market funds                            | 3,615         | 3,615     | —          | —       | —             | —       | —       | —         |
| Equity securities:                            |               |           |            |         |               |         |         |           |
| Basic materials                               | 2,129         | 2,129     | —          | —       | —             | —       | —       | —         |
| Consumer goods                                | 3,776         | 3,776     | —          | —       | —             | —       | —       | —         |
| Financial                                     | 6,147         | 6,147     | —          | —       | —             | —       | —       | —         |
| Healthcare                                    | 3,940         | 3,940     | —          | —       | —             | —       | —       | —         |
| Industrial goods                              | 2,459         | 2,459     | —          | —       | —             | —       | —       | —         |
| Technology                                    | 3,815         | 3,815     | —          | —       | —             | —       | —       | —         |
| Utilities                                     | 793           | 793       | —          | —       | —             | —       | —       | —         |
| Mutual funds                                  | 20,698        | 20,698    | —          | —       | —             | —       | —       | —         |
| Fixed income securities:                      |               |           |            |         |               |         |         |           |
| U.S. Government                               | 57,789        | 9,372     | 48,417     | —       | —             | —       | —       | —         |
| Corporate                                     | 112,112       | —         | 112,112    | —       | —             | —       | —       | —         |
| Other                                         | 6,566         | —         | 6,566      | —       | —             | —       | —       | —         |
| Other types of investments:                   |               |           |            |         |               |         |         |           |
| Insurance contracts                           | —             | —         | —          | —       | 21,037        | —       | —       | 21,037    |
| Other                                         | 1,013         | 1,013     | —          | —       | —             | —       | —       | —         |
| Total investments in the fair value hierarchy | \$ 225,811    | \$ 58,716 | \$ 167,095 | \$ —    | \$ 21,603     | \$ 566  | \$ —    | \$ 21,037 |
| Investments measured at Net Asset Value:      |               |           |            |         |               |         |         |           |
| Real estate collective funds                  | 21,699        |           |            |         | —             |         |         |           |
| Pooled investment funds                       | 121,724       |           |            |         | 15,901        |         |         |           |
| Total Investments at Fair Value               | \$ 369,234    |           |            |         | \$ 37,504     |         |         |           |

These investment funds did not own a significant number of shares of Nordson Corporation common stock for any year presented.

The inputs and methodology used to measure fair value of plan assets are consistent with those described in Note 11. Following are the valuation methodologies used to measure these assets:

- **Money market funds** - Money market funds are public investment vehicles that are valued with a net asset value of one dollar. This is a quoted price in an active market and is classified as Level 1.
- **Equity securities** - Common stocks and mutual funds are valued at the closing price reported on the active market on which the individual securities are traded and are classified as Level 1.
- **Fixed income securities** - U.S. Treasury bills reflect the closing price on the active market in which the securities are traded and are classified as Level 1. Securities of U.S. agencies are valued using bid evaluations and are classified as Level 2. Corporate fixed income securities are valued using evaluated prices, such as dealer quotes, bids and offers and are therefore classified as Level 2.
- **Insurance contracts** - Insurance contracts are investments with various insurance companies. The contract value represents the best estimate of fair value. These contracts do not hold any specific assets. These investments are classified as Level 3.
- **Real estate collective funds** – These funds are valued using the net asset value of the underlying properties. Net asset value is calculated using a combination of key inputs, such as revenue and expense growth rates, terminal capitalization rates and discount rates.
- **Pooled investment funds** - These are public investment vehicles valued using the net asset value. The net asset value is based on the value of the assets owned by the plan, less liabilities. These investments are not quoted on an active exchange.

The following tables present an analysis of changes during the years ended October 31, 2018 and 2017 in Level 3 plan assets, by plan asset class, for U.S. and international pension plans using significant unobservable inputs to measure fair value:

|                                       | Fair Value Measurements<br>Using Significant Unobservable<br>Inputs (Level 3) |                  |
|---------------------------------------|-------------------------------------------------------------------------------|------------------|
|                                       | Insurance<br>contracts                                                        | Total            |
| Beginning balance at October 31, 2017 | \$ 21,037                                                                     | \$ 21,037        |
| Actual return on plan assets:         |                                                                               |                  |
| Assets held, end of year              | 862                                                                           | 862              |
| Assets sold during the period         | —                                                                             | —                |
| Purchases                             | 2,760                                                                         | 2,760            |
| Sales                                 | (2,501)                                                                       | (2,501)          |
| Foreign currency translation          | (513)                                                                         | (513)            |
| Ending balance at October 31, 2018    | <u>\$ 21,645</u>                                                              | <u>\$ 21,645</u> |

|                                       | Fair Value Measurements<br>Using Significant Unobservable<br>Inputs (Level 3) |                  |
|---------------------------------------|-------------------------------------------------------------------------------|------------------|
|                                       | Insurance<br>contracts                                                        | Total            |
| Beginning balance at October 31, 2016 | \$ 20,927                                                                     | \$ 20,927        |
| Actual return on plan assets:         |                                                                               |                  |
| Assets held, end of year              | (412)                                                                         | (412)            |
| Assets sold during the period         | —                                                                             | —                |
| Purchases                             | 2,330                                                                         | 2,330            |
| Sales                                 | (2,502)                                                                       | (2,502)          |
| Foreign currency translation          | 694                                                                           | 694              |
| Ending balance at October 31, 2017    | <u>\$ 21,037</u>                                                              | <u>\$ 21,037</u> |

Contributions to pension plans in 2019 are estimated to be approximately \$22,000.

Retiree pension benefit payments, which reflect expected future service, are anticipated to be paid as follows:

| Year      | United States | International |
|-----------|---------------|---------------|
| 2019      | \$ 15,639     | \$ 2,202      |
| 2020      | 17,076        | 2,728         |
| 2021      | 18,525        | 3,144         |
| 2022      | 19,894        | 2,636         |
| 2023      | 22,048        | 2,736         |
| 2024-2028 | 129,157       | 17,052        |

**Other postretirement plans** - We sponsor an unfunded postretirement health care benefit plan covering certain of our United States employees. Employees hired after January 1, 2002, are not eligible to participate in this plan. For eligible retirees under the age of 65 who enroll in the plan, the plan is contributory in nature, with retiree contributions in the form of premiums that are adjusted annually. For eligible retirees age 65 and older who enroll in the plan, the plan delivers a benefit in the form of a Health Reimbursement Account (HRA), which retirees use for eligible reimbursable expenses, including premiums paid for purchase of a Medicare supplement plan or other out-of-pocket medical expenses such as deductibles or co-pays.

A reconciliation of the benefit obligations, accrued benefit cost and the amount recognized in financial statements for other postretirement plans is as follows:

|                                                                    | United States |             | International |          |
|--------------------------------------------------------------------|---------------|-------------|---------------|----------|
|                                                                    | 2018          | 2017        | 2018          | 2017     |
| Change in benefit obligation:                                      |               |             |               |          |
| Benefit obligation at beginning of year                            | \$ 75,146     | \$ 71,904   | \$ 599        | \$ 623   |
| Service cost                                                       | 737           | 752         | 20            | 20       |
| Interest cost                                                      | 2,529         | 2,307       | 20            | 20       |
| Participant contributions                                          | 663           | 503         | —             | —        |
| Foreign currency exchange rate change                              | —             | —           | (11)          | 24       |
| Actuarial (gain) loss                                              | (4,519)       | 2,212       | (110)         | (81)     |
| Benefits paid                                                      | (2,546)       | (2,532)     | (6)           | (7)      |
| Benefit obligation at end of year                                  | \$ 72,010     | \$ 75,146   | \$ 512        | \$ 599   |
| Change in plan assets:                                             |               |             |               |          |
| Beginning fair value of plan assets                                | \$ —          | \$ —        | \$ —          | \$ —     |
| Company contributions                                              | 1,883         | 2,029       | 6             | 7        |
| Participant contributions                                          | 663           | 503         | —             | —        |
| Benefits paid                                                      | (2,546)       | (2,532)     | (6)           | (7)      |
| Ending fair value of plan assets                                   | \$ —          | \$ —        | \$ —          | \$ —     |
| Funded status at end of year                                       | \$ (72,010)   | \$ (75,146) | \$ (512)      | \$ (599) |
| Amounts recognized in financial statements:                        |               |             |               |          |
| Accrued benefit liability                                          | \$ (2,360)    | \$ (2,148)  | \$ (8)        | \$ (8)   |
| Long-term postretirement obligations                               | (69,650)      | (72,998)    | (504)         | (591)    |
| Total amount recognized in financial statements                    | \$ (72,010)   | \$ (75,146) | \$ (512)      | \$ (599) |
|                                                                    |               |             |               |          |
|                                                                    | United States |             | International |          |
|                                                                    | 2018          | 2017        | 2018          | 2017     |
| Amounts recognized in accumulated other comprehensive (gain) loss: |               |             |               |          |
| Net actuarial (gain) loss                                          | \$ 14,526     | \$ 20,124   | \$ (423)      | \$ (342) |
| Prior service credit                                               | (43)          | (142)       | —             | —        |
| Accumulated other comprehensive (gain) loss                        | \$ 14,483     | \$ 19,982   | \$ (423)      | \$ (342) |
| Amounts expected to be recognized during next fiscal year:         |               |             |               |          |
| Amortization of net actuarial (gain) loss                          | \$ 609        | \$ 995      | \$ (28)       | \$ (20)  |
| Amortization of prior service cost (credit)                        | (27)          | (99)        | —             | —        |
| Total                                                              | \$ 582        | \$ 896      | \$ (28)       | \$ (20)  |

The following table summarizes the changes in accumulated other comprehensive (gain) loss:

|                                                        | United States |           | International |          |
|--------------------------------------------------------|---------------|-----------|---------------|----------|
|                                                        | 2018          | 2017      | 2018          | 2017     |
| Balance at beginning of year                           | \$ 19,982     | \$ 18,480 | \$ (342)      | \$ (265) |
| Net (gain) loss arising during the year                | (4,519)       | 2,212     | (110)         | (82)     |
| Net gain (loss) recognized during the year             | (1,079)       | (874)     | 20            | 17       |
| Prior service (cost) credit recognized during the year | 99            | 164       | —             | —        |
| Exchange rate effect during the year                   | —             | —         | 9             | (12)     |
| Balance at end of year                                 | \$ 14,483     | \$ 19,982 | \$ (423)      | \$ (342) |

Net postretirement benefit costs include the following components:

|                                             | United States   |                 |                 | International |              |              |
|---------------------------------------------|-----------------|-----------------|-----------------|---------------|--------------|--------------|
|                                             | 2018            | 2017            | 2016            | 2018          | 2017         | 2016         |
| Service cost                                | \$ 737          | \$ 752          | \$ 849          | \$ 20         | \$ 20        | \$ 16        |
| Interest cost                               | 2,529           | 2,307           | 2,923           | 20            | 20           | 23           |
| Amortization of prior service cost (credit) | (99)            | (164)           | (267)           | —             | —            | —            |
| Amortization of net actuarial (gain) loss   | 1,079           | 874             | 684             | (20)          | (17)         | (24)         |
| Total benefit cost                          | <u>\$ 4,246</u> | <u>\$ 3,769</u> | <u>\$ 4,189</u> | <u>\$ 20</u>  | <u>\$ 23</u> | <u>\$ 15</u> |

The weighted average assumptions used in the valuation of postretirement benefits were as follows:

|                                                                                       | United States |       |       | International |       |       |
|---------------------------------------------------------------------------------------|---------------|-------|-------|---------------|-------|-------|
|                                                                                       | 2018          | 2017  | 2016  | 2018          | 2017  | 2016  |
| Assumptions used to determine benefit obligations at October 31:                      |               |       |       |               |       |       |
| Discount rate                                                                         | 4.56%         | 3.86% | 4.05% | 3.88%         | 3.52% | 3.40% |
| Health care cost trend rate                                                           | 3.75          | 3.70  | 3.63  | 6.35          | 6.50  | 6.13  |
| Rate to which health care cost trend rate is assumed to decline (ultimate trend rate) | 3.27          | 3.23  | 3.24  | 3.50          | 3.50  | 3.50  |
| Year the rate reaches the ultimate trend rate                                         | 2026          | 2026  | 2026  | 2037          | 2037  | 2031  |
| Assumption used to determine net benefit costs for the years ended October 31:        |               |       |       |               |       |       |
| Discount rate - benefit obligation                                                    | 3.84%         | 4.03% | 4.50% | 3.52%         | 3.40% | 4.35% |
| Discount rate - service cost                                                          | 4.11          | 4.48  | 4.50  | 3.54          | 3.56  | 4.35  |
| Discount rate - interest cost                                                         | 3.39          | 3.27  | 4.50  | 3.40          | 3.20  | 4.35  |

The weighted average health care trend rates reflect expected increases in the Company's portion of the obligation.

Net actuarial gains or losses are amortized to expense on a plan-by-plan basis when they exceed the accounting corridor, which is set at 10% of the greater of the plan assets or benefit obligations. Gains or losses outside of the corridor are subject to amortization over an average employee future service period that differs by plan. If substantially all of the plan's participants are no longer actively accruing benefits, the average life expectancy is used.

Similar to the changes in the discount rate approach discussed for the pension plans above, beginning in 2017 we elected to use an approach that discounts the individual expected cash flows underlying interest and service costs using the applicable spot rates derived from the yield curve used to determine the benefit obligation to the relevant projected cash flows. The Company has accounted for this change in estimate that is inseparable from a change in accounting principle on a prospective basis starting in fiscal year 2017. The reductions in service and interest costs for 2017 associated with this change in estimate were \$100 and \$500, respectively.

A one-percentage point change in the assumed health care cost trend rate would have the following effects. Bracketed numbers represent decreases in expense and obligation amounts.

|                                                              | United States     |                   | International     |                   |
|--------------------------------------------------------------|-------------------|-------------------|-------------------|-------------------|
|                                                              | 1% Point Increase | 1% Point Decrease | 1% Point Increase | 1% Point Decrease |
| Health care trend rate:                                      |                   |                   |                   |                   |
| Effect on total service and interest cost components in 2018 | \$ 516            | \$ (411)          | \$ 11             | \$ (8)            |
| Effect on postretirement obligation as of October 31, 2018   | \$ 9,316          | \$ (7,659)        | \$ 120            | \$ (93)           |

Contributions to postretirement plans in 2019 are estimated to be approximately \$2,400.

Retiree postretirement benefit payments are anticipated to be paid as follows:

| Year      | United States | International |
|-----------|---------------|---------------|
| 2019      | \$ 2,360      | \$ 8          |
| 2020      | 2,725         | 8             |
| 2021      | 2,993         | 8             |
| 2022      | 3,239         | 8             |
| 2023      | 3,528         | 8             |
| 2024-2028 | 20,613        | 59            |

#### Note 7 — Income taxes

Income tax expense includes the following:

|                 | 2018             | 2017              | 2016             |
|-----------------|------------------|-------------------|------------------|
| Current:        |                  |                   |                  |
| U.S. federal    | \$ 39,837        | \$ 54,878         | \$ 44,156        |
| State and local | 1,734            | 3,731             | 2,256            |
| Foreign         | 63,522           | 66,352            | 53,836           |
| Total current   | 105,093          | 124,961           | 100,248          |
| Deferred:       |                  |                   |                  |
| U.S. federal    | (32,829)         | 3,596             | (2,334)          |
| State and local | 891              | 1,164             | 563              |
| Foreign         | (2,011)          | (5,232)           | (1,826)          |
| Total deferred  | (33,949)         | (472)             | (3,597)          |
|                 | <u>\$ 71,144</u> | <u>\$ 124,489</u> | <u>\$ 96,651</u> |

Earnings before income taxes of domestic operations, which are calculated after intercompany profit eliminations, were \$192,643, \$181,840 and \$156,723 in 2018, 2017 and 2016, respectively.

On December 22, 2017 the Act was enacted. It reduces the U.S. federal corporate income tax rate from 35 percent to 21 percent. We have an October 31 fiscal year end, therefore the lower corporate income tax rate will be phased in, resulting in a U.S. statutory federal rate of 23.34 percent for our fiscal year ending October 31, 2018, and 21 percent for subsequent fiscal years. The statutory tax rate of 23.34 percent was applied to earnings in the current year.

The Act requires us to revalue our existing U.S. deferred tax balance to reflect the lower statutory tax rate and pay a one-time transition tax on earnings of certain foreign subsidiaries that were previously deferred from U.S. taxes. As a result, during 2018, we recorded a provisional tax benefit of \$49,082 to reflect the revaluation of our tax assets and liabilities at the reduced corporate tax rate. We also recorded a provisional tax expense of \$27,618 to reflect the transition tax on previously deferred foreign earnings. The net tax effect of these discrete items resulted in a decrease of \$21,464 in income tax expense for 2018. We intend to pay the transition tax in installments over the eight-year period allowable under the Act. The transition tax is primarily included in other long-term liabilities in the Consolidated Balance Sheet at October 31, 2018. The amounts recorded are considered a provisional estimate under the U.S. Securities and Exchange Commission Staff Accounting Bulletin No. 118. The provisional calculations may change after various components of the computation are finalized. Furthermore, we are still analyzing certain aspects of the Act and related interpretive guidance and refining our calculations which could potentially affect the measurement of these balances or potentially give rise to new or additional deferred tax amounts. Certain provisions of the Act will impact the Company starting in 2019. These provisions include, but are not limited to, the creation of the base erosion anti-abuse tax, a general limitation of U.S. federal income taxes on dividends from foreign subsidiaries, a new provision designed to tax global intangible low-taxed income and the repeal of the domestic production activities deduction. We continue to evaluate the future impacts of these provisions and, as of October 31, 2018, have not recorded any impact of any of these future provisions.

As discussed in Note 2, in the first quarter of 2018 we adopted a new standard which simplifies the accounting for share-based payment transactions of which excess tax benefits of \$9,498 were reported as net cash provided by operating activities in 2018 and \$7,079 and \$3,476 of excess tax benefits were reclassified from net cash used in financing activities to net cash provided by operating activities in 2017 and 2016, respectively. This guidance requires that excess tax benefits and tax deficiencies be recognized as income tax expense or benefit in the Consolidated Statements of Income rather than as additional paid-in capital. Our income tax provision for 2018 includes a favorable adjustment to unrecognized tax benefits of \$1,120 related to the lapse of statute of limitations.

Our income tax provision for 2017 includes a discrete tax expense of \$1,070 related to nondeductible acquisition costs.

Our income tax provision for 2016 also includes discrete tax benefits. On December 18, 2015, the Protecting Americans from Tax Hikes Act of 2015 was enacted which retroactively reinstated the Federal Research and Development Tax Credit (Federal R&D Tax Credit) as of January 1, 2015, and made it permanent. As a result, our income tax provision for 2016 includes a discrete tax benefit of \$2,200 related to 2015. The tax rate for 2016 also includes a discrete tax benefit of \$6,154 related to dividends paid from previously taxed foreign earnings generated prior to 2015, and a benefit of \$2,682 related to the effective settlement of a tax exam.

A reconciliation of the U.S. statutory federal rate to the worldwide consolidated effective tax rate follows:

|                                                          | 2018    | 2017   | 2016   |
|----------------------------------------------------------|---------|--------|--------|
| Statutory federal income tax rate                        | 23.34%  | 35.00% | 35.00% |
| Transition Tax                                           | 6.16    | —      | —      |
| Tax Rate Change Deferred Tax Remeasurement               | (10.94) | —      | —      |
| Share-Based and Other Compensation                       | (1.45)  | —      | —      |
| Domestic Production Deduction                            | (0.82)  | (1.48) | (1.43) |
| Foreign tax rate variances, net of foreign tax credits   | (0.46)  | (4.69) | (4.59) |
| State and local taxes, net of federal income tax benefit | 0.45    | 0.76   | 0.50   |
| Amounts related to prior years                           | (0.21)  | 0.03   | (1.20) |
| Tax benefit from previously taxed dividends paid         | —       | —      | (1.67) |
| Other – net                                              | (0.21)  | —      | (0.38) |
| Effective tax rate                                       | 15.86%  | 29.62% | 26.23% |

Earnings before income taxes of international operations, which are calculated before intercompany profit elimination entries, were \$255,877, \$238,451 and \$211,771 in 2018, 2017 and 2016, respectively. Deferred income taxes are not provided on undistributed earnings of international subsidiaries that are intended to be permanently invested in their operations. These undistributed earnings represent the post-income tax earnings under U.S. GAAP not adjusted for previously taxed income which aggregated approximately \$1,088,183 and \$1,026,793 at October 31, 2018 and 2017, respectively. Should these earnings be distributed, applicable foreign tax credits, distributions of previously taxed income, and utilization of other attributes would substantially offset taxes due upon the distribution. It is not practical to estimate the amount of additional taxes that might be payable on these basis differences because of the multiple methods by which these differences could reverse and the impact of withholding, US state and local taxes and currency translation considerations.

At October 31, 2018 and 2017, total unrecognized tax benefits were \$2,891 and \$3,781, respectively. The amounts that, if recognized, would impact the effective tax rate were \$2,411 and \$3,273 at October 31, 2018 and 2017, respectively. During 2016, unrecognized tax benefits related primarily to foreign positions and, as recognized, a substantial portion of the gross unrecognized tax benefits were offset against assets recorded in the Consolidated Balance Sheet. A reconciliation of the beginning and ending amount of unrecognized tax benefits for 2018, 2017 and 2016 is as follows:

|                                                              | 2018     | 2017     | 2016     |
|--------------------------------------------------------------|----------|----------|----------|
| Balance at beginning of year                                 | \$ 3,781 | \$ 3,336 | \$ 6,258 |
| Additions based on tax positions related to the current year | 310      | 529      | 522      |
| Additions for tax positions of prior years                   | 40       | 621      | 310      |
| Reductions for tax positions of prior years                  | (120)    | (150)    | (140)    |
| Settlements                                                  | —        | —        | (3,091)  |
| Lapse of statute of limitations                              | (1,120)  | (555)    | (523)    |
| Balance at end of year                                       | \$ 2,891 | \$ 3,781 | \$ 3,336 |

At October 31, 2018 and 2017, we had accrued interest and penalty expense related to unrecognized tax benefits of \$538 and \$623, respectively. We include interest accrued related to unrecognized tax benefits in interest expense. Penalties, if incurred, would be recognized as other income (expense).

We are subject to United States Federal income tax as well as income taxes in numerous state and foreign jurisdictions. We are subject to examination in the U.S. by the Internal Revenue Service (IRS) for the 2015 through 2018 tax years; tax years prior to the 2015 year are closed to further examination by the IRS. Generally, major state and foreign jurisdiction tax years remain open to examination for tax years after 2012. Within the next twelve months, it is reasonably possible that certain statute of limitations periods would expire, which could result in a minimal decrease in our unrecognized tax benefits.

Significant components of deferred tax assets and liabilities are as follows:

|                                                   | 2018        | 2017         |
|---------------------------------------------------|-------------|--------------|
| Deferred tax assets:                              |             |              |
| Employee benefits                                 | \$ 56,622   | \$ 84,109    |
| Other accruals not currently deductible for taxes | 18,186      | 28,579       |
| Tax credit and loss carryforwards                 | 16,652      | 23,976       |
| Inventory adjustments                             | 4,451       | 8,778        |
| Total deferred tax assets                         | 95,911      | 145,442      |
| Valuation allowance                               | (14,862)    | (14,891)     |
| Total deferred tax assets                         | 81,049      | 130,551      |
| Deferred tax liabilities:                         |             |              |
| Depreciation and amortization                     | 171,304     | 252,489      |
| Other - net                                       | 669         | 1,132        |
| Total deferred tax liabilities                    | 171,973     | 253,621      |
| Net deferred tax liabilities                      | \$ (90,924) | \$ (123,070) |

At October 31, 2018, we had \$6,804 of tax credit carryforwards of which have an indefinite carryforward period. We also had \$2,751 Federal, \$64,899 state and \$15,678 foreign operating loss carryforwards, and \$20,149 capital loss carryforward, of which \$89,635 will expire in 2019 through 2038, and \$13,842 of which has an indefinite carryforward period. The net change in the valuation allowance was a decrease of \$29 in 2018 and an increase of \$6,587 in 2017. The valuation allowance of \$14,862 at October 31, 2018, related primarily to tax credits and loss carryforwards that may expire before being realized. We continue to assess the need for valuation allowances against deferred tax assets based on determinations of whether it is more likely than not that deferred tax benefits will be realized.

#### Note 8 — Notes payable

Bank lines of credit and notes payable are summarized as follows:

|                                                                             | 2018      | 2017      |
|-----------------------------------------------------------------------------|-----------|-----------|
| Maximum borrowings available under bank lines of credit (all foreign banks) | \$ 76,151 | \$ 75,041 |
| Outstanding borrowings / notes payable (all foreign bank debt)              | —         | —         |
| Weighted-average interest rate on notes payable                             | —         | —         |
| Unused bank lines of credit                                                 | \$ 76,151 | \$ 75,041 |

#### Note 9 — Long-term debt

A summary of long-term debt is as follows:

|                                       | 2018         | 2017         |
|---------------------------------------|--------------|--------------|
| Revolving credit agreement, due 2020  | \$ 52,200    | \$ 249,138   |
| Senior notes, due 2018-2025           | 156,700      | 172,600      |
| Senior notes, due 2019-2027           | 100,000      | 100,000      |
| Senior notes, due 2023-2030           | 350,000      | —            |
| Term loan, due 2018-2020              | —            | 200,000      |
| Term loan, due 2018-2022              | 605,000      | 705,000      |
| Euro loan, due 2019                   | —            | 12,191       |
| Euro loan, due 2021                   | 16,967       | —            |
| Private shelf facility, due 2018-2026 | 36,111       | 146,666      |
| Development loans, due 2018-2026      | 1,086        | 1,218        |
|                                       | 1,318,064    | 1,586,813    |
| Less current maturities               | 28,734       | 326,587      |
| Less unamortized debt issuance costs  | 3,973        | 3,829        |
| Long-term maturities                  | \$ 1,285,357 | \$ 1,256,397 |

**Revolving credit agreement** — This \$850,000 unsecured multi-currency revolving credit agreement is with a group of banks and expires in February 2020. Payment of quarterly fees is required. The interest rate is variable based upon the LIBOR rate. The weighted average interest rate for borrowings under this agreement was 3.10 percent at October 31, 2018.

**Senior notes, due 2018-2025** — These fixed-rate notes entered into in 2012 with a group of insurance companies had a remaining weighted-average life of 3.45 years. The weighted-average interest rate at October 31, 2018 was 3.03 percent.

**Senior notes, due 2019-2027** — These fixed-rate notes entered into in 2015 with a group of insurance companies had a remaining weighted-average life of 5.24 years. The weighted-average interest rate at October 31, 2018 was 3.04 percent.

**Senior notes, due 2023-2030** — These fixed-rate notes entered in 2018 with a group of insurance companies had a remaining weighted-average life of 7.05 years. The weighted-average interest rate at October 31, 2018 was 3.90 percent.

**Term loan, due 2018-2020** — In 2015, we entered into a \$200,000 term loan facility with a group of banks. This loan was paid off in 2018.

**Term loan, due 2018-2022** — In 2017, we entered into a \$705,000 term loan facility with a group of banks. The interest rate is variable based upon the LIBOR rate. The agreement provides for term loans due in three tranches. \$100,000 is due in March 2020 with a weighted-average interest rate of 3.24 percent, \$200,000 is due in October 2021 with a weighted-average interest rate of 3.19 percent and \$305,000 is due in March 2022 with a weighted-average interest rate of 3.26 percent. For the portion that is due in March 2020, \$100,000 of this term loan facility was paid down in 2018.

**Euro loan, due 2019** — This Euro denominated loan was entered into in 2015 with Bank of America Merrill Lynch International Limited. This loan was paid off in 2018.

**Euro loan, due 2021** — This Euro denominated loan was entered into in 2018 with Bank of America Merrill Lynch International Limited. The interest rate is variable based upon the EUR LIBOR rate. The weighted average interest rate at October 31, 2018 was 0.88 percent.

**Private shelf facility** — In 2011, we entered into a \$150,000 three-year Private Shelf Note agreement with New York Life Investment Management LLC (NYLIM). The amount of the facility was increased to \$180,000 in 2015, and then increased to \$200,000 in 2016. Borrowings under the agreement may be for up to 12 years and are unsecured. The interest rate on each borrowing is fixed based upon the market rate at the borrowing date or is variable based upon the LIBOR rate. We paid down \$100,000 during 2018. At October 31, 2018, the amount outstanding under this facility was at fixed rates of 2.21 percent and 2.56 percent.

**Development loans, due 2018-2026** — These fixed-rate loans with the State of Ohio and Cuyahoga County, Ohio were issued in 2011 in connection with the construction of our corporate headquarters building and are payable in monthly installments over 15 years beginning in 2011. The interest rate on the State of Ohio loan is 3.00 percent, and the interest rate on the Cuyahoga County loan is 3.50 percent.

**Annual maturities** — The annual maturities of long-term debt for the five years subsequent to October 31, 2018, are as follows: \$28,734 in 2019; \$220,938 in 2020; \$255,153 in 2021; \$335,791 in 2022 and \$130,796 in 2023.

#### **Note 10 — Leases**

We have lease commitments expiring at various dates, principally for manufacturing, warehouse and office space, automobiles and office equipment. Many leases contain renewal options and some contain purchase options and residual guarantees.

Rent expense for all operating leases was approximately \$19,131, \$17,938 and \$18,047 in 2018, 2017 and 2016, respectively.

Amortization of assets recorded under capital leases is recorded in depreciation expense.

Assets held under capitalized leases and included in property, plant and equipment are as follows:

|                          | 2018             | 2017             |
|--------------------------|------------------|------------------|
| Transportation equipment | \$ 18,226        | \$ 17,594        |
| Other                    | 7,892            | 8,121            |
| Total capitalized leases | 26,118           | 25,715           |
| Accumulated amortization | (12,956)         | (11,408)         |
| Net capitalized leases   | <u>\$ 13,162</u> | <u>\$ 14,307</u> |

At October 31, 2018, future minimum lease payments under non-cancelable capitalized and operating leases are as follows:

|                                             | Capitalized<br>Leases | Operating<br>Leases |
|---------------------------------------------|-----------------------|---------------------|
| Year:                                       |                       |                     |
| 2019                                        | \$ 6,161              | \$ 16,603           |
| 2020                                        | 4,241                 | 11,520              |
| 2021                                        | 2,152                 | 9,394               |
| 2022                                        | 909                   | 8,050               |
| 2023                                        | 665                   | 5,299               |
| Later years                                 | 4,070                 | 15,232              |
| Total minimum lease payments                | 18,198                | \$ 66,098           |
| Less amount representing executory costs    | 1,926                 |                     |
| Net minimum lease payments                  | 16,272                |                     |
| Less amount representing interest           | 2,867                 |                     |
| Present value of net minimum lease payments | 13,405                |                     |
| Less current portion                        | 4,555                 |                     |
| Long-term obligations at October 31, 2018   | <u>\$ 8,850</u>       |                     |

#### Note 11 — Fair value measurements

The inputs to the valuation techniques used to measure fair value are classified into the following categories:

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

Level 2: Observable market based inputs or unobservable inputs that are corroborated by market data.

Level 3: Unobservable inputs that are not corroborated by market data.

The following tables present the classification of our assets and liabilities measured at fair value on a recurring basis:

| October 31, 2018                       | Total            | Level 1     | Level 2          | Level 3     |
|----------------------------------------|------------------|-------------|------------------|-------------|
| Assets:                                |                  |             |                  |             |
| Foreign currency forward contracts (a) | \$ 6,428         | \$ —        | \$ 6,428         | \$ —        |
| Total assets at fair value             | <u>\$ 6,428</u>  | <u>\$ —</u> | <u>\$ 6,428</u>  | <u>\$ —</u> |
| Liabilities:                           |                  |             |                  |             |
| Deferred compensation plans (b)        | \$ 11,018        | \$ —        | \$ 11,018        | \$ —        |
| Foreign currency forward contracts (a) | 9,289            | —           | 9,289            | —           |
| Total liabilities at fair value        | <u>\$ 20,307</u> | <u>\$ —</u> | <u>\$ 20,307</u> | <u>\$ —</u> |

| <b>October 31, 2017</b>                | <b>Total</b>     | <b>Level 1</b> | <b>Level 2</b>   | <b>Level 3</b> |
|----------------------------------------|------------------|----------------|------------------|----------------|
| <b>Assets:</b>                         |                  |                |                  |                |
| Foreign currency forward contracts (a) | \$ 3,249         | \$ —           | \$ 3,249         | \$ —           |
| <b>Total assets at fair value</b>      | <b>\$ 3,249</b>  | <b>\$ —</b>    | <b>\$ 3,249</b>  | <b>\$ —</b>    |
| <b>Liabilities:</b>                    |                  |                |                  |                |
| Deferred compensation plans (b)        | \$ 11,004        | \$ —           | \$ 11,004        | \$ —           |
| Foreign currency forward contracts (a) | 2,959            | —              | 2,959            | —              |
| <b>Total liabilities at fair value</b> | <b>\$ 13,963</b> | <b>\$ —</b>    | <b>\$ 13,963</b> | <b>\$ —</b>    |

- (a) We enter into foreign currency forward contracts to reduce the risk of foreign currency exposures resulting from receivables, payables, intercompany receivables, intercompany payables and loans denominated in foreign currencies. Foreign exchange contracts are valued using market exchange rates. These foreign exchange contracts are not designated as hedges.
- (b) Executive officers and other highly compensated employees may defer up to 100 percent of their salary and annual cash incentive compensation and for executive officers, up to 90 percent of their long-term incentive compensation, into various non-qualified deferred compensation plans. Deferrals can be allocated to various market performance measurement funds. Changes in the value of compensation deferred under these plans are recognized each period based on the fair value of the underlying measurement funds.

Fair value disclosures related to goodwill and indefinite-lived intangible assets are disclosed in Note 5.

The carrying amounts and fair values of financial instruments, other than cash and cash equivalents, receivables, and accounts payable, are shown in the table below. The carrying values of cash and cash equivalents, receivables and accounts payable approximate fair value due to the short-term nature of these instruments.

|                                            | <b>2018</b>            |                   | <b>2017</b>            |                   |
|--------------------------------------------|------------------------|-------------------|------------------------|-------------------|
|                                            | <b>Carrying Amount</b> | <b>Fair Value</b> | <b>Carrying Amount</b> | <b>Fair Value</b> |
| Long-term debt (including current portion) | <b>1,314,091</b>       | <b>1,293,899</b>  | 1,582,984              | 1,587,920         |

We used the following methods and assumptions in estimating the fair value of financial instruments:

- Long-term debt is valued by discounting future cash flows at currently available rates for borrowing arrangements with similar terms and conditions, which are considered to be Level 2 inputs under the fair value hierarchy. The carrying amount of long-term debt is shown net of unamortized debt issuance costs as described in Note 9.

#### **Note 12 — Derivative financial instruments**

We operate internationally and enter into intercompany transactions denominated in foreign currencies. Consequently, we are subject to market risk arising from exchange rate movements between the dates foreign currency transactions occur and the dates they are settled. We regularly use foreign currency forward contracts to reduce our risks related to most of these transactions. These contracts usually have maturities of 90 days or less and generally require us to exchange foreign currencies for U.S. dollars at maturity, at rates stated in the contracts. These contracts are not designated as hedging instruments under U.S. GAAP. Accordingly, the changes in the fair value of the foreign currency forward contracts are recognized in each accounting period in “Other – net” on the Consolidated Statement of Income together with the transaction gain or loss from the related balance sheet position. In 2018, we recognized net losses of \$3,151 on foreign currency forward contracts and net gains of \$4,284 from the change in fair value of balance sheet positions. In 2017, we recognized net gains of \$329 on foreign currency forward contracts and net losses of \$1,015 from the change in fair value of balance sheet positions. In 2016, we recognized net gains of \$2,317 on foreign currency forward contracts and net losses of \$312 from the change in fair value of balance sheet positions.

The following table summarizes, by currency, the contracts outstanding at October 31, 2018 and 2017:

|                                           | Notional<br>Amounts |            |
|-------------------------------------------|---------------------|------------|
|                                           | Sell                | Buy        |
| <b>October 31, 2018 contract amounts:</b> |                     |            |
| Euro                                      | \$ 323,571          | \$ 184,170 |
| Pound sterling                            | 23,879              | 60,007     |
| Japanese yen                              | 25,408              | 46,671     |
| Australian dollar                         | 178                 | 7,912      |
| Hong Kong dollar                          | —                   | 112,414    |
| Singapore dollar                          | 604                 | 14,092     |
| Others                                    | 4,730               | 57,546     |
| Total                                     | \$ 378,370          | \$ 482,812 |
| <b>October 31, 2017 contract amounts:</b> |                     |            |
| Euro                                      | \$ 144,611          | \$ 78,253  |
| Pound sterling                            | 45,252              | 54,204     |
| Japanese yen                              | 24,904              | 28,358     |
| Australian dollar                         | 193                 | 8,185      |
| Hong Kong dollar                          | —                   | 100,131    |
| Singapore dollar                          | 794                 | 12,681     |
| Others                                    | 5,413               | 51,930     |
| Total                                     | \$ 221,167          | \$ 333,742 |

We also use intercompany foreign currency transactions of a long-term investment nature to hedge the value of investment in wholly-owned subsidiaries. For hedges of the net investment in foreign operations, realized and unrealized gains and losses are shown in the cumulative translation adjustment account included in total comprehensive income. For 2018 and 2017, net gains of \$828 and net losses of \$760, respectively, were included in the cumulative translation adjustment account related to foreign denominated fixed-rate debt designated as a hedge of net investment in foreign operations.

We are exposed to credit-related losses in the event of nonperformance by counterparties to financial instruments. These financial instruments include cash deposits and foreign currency forward contracts. We periodically monitor the credit ratings of these counterparties in order to minimize our exposure. Our customers represent a wide variety of industries and geographic regions. As of October 31, 2018 and 2017, there were no significant concentrations of credit risk.

#### Note 13 — Capital shares

**Preferred** — We have authorized 10,000 Series A convertible preferred shares without par value. No preferred shares were outstanding in 2018, 2017 or 2016.

**Common** — We have 160,000 authorized common shares without par value. At October 31, 2018 and 2017, there were 98,023 common shares issued. At October 31, 2018 and 2017, the number of outstanding common shares, net of treasury shares, was 58,037 and 57,715, respectively.

Common shares repurchased as part of publicly announced programs during 2018, 2017 and 2016 were as follows:

| Year | Number<br>of Shares | Total<br>Amount | Average<br>per Share |
|------|---------------------|-----------------|----------------------|
| 2018 | 145                 | \$ 18,939       | \$ 130.21            |
| 2017 | —                   | \$ —            | \$ —                 |
| 2016 | 447                 | \$ 31,877       | \$ 71.37             |

#### Note 14 — Stock-based compensation

During the 2018 Annual Meeting of Shareholders, our shareholders approved the Amended and Restated 2012 Stock Incentive and Award Plan (the “2012 Plan”). The 2012 Plan provides for the granting of stock options, stock appreciation rights, restricted shares, restricted share units, performance shares, cash awards and other stock or performance-based incentives. A maximum of 4,525 common shares is available for grant under the 2012 Plan.

**Stock options** — Nonqualified or incentive stock options may be granted to our employees and directors. Generally, options granted to employees may be exercised beginning one year from the date of grant at a rate not exceeding 25 percent per year and expire 10 years from the date of grant. Vesting accelerates upon a qualified termination in connection with a change in control. In the event of termination of employment due to early retirement or normal retirement at age 65, options granted within 12 months prior to termination are forfeited, and vesting continues post retirement for all other unvested options granted. In the event of disability or death, all unvested stock options granted within 12 months prior to termination (or at any time prior to December 28, 2017) fully vest. Termination for any other reason results in forfeiture of unvested options and vested options in certain circumstances. The amortized cost of options is accelerated if the retirement eligibility date occurs before the normal vesting date. Option exercises are satisfied through the issuance of treasury shares on a first-in, first-out basis. We recognized compensation expense related to stock options of \$9,964, \$9,326 and \$7,874 for 2018, 2017 and 2016, respectively.

The following table summarizes activity related to stock options during 2018:

|                                                | Number of<br>Options | Weighted-Average<br>Exercise Price<br>Per Share | Aggregate<br>Intrinsic<br>Value | Weighted-Average<br>Remaining<br>Term |
|------------------------------------------------|----------------------|-------------------------------------------------|---------------------------------|---------------------------------------|
| Outstanding at October 31, 2017                | 1,922                | \$ 70.08                                        |                                 |                                       |
| Granted                                        | 368                  | \$ 127.67                                       |                                 |                                       |
| Exercised                                      | (387)                | \$ 48.68                                        |                                 |                                       |
| Forfeited or expired                           | (18)                 | \$ 108.33                                       |                                 |                                       |
| Outstanding at October 31, 2018                | 1,885                | \$ 85.33                                        | \$ 72,193                       | 6.5 years                             |
| Vested at October 31, 2018 or expected to vest | 1,870                | \$ 85.05                                        | \$ 72,091                       | 6.5 years                             |
| Exercisable at October 31, 2018                | 956                  | \$ 66.82                                        | \$ 53,374                       | 5.0 years                             |

Summarized information on currently outstanding options follows:

|                                                       | Range of Exercise Price |             |              |
|-------------------------------------------------------|-------------------------|-------------|--------------|
|                                                       | \$27 - \$44             | \$45 - \$73 | \$74 - \$129 |
| Number outstanding                                    | 230                     | 716         | 939          |
| Weighted-average remaining contractual life, in years | 2.4                     | 6.0         | 8.0          |
| Weighted-average exercise price                       | \$ 40.85                | \$ 69.19    | \$ 108.53    |
| Number exercisable                                    | 230                     | 491         | 235          |
| Weighted-average exercise price                       | \$ 40.85                | \$ 68.40    | \$ 88.92     |

As of October 31, 2018, there was \$7,740 of total unrecognized compensation cost related to nonvested stock options. That cost is expected to be amortized over a weighted average period of approximately 1.6 years.

The Black-Scholes option valuation model was used to estimate the fair value of traded options that have no vesting restrictions and are fully transferable. Option valuation models require the input of subjective assumptions, including the expected stock price volatility. The fair value of each option grant was estimated at the date of grant using the Black-Scholes option-pricing model with the following assumptions:

|                                        | 2018        | 2017        | 2016        |
|----------------------------------------|-------------|-------------|-------------|
| Expected volatility                    | 24.0%-26.7% | 26.0%-29.2% | 29.1%-30.4% |
| Expected dividend yield                | 0.97%       | 0.91%-1.17% | 1.54%       |
| Risk-free interest rate                | 2.09%-2.20% | 1.89%-2.06% | 1.78%-1.90% |
| Expected life of the option (in years) | 5.4-6.2     | 5.4-6.2     | 5.4-6.2     |

The weighted-average expected volatility used to value options granted in 2018, 2017 and 2016 was 25.0 percent, 29.1 percent and 29.6 percent, respectively.

Historical information was the primary basis for the selection of the expected volatility, expected dividend yield and the expected lives of the options. The risk-free interest rate was selected based upon yields of United States Treasury issues with terms equal to the expected life of the option being valued.

The weighted average grant date fair value of stock options granted during 2018, 2017 and 2016 was \$31.42, \$28.86 and \$18.23, respectively.

The total intrinsic value of options exercised during 2018, 2017 and 2016 was \$35,696, \$22,317 and \$17,271, respectively.

Cash received from the exercise of stock options for 2018, 2017 and 2016 was \$18,811, \$14,086 and \$11,476, respectively.

**Restricted shares and restricted share units** — We may grant restricted shares and/or restricted share units to our employees and directors. These shares or units may not be transferred for a designated period of time (generally one to three years) defined at the date of grant.

For employee recipients, in the event of termination of employment due to early retirement, with consent of the Company, restricted shares granted within 12 months prior to termination are forfeited, and other restricted shares vest on a pro-rata basis. In the event of termination of employment due to normal retirement at age 65, restricted shares granted within 12 months prior to termination are forfeited, and, for other restricted shares, the restriction period will lapse and the shares will vest and be transferable. For restricted shares granted within 12 months prior to termination (or at any time prior to December 28, 2017), the restrictions lapse in the event of a recipient's disability or death. Termination for any other reason prior to the lapse of any restrictions results in forfeiture of the shares.

For non-employee directors, all restrictions lapse in the event of disability or death. Termination of service as a director for any other reason within one year of date of grant results in a pro-rata vesting of shares or units.

As shares or units are issued, deferred stock-based compensation equivalent to the fair market value on the date of grant is expensed over the vesting period. Tax benefits arising from the lapse of restrictions are recognized when realized and credited to capital in excess of stated value.

The following table summarizes activity related to restricted shares during 2018:

|                                | Number of<br>Shares | Weighted-Average<br>Grant Date Fair<br>Value Per Share |
|--------------------------------|---------------------|--------------------------------------------------------|
| Restricted at October 31, 2017 | 58                  | \$ 90.38                                               |
| Granted                        | 22                  | \$ 127.89                                              |
| Forfeited                      | (1)                 | \$ 95.20                                               |
| Vested                         | (26)                | \$ 83.95                                               |
| Restricted at October 31, 2018 | 53                  | \$ 108.82                                              |

As of October 31, 2018, there was \$2,981 of unrecognized compensation cost related to restricted shares. The cost is expected to be amortized over a weighted average period of 1.7 years. The amount charged to expense related to restricted shares was \$2,610, \$2,127 and \$1,963 in 2018, 2017 and 2016, respectively. These amounts included common share dividends of \$70, \$64, and \$60 in 2018, 2017 and 2016, respectively.

The following table summarizes activity related to restricted share units in 2018:

|                                            | Number of<br>Units | Weighted-Average<br>Grant Date Fair<br>Value |
|--------------------------------------------|--------------------|----------------------------------------------|
| Restricted share units at October 31, 2017 | 0                  | \$ —                                         |
| Granted                                    | 8                  | \$ 126.38                                    |
| Vested                                     | (8)                | \$ 126.38                                    |
| Restricted share units at October 31, 2018 | 0                  | \$ —                                         |

As of October 31, 2018, there was no remaining expense to be recognized related to outstanding restricted share units. The amount charged to expense related to restricted share units during 2018 and 2017 was \$1,011 in both years, and was \$974 for 2016.

**Deferred directors' compensation** — Non-employee directors may defer all or part of their cash and equity-based compensation until retirement. Cash compensation may be deferred as cash or as share equivalent units. Deferred cash amounts are recorded as liabilities, and share equivalent units are recorded as equity. Additional share equivalent units are earned when common share dividends are declared.

The following table summarizes activity related to director deferred compensation share equivalent units during 2018:

|                                 | Number of<br>Shares | Weighted-Average<br>Grant Date Fair<br>Value Per Share |
|---------------------------------|---------------------|--------------------------------------------------------|
| Outstanding at October 31, 2017 | 101                 | \$ 46.74                                               |
| Restricted stock units vested   | 5                   | \$ 126.49                                              |
| Dividend equivalents            | 1                   | \$ 138.50                                              |
| Outstanding at October 31, 2018 | 107                 | \$ 51.24                                               |

The amount charged to expense related to director deferred compensation was \$127, \$106 and \$158 in 2018, 2017 and 2016, respectively.

**Performance share incentive awards** — Executive officers and selected other key employees are eligible to receive common share-based incentive awards. Payouts, in the form of unrestricted common shares, vary based on the degree to which corporate financial performance exceeds predetermined threshold, target and maximum performance goals over three-year performance periods. No payout will occur unless threshold performance is achieved.

The amount of compensation expense is based upon current performance projections for each three-year period and the percentage of the requisite service that has been rendered. The calculations are also based upon the grant date fair value determined using the closing market price of our common shares at the grant date, reduced by the implied value of dividends not to be paid. The per share values were \$123.45 for 2018, \$103.75 and \$104.49 for 2017 and \$67.69 per share for 2016. The amounts charged to expense for executive officers and selected other key employees in 2018, 2017 and 2016 were \$7,635, \$7,398 and \$7,083, respectively. The cumulative amount recorded in shareholders' equity at October 31, 2018, and 2017 was \$14,757 and \$12,820, respectively.

**Deferred compensation** — Our executive officers and other highly compensated employees may elect to defer up to 100 percent of their base pay and cash incentive compensation and, for executive officers, up to 90 percent of their share-based performance incentive award payout each year. Additional share units are credited for quarterly dividends paid on our common shares. Expense related to dividends paid under this plan was \$273, \$264 and \$219 for 2018, 2017 and 2016, respectively.

**Shares reserved for future issuance** — At October 31, 2018, there were 2,459 of common shares reserved for future issuance through the exercise of outstanding options or rights.

#### Note 15 — Operating segments and geographic area data

We conduct business in three primary operating segments: Adhesive Dispensing Systems, Advanced Technology Systems, and Industrial Coating Systems. The composition of segments and measure of segment profitability is consistent with that used by our chief operating decision maker. The primary measure used by the chief operating decision maker for purposes of making decisions about allocating resources to the segments and assessing performance is operating profit, which equals sales less cost of sales and certain operating expenses. Items below the operating profit line of the Consolidated Statement of Income (interest and investment income, interest expense and other income/expense) are excluded from the measure of segment profitability reviewed by our chief operating decision maker and are not presented by operating segment. The accounting policies of the segments are generally the same as those described in Note 1, Significant Accounting Policies.

No single customer accounted for 10 percent or more of sales in 2018, 2017 or 2016.

The following table presents information about our reportable segments:

|                                    | Adhesive<br>Dispensing<br>Systems | Advanced<br>Technology<br>Systems | Industrial<br>Coating<br>Systems | Corporate   | Total        |
|------------------------------------|-----------------------------------|-----------------------------------|----------------------------------|-------------|--------------|
| <b>Year ended October 31, 2018</b> |                                   |                                   |                                  |             |              |
| Net external sales                 | \$ 955,192                        | \$ 1,039,366                      | \$ 260,110                       | \$ —        | \$ 2,254,668 |
| Depreciation and amortization      | 31,597                            | 62,594                            | 6,166                            | 8,050       | 108,407      |
| Operating profit (loss)            | 259,493                           | 243,523                           | 50,638                           | (59,097)    | 494,557      |
| Identifiable assets (b)            | 829,696                           | 1,713,404                         | 122,088                          | 763,734 (a) | 3,428,922    |
| Expenditures for long-lived assets | 46,911                            | 16,205                            | 8,546                            | 18,128      | 89,790       |
| <b>Year ended October 31, 2017</b> |                                   |                                   |                                  |             |              |
| Net external sales                 | \$ 916,019                        | \$ 897,623                        | \$ 253,340                       | \$ —        | \$ 2,066,982 |
| Depreciation and amortization      | 29,118                            | 49,535                            | 5,559                            | 6,642       | 90,854       |
| Operating profit (loss)            | 253,580                           | 228,062                           | 43,991                           | (67,931)    | 457,702      |
| Identifiable assets (b)            | 794,699                           | 1,718,844                         | 120,458                          | 790,940 (a) | 3,424,941    |
| Expenditures for long-lived assets | 35,310                            | 21,135                            | 9,108                            | 6,005       | 71,558       |
| <b>Year ended October 31, 2016</b> |                                   |                                   |                                  |             |              |
| Net external sales                 | \$ 879,573                        | \$ 676,329                        | \$ 253,092                       | \$ —        | \$ 1,808,994 |
| Depreciation and amortization      | 28,294                            | 29,649                            | 5,041                            | 7,320       | 70,304       |
| Operating profit (loss)            | 229,143                           | 159,531                           | 43,511                           | (43,754)    | 388,431      |
| Identifiable assets (b)            | 751,153                           | 1,080,711                         | 140,169                          | 463,642 (a) | 2,435,675    |
| Expenditures for long-lived assets | 17,407                            | 18,967                            | 17,357                           | 7,120       | 60,851       |

- (a) Corporate assets are principally cash and cash equivalents, deferred income taxes, capital leases, headquarter facilities, the major portion of our enterprise management system, and intangible assets.
- (b) Operating segment identifiable assets include notes and accounts receivable net of customer advance payments and allowance for doubtful accounts, inventories net of reserves, property, plant and equipment net of accumulated depreciation and goodwill.

We have significant sales and long-lived assets in the following geographic areas:

|                          | 2018         | 2017         | 2016         |
|--------------------------|--------------|--------------|--------------|
| Net external sales       |              |              |              |
| United States            | \$ 720,832   | \$ 647,657   | \$ 531,117   |
| Americas                 | 158,837      | 147,026      | 124,657      |
| Europe                   | 622,108      | 530,812      | 503,869      |
| Japan                    | 161,771      | 147,189      | 122,054      |
| Asia Pacific             | 591,120      | 594,298      | 527,297      |
| Total net external sales | \$ 2,254,668 | \$ 2,066,982 | \$ 1,808,994 |
| Long-lived assets        |              |              |              |
| United States            | \$ 279,437   | \$ 266,921   | \$ 209,959   |
| Americas                 | 2,158        | 2,322        | 1,730        |
| Europe                   | 41,663       | 39,102       | 23,943       |
| Japan                    | 5,492        | 5,594        | 6,408        |
| Asia Pacific             | 57,916       | 32,472       | 31,089       |
| Total long-lived assets  | \$ 386,666   | \$ 346,411   | \$ 273,129   |

A reconciliation of total segment operating profit to total consolidated income before income taxes is as follows:

|                                      | 2018       | 2017       | 2016       |
|--------------------------------------|------------|------------|------------|
| Total profit for reportable segments | \$ 494,557 | \$ 457,702 | \$ 388,431 |
| Interest expense                     | (49,576)   | (36,601)   | (21,322)   |
| Interest and investment income       | 1,384      | 1,124      | 728        |
| Other-net                            | 2,154      | (1,934)    | 657        |
| Income before income taxes           | \$ 448,519 | \$ 420,291 | \$ 368,494 |

A reconciliation of total assets for reportable segments to total consolidated assets is as follows:

|                                      | 2018         | 2017         | 2016         |
|--------------------------------------|--------------|--------------|--------------|
| Total assets for reportable segments | \$ 3,428,922 | \$ 3,424,941 | \$ 2,435,675 |
| Customer advance payments            | 38,997       | 34,654       | 26,175       |
| Eliminations                         | (46,907)     | (45,056)     | (41,267)     |
| Total consolidated assets            | \$ 3,421,012 | \$ 3,414,539 | \$ 2,420,583 |

**Note 16 — Supplemental information for the statement of cash flows**

|                                                              | 2018      | 2017      | 2016      |
|--------------------------------------------------------------|-----------|-----------|-----------|
| Cash operating activities:                                   |           |           |           |
| Interest paid                                                | \$ 42,305 | \$ 36,450 | \$ 23,423 |
| Income taxes paid                                            | 87,879    | 118,096   | 102,592   |
| Non-cash investing and financing activities:                 |           |           |           |
| Capitalized lease obligations incurred                       | \$ 5,330  | \$ 6,509  | \$ 5,639  |
| Capitalized lease obligations terminated                     | 415       | 670       | 1,033     |
| Shares acquired and issued through exercise of stock options | —         | 170       | 212       |

**Note 17 — Quarterly financial data (unaudited)**

|                     | First      | Second     | Third      | Fourth     |
|---------------------|------------|------------|------------|------------|
| <b>2018:</b>        |            |            |            |            |
| Sales               | \$ 550,424 | \$ 553,706 | \$ 581,243 | \$ 569,295 |
| Gross margin        | 301,003    | 306,828    | 320,396    | 307,738    |
| Net income          | 104,555    | 91,235     | 94,884     | 86,702     |
| Earnings per share: |            |            |            |            |
| Basic               | 1.81       | 1.57       | 1.63       | 1.49       |
| Diluted             | 1.78       | 1.55       | 1.61       | 1.47       |
| <b>2017:</b>        |            |            |            |            |
| Sales               | \$ 407,470 | \$ 496,137 | \$ 589,438 | \$ 573,938 |
| Gross margin        | 225,138    | 275,512    | 326,265    | 312,088    |
| Net income          | 49,988     | 64,523     | 101,456    | 79,835     |
| Earnings per share: |            |            |            |            |
| Basic               | 0.87       | 1.12       | 1.76       | 1.38       |
| Diluted             | 0.86       | 1.11       | 1.74       | 1.37       |

The sum of the per-share amounts for the four quarters may not always equal the annual per-share amounts due to differences in the average number of shares outstanding during the respective periods. The sum of other amounts for the four quarters may not always equal the annual amounts due to rounding.

During the third quarter of 2018, we recorded a favorable adjustment of unrecognized tax benefits of \$1,041 related to the lapse of statute of limitations.

During the first quarter of 2018, we recorded discrete items to income tax expense as a result of the Act. See Note 7 for additional information.

During the fourth quarter of 2017, we recorded pre-tax acquisition costs of \$391 related to the acquisition of Vention.

During the third quarter of 2017, we recorded pre-tax acquisition costs of \$865 related to Vention.

During the second quarter of 2017, we recorded pre-tax acquisition costs of \$13,415 related to Vention. As a result, our income tax provision for the second quarter included a discrete tax expense of \$2,600 related to nondeductible acquisition costs.

**Note 18 — Contingencies**

We are involved in pending or potential litigation regarding environmental, product liability, patent, contract, employee and other matters arising from the normal course of business. It is our opinion, after consultation with legal counsel, that resolutions of these matters are not expected to result in a material effect on our financial condition, quarterly or annual operating results or cash flows.

## Management's Report on Internal Control Over Financial Reporting

The management of Nordson Corporation is responsible for establishing and maintaining adequate internal control over financial reporting.

Using criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in Internal Control-Integrated Framework (2013 framework), Nordson's management assessed the effectiveness of our internal control over financial reporting as of October 31, 2018.

We completed the acquisitions of Sonoscan, Inc. ("Sonoscan") and Cladach Nua Teoranta ("Clada") on January 2, 2018, and October 17, 2018, respectively. As permitted by SEC guidance, the scope of our evaluation of internal control over financial reporting as of October 31, 2018 did not include the internal control over financial reporting of Sonoscan and Clada. The results of Sonoscan and Clada are included in our consolidated financial statements from the date each business was acquired. The combined total assets of Sonoscan and Clada represented one percent of our total assets at October 31, 2018. The combined net sales and net income of Sonoscan and Clada represented one percent of our consolidated net sales and less than one percent of our net income for 2018.

Based on our assessment, management concluded that our internal control over financial reporting was effective as of October 31, 2018.

The independent registered public accounting firm, Ernst & Young LLP, has also audited the effectiveness of our internal control over financial reporting as of October 31, 2018. Their report is included herein.

/s/ Michael F. Hilton  
\_\_\_\_\_  
President and  
Chief Executive Officer  
December 14, 2018

/s/ Gregory A. Thaxton  
\_\_\_\_\_  
Executive Vice President, Chief Financial Officer  
December 14, 2018

## **Report of Independent Registered Public Accounting Firm**

**To the Shareholders and the Board of Directors of Nordson Corporation**

### **Opinion on Internal Control over Financial Reporting**

We have audited Nordson Corporation's internal control over financial reporting as of October 31, 2018, based on criteria established in Internal Control — Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, Nordson Corporation (the Company) maintained, in all material respects, effective internal control over financial reporting as of October 31, 2018, based on the COSO criteria.

As indicated in the accompanying Management's Report on Internal Control Over Financial Reporting, management's assessment of and conclusion on the effectiveness of internal control over financial reporting did not include the internal controls of Sonoscan, Inc. (Sonoscan) and Cladach Nua Teoranta (Clada), which are included in the 2018 consolidated financial statements of the Company and on a combined basis constituted one percent of total assets as of October 31, 2018 and one percent of consolidated net sales and less than one percent of consolidated net income for the year then ended. Our audit of internal control over financial reporting of the Company also did not include an evaluation of the internal control over financial reporting of Sonoscan and Clada.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of October 31, 2018 and 2017, the related consolidated statements of income, shareholders' equity and cash flows, for each of the three years in the period ended October 31, 2018, and the related notes and financial statement schedule listed in the Index at Item 15(a) and our report dated December 14, 2018 expressed an unqualified opinion thereon.

### **Basis for Opinion**

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

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

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

### **Definition and Limitations of Internal Control Over Financial Reporting**

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

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

/s/ Ernst & Young LLP

Cleveland, Ohio  
December 14, 2018

## **Report of Independent Registered Public Accounting Firm**

### **To the Shareholders and the Board of Directors of Nordson Corporation**

#### **Opinion on the Financial Statements**

We have audited the accompanying consolidated balance sheets of Nordson Corporation (the Company) as of October 31, 2018 and 2017, the related consolidated statements of income, comprehensive income, shareholders' equity and cash flows for each of the three years in the period ended October 31, 2018, and the related notes and financial statement schedule listed in the Index at Item 15(a) (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at October 31, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended October 31, 2018, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of October 31, 2018, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated December 14, 2018 expressed an unqualified opinion thereon.

#### **Basis for Opinion**

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

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

/s/ Ernst & Young LLP

We have served as the Company's auditor since 1956.

Cleveland, Ohio  
December 14, 2018

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

None.

**Item 9A. Controls and Procedures**

- (a) Evaluation of disclosure controls and procedures. Our management, with the participation of the principal executive officer (president and chief executive officer) and the principal financial officer (executive vice president and chief financial officer), has reviewed and evaluated our disclosure controls and procedures (as defined in the Securities Exchange Act Rule 13a-15e) as of October 31, 2018. Based on that evaluation, our management, including the principal executive and financial officers, has concluded that our disclosure controls and procedures were effective as of October 31, 2018 in ensuring that information required to be disclosed in the reports that we file or submit under the Securities Exchange Act of 1934 is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms and is accumulated and communicated to our management, including the principal executive officer and the principal financial officer, as appropriate to allow timely decisions regarding required disclosure.
- (b) Management's report on internal control over financial reporting. The Report of Management on Internal Control over Financial Reporting and the Report of Independent Registered Public Accounting Firm thereon are set forth in Part II, Item 8 of this Annual Report on Form 10-K.
- (c) Changes in internal control over reporting. There were no changes in our internal controls over financial reporting that occurred during the fourth quarter of 2018 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

**Item 9B. Other Information**

None.

### PART III

#### Item 10. Directors, Executive Officers and Corporate Governance

The information required by this Item is incorporated by reference to the captions “Election of Directors Whose Terms Expire in 2022” and “Section 16(a) Beneficial Ownership Reporting Compliance” of our definitive Proxy Statement for the 2019 Annual Meeting of Shareholders. Information regarding Audit Committee financial experts is incorporated by reference to the caption “Election of Directors Whose Terms Expire in 2022” of our definitive Proxy Statement for the 2019 Annual Meeting of Shareholders.

Our executive officers serve for a term of one year from date of election to the next organizational meeting of the board of directors and until their respective successors are elected and qualified, except in the case of death, resignation or removal. Information concerning executive officers is contained in Part I of this report under the caption “Executive Officers of the Company.”

We have adopted a code of ethics and business conduct for all employees and directors, including the principal executive officer, other executive officers, principal finance officer and other finance personnel. A copy of the code of ethics is available free of charge on our Web site at <http://www.nordson.com/en/our-company/corporate-governance>. We intend to satisfy our disclosure requirement under Item 5.05 of Form 8-K regarding any amendment to or waiver of a provision of our code of ethics and business conduct that applies to our principal executive officer, principal financial officer, principal accounting officer or controller or persons performing similar functions and that relates to any element of the code of ethics definition enumerated in Item 406(b) of Regulation S-K by posting such information on our Web site.

#### Item 11. Executive Compensation

The information required by this Item is incorporated by reference to the “Executive Compensation Discussion and Analysis” section of the definitive Proxy Statement for the 2019 Annual Meeting of Shareholders, along with the sections captioned “Directors Compensation,” “Summary Compensation Table,” “Grants of Plan-Based Awards,” “Outstanding Equity Awards at October 31, 2018,” “Stock Option Exercises and Stock Vested Tables,” “Pension Benefits Table,” “Nonqualified Deferred Compensation” and “Potential Benefits Upon Termination” in our definitive Proxy Statement for the 2019 Annual Meeting of Shareholders.

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

The information required by this Item is incorporated by reference to the caption “Security Ownership of Nordson Common Shares by Directors, Director Nominees, Executive Officers and Large Beneficial Owners” in our definitive Proxy Statement for the 2019 Annual Meeting of Shareholders.

#### Equity Compensation Table

The following table sets forth information regarding equity compensation plans in effect as of October 31, 2018:

| Plan category                                              | Number of securities to be issued upon exercise of outstanding options, warrants and rights | Weighted-average exercise price of outstanding options, warrants and rights | Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in first reporting column) |
|------------------------------------------------------------|---------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Equity compensation plans approved by security holders     | 1,885                                                                                       | \$ 85.33                                                                    | 2,314                                                                                                                                                   |
| Equity compensation plans not approved by security holders | —                                                                                           | —                                                                           | —                                                                                                                                                       |
| Total                                                      | 1,885                                                                                       | \$ 85.33                                                                    | 2,314                                                                                                                                                   |

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

The information required by this Item is incorporated by reference to the caption “Review of Transactions with Related Persons” in our definitive Proxy Statement for the 2019 Annual Meeting of Shareholders.

**Item 14. Principal Accountant Fees and Services**

The information required by this Item is incorporated by reference to the caption “Fees Paid to Ernst & Young LLP” and the caption “Pre-Approval of Audit and Non-Audit Services” in our definitive Proxy Statement for the 2019 Annual Meeting of Shareholders.

## **PART IV**

### **Item 15. Exhibits and Financial Statement Schedules**

The following are filed as part of this report:

#### **(a) 1. Financial Statements**

The following financial statements are included in Part II, Item 8:

Consolidated Statements of Income for each of the three years in the period ended October 31, 2018

Consolidated Statements of Comprehensive Income for each of the three years in the period ended October 31, 2018

Consolidated Balance Sheets as of October 31, 2018 and October 31, 2017

Consolidated Statements of Shareholders' Equity for each of the three years in the period ended October 31, 2018

Consolidated Statements of Cash Flows for each of the three years in the period ended October 31, 2018

Notes to Consolidated Financial Statements

Reports of Independent Registered Public Accounting Firm

#### **(a) 2. Financial Statement Schedule**

Schedule II Valuation and Qualifying Accounts and Reserves for each of the three years in the period ended October 31, 2018.

No other consolidated financial statement schedules are presented because the schedules are not required, because the required information is not present or not present in amounts sufficient to require submission of the schedule, or because the information required is included in the financial statements, including the notes thereto.

#### **(a) 3. Exhibits**

The exhibits listed on the accompanying index to exhibits are filed as part of this Annual Report on Form 10-K.

## NORDSON CORPORATION

### Index to Exhibits

(Item 15(a) (3))

| Exhibit Number | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (2)            | Plan of Acquisition, Reorganization or Arrangement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 2-a            | <a href="#">Agreement and Plan of Merger, dated as of February 20, 2017, by and among Nordson Corporation, Viking Merger Corp., Vention Medical Holdings, Inc. and VMHI Rep Services, LLC (incorporated herein by reference to Exhibit 2.1 to Registrant's Form 8-K dated April 5, 2017)**</a>                                                                                                                                                                                                                                                                                                                                                                                  |
| 2-b            | <a href="#">First Amendment to Agreement and Plan of Merger, dated as of March 30, 2017, by and among Nordson Corporation, Viking Merger Corp., Vention Medical Holdings, Inc. and VMHI Rep Services, LLC (incorporated herein by reference to Exhibit 2.2 to Registrant's Form 8-K dated April 5, 2017)</a>                                                                                                                                                                                                                                                                                                                                                                    |
| (3)            | Articles of Incorporation and By-Laws                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 3-a            | <a href="#">1989 Amended Articles of Incorporation (incorporated herein by reference to Exhibit 3-a to Registrant's Annual Report on Form 10-K for the year ended October 31, 2017)</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 3-a-1          | <a href="#">Certificate of Amendment to 1989 Amended Articles of Incorporation (incorporated herein by reference to Exhibit 3-a-1 to Registrant's Annual Report on Form 10-K for the year ended October 31, 2017)</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 3-b            | <a href="#">1998 Amended Regulations (incorporated herein by reference to Exhibit 3-b to Registrant's Annual Report on Form 10-K for the year ended October 31, 2016)</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| (4)            | Instruments Defining the Rights of Security Holders, including indentures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 4-b            | <a href="#">Amended and Restated Note Purchase and Private Shelf Agreement for \$200 million between Nordson Corporation and New York Life Investment Management LLC dated as of September 30, 2016 (incorporated herein by reference to Exhibit 4-b to Registrant's Annual Report on Form 10-K for the year ended October 31, 2016)</a>                                                                                                                                                                                                                                                                                                                                        |
| 4-e            | <a href="#">Master Note Purchase Agreement dated July 26, 2012 between Nordson Corporation and the purchasers listed therein</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 4-g            | <a href="#">Credit Agreement dated August 6, 2014 by and among Nordson Corporation, PNC Bank National Association and PNC Capital Markets LLC (incorporated herein by reference to Exhibit 10.3 to Registrant's Quarterly Report on Form 10-Q for the quarter ended July 31, 2014)</a>                                                                                                                                                                                                                                                                                                                                                                                          |
| 4-h            | <a href="#">Second Amended and Restated Credit Agreement dated February 20, 2015 among Nordson Corporation, various financial institutions named therein, and KeyBank, National Association as administrative agent (incorporated herein by reference to Exhibit 4.1 to Registrant's Form 8-K dated February 26, 2015)</a>                                                                                                                                                                                                                                                                                                                                                      |
| 4-h-1          | <a href="#">Amendment No. 1 dated June 28, 2018, to the Second Amended and Restated Credit Agreement, dated February 20, 2015, among Nordson Corporation, various financial institutions named therein, and KeyBank National Association, as administrative agent (incorporated herein by reference to Exhibit 4.2 to Registrant's Form 8-K dated June 28, 2018)</a>                                                                                                                                                                                                                                                                                                            |
| 4-i            | <a href="#">\$200 million Term Loan Facility Agreement dated April 10, 2015 among Nordson Corporation, various financial institutions named therein, and PNC Bank National Association, as administrative agent (incorporated herein by reference to Exhibit 4.2 to Registrant's Quarterly Report on Form 10-Q for the quarter ended April 30, 2015)</a>                                                                                                                                                                                                                                                                                                                        |
| 4-i-1          | <a href="#">First Amendment dated June 26, 2018 to the Term Loan Facility Agreement dated April 10, 2015 among Nordson Corporation, various financial institutions named therein and PNC Bank, National Association, as administrative agent (incorporated herein by reference to Exhibit 4.3 to Registrant's Form 8-K dated June 28, 2018)</a>                                                                                                                                                                                                                                                                                                                                 |
| 4-j            | <a href="#">Master Note Purchase Agreement dated July 28, 2015 between Nordson Corporation and the purchasers listed therein (incorporated herein by reference to Exhibit 4.1 to Registrant's Quarterly Report on Form 10-Q for the quarter ended July 31, 2015)</a>                                                                                                                                                                                                                                                                                                                                                                                                            |
| 4-k            | <a href="#">First Amendment and Joinder to Term Loan Agreement, dated as of March 31, 2017, by and among Nordson Corporation, the lenders party thereto and PNC Bank, National Association, as administrative agent and lender, and Term Loan Agreement, dated as of February 21, 2017, by and among Nordson Corporation, the lenders party thereto, PNC Bank, National Association, as lender and administrative agent, the joint lead arrangers and joint bookrunners party thereto, the co-syndication agents party thereto and the co-documentation agents party thereto (incorporated herein by reference to Exhibit 4.1 to Registrant's Form 8-K dated April 5, 2017)</a> |
| 4-k-1          | <a href="#">Second Amendment dated May 17, 2018 to Term Loan Agreement dated as of February 21, 2017, among Nordson Corporation, the lenders party thereto and PNC Bank, National Association, as administrative agent and lender (incorporated herein by reference to Exhibit 10.1 to Registrant's Form 8-K dated May 23, 2018)</a>                                                                                                                                                                                                                                                                                                                                            |
| 4-k-2          | <a href="#">Third Amendment dated June 26, 2018 to Term Loan Agreement dated as of February 21, 2017, among Nordson Corporation, various financial institutions named therein and PNC Bank, National Association, as administrative agent (incorporated herein by reference to Exhibit 4.4 to Registrant's Form 8-K dated June 28, 2018)</a>                                                                                                                                                                                                                                                                                                                                    |
| 4-l            | <a href="#">Master Note Purchase Agreement, dated as of June 22, 2018, by and among Nordson Corporation and the purchasers named therein (incorporated herein by reference to Exhibit 4.1 to Registrant's Form 8-K dated June 28, 2018)</a>                                                                                                                                                                                                                                                                                                                                                                                                                                     |

## NORDSON CORPORATION

### Index to Exhibits

(Item 15(a) (3))

| Exhibit Number | Description                                                                                                                                                                                                                                                                                          |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (10)           | Material Contracts                                                                                                                                                                                                                                                                                   |
| 10-b-2         | <a href="#"><u>Nordson Corporation 2005 Deferred Compensation Plan (as Amended and Restated Effective January 1, 2009) (incorporated herein by reference to Exhibit 10-b-2 to Registrant's Annual Report on Form 10-K for the year ended October 31, 2014)*</u></a>                                  |
| 10-b-3         | <a href="#"><u>First Amendment to the Nordson Corporation 2005 Deferred Compensation Plan (incorporated herein by reference to Exhibit 10.1 to Registrant's Quarterly Report on Form 10-Q for the quarter ended April 30, 2016)</u></a>                                                              |
| 10-c           | <a href="#"><u>Resolution of Board of Directors Authorizing Execution of Indemnification Agreements (incorporated herein by reference to Exhibit 10-c to Registrant's Annual Report on Form 10-K for the year ended October 31, 2013)*</u></a>                                                       |
| 10-c-1         | <a href="#"><u>Form of Indemnity Agreement between the Registrant and Directors, effective November 1, 2016 (incorporated herein by reference to Exhibit 10-c-1 to Registrant's Annual Report on Form 10-K for the year ended October 31, 2016)*</u></a>                                             |
| 10-c-2         | <a href="#"><u>Form of Indemnity Agreement between the Registrant and Executive Officers, effective November 1, 2016 (incorporated herein by reference to Exhibit 10-c-2 to Registrant's Annual Report on Form 10-K for the year ended October 31, 2016)*</u></a>                                    |
| 10-d-1         | <a href="#"><u>First Amendment to Nordson Corporation Excess Defined Contribution Retirement Plan*</u></a>                                                                                                                                                                                           |
| 10-d-2         | <a href="#"><u>Nordson Corporation 2005 Excess Defined Contribution Benefit Plan (incorporated herein by reference to Exhibit 10-d-2 to Registrant's Annual Report on Form 10-K for the year ended October 31, 2017)*</u></a>                                                                        |
| 10-d-3         | <a href="#"><u>Nordson Corporation 2005 Excess Defined Contribution Retirement Plan (as Amended and Restated Effective January 1, 2009) (incorporated herein by reference to Exhibit 10-d-3 to Registrant's Annual Report on Form 10-K for the year ended October 31, 2014)*</u></a>                 |
| 10-e-1         | <a href="#"><u>Second Amendment to Nordson Corporation Excess Defined Benefit Pension Plan*</u></a>                                                                                                                                                                                                  |
| 10-e-2         | <a href="#"><u>Nordson Corporation 2005 Excess Defined Benefit Pension Plan (incorporated herein by reference to Exhibit 10-e-2 to Registrant's Annual Report on Form 10-K for the year ended October 31, 2016)*</u></a>                                                                             |
| 10-e-3         | <a href="#"><u>Nordson Corporation 2005 Excess Defined Benefit Pension Plan (as Amended and Restated Effective January 1, 2009) (incorporated herein by reference to Exhibit 10-e-3 to Registrant's Annual Report on Form 10-K for the year ended October 31, 2014)*</u></a>                         |
| 10-g-1         | <a href="#"><u>Amended and Restated Nordson Corporation 2004 Long-Term Performance Plan (incorporated herein by reference to Exhibit 10-g-1 to Registrant's Annual Report on Form 10-K for the year ended October 31, 2013)*</u></a>                                                                 |
| 10-g-2         | <a href="#"><u>Nordson Corporation Amended and Restated 2012 Stock Incentive and Award Plan (incorporated by reference to Exhibit 10.1 to Registrant's Form 8-K dated March 2, 2018)*</u></a>                                                                                                        |
| 10-g-3         | <a href="#"><u>Nordson Corporation 2012 Stock Incentive and Award Plan, Form of Notice of Award – Key Employees (as amended November 24, 2014) (incorporated herein by reference to Exhibit 10-g-3 to Registrant's Annual Report on Form 10-K for the year ended October 31, 2014)*</u></a>          |
| 10-g-4         | <a href="#"><u>Nordson Corporation 2012 Stock Incentive and Award Plan, Form of Notice of Award – Executive Officers (as amended November 24, 2014) (incorporated herein by reference to Exhibit 10-g-4 to Registrant's Annual Report on Form 10-K for the year ended October 31, 2014)*</u></a>     |
| 10-g-5         | <a href="#"><u>Nordson Corporation 2012 Stock Incentive and Award Plan, Directors' Deferred Compensation Sub-Plan (incorporated herein by reference to Exhibit 10-g-5 to Registrant's Annual Report on Form 10-K for the year ended October 31, 2013)*</u></a>                                       |
| 10-g-6         | <a href="#"><u>Nordson Corporation 2012 Stock Incentive and Award Plan, Directors' Deferred Compensation Sub-Plan, Form of Notice of Award (incorporated herein by reference to Exhibit 10-g-6 to Registrant's Annual Report on Form 10-K for the year ended October 31, 2013)*</u></a>              |
| 10-g-7         | <a href="#"><u>Amended and Restated Nordson Corporation Directors' Deferred Compensation Sub-Plan (incorporated herein by reference to Exhibit 10-g-7 to Registrant's Annual Report on Form 10-K for the year ended October 31, 2017)*</u></a>                                                       |
| 10-h           | <a href="#"><u>Assurance Trust Agreement between Nordson Corporation and Key Trust Company of Ohio, N.A. amended and restated as of January 22, 2014 (incorporated herein by reference to Exhibit 10.1 to Registrant's Quarterly Report on Form 10-Q for the quarter ended January 31, 2014)</u></a> |
| 10-h-1         | <a href="#"><u>Form of Change in Control Retention Agreement between the Registrant and Executive Officers (incorporated herein by reference to Exhibit 10-h-1 to Registrant's Annual Report on Form 10-K for the year ended October 31, 2014)*</u></a>                                              |
| 10-i           | <a href="#"><u>Compensation Committee Rules of the Nordson Corporation 2004 Long Term Performance Plan governing directors' deferred compensation (incorporated herein by reference to Exhibit 10-i to Registrant's Annual Report on Form 10-K for the year ended October 31, 2016)*</u></a>         |

## NORDSON CORPORATION

### Index to Exhibits

(Item 15(a) (3))

| Exhibit Number | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10-j           | <a href="#"><u>Compensation Committee Rules of the Nordson Corporation Amended and Restated Nordson Corporation 2004 Long Term Performance Plan governing directors' deferred compensation (incorporated herein by reference to Exhibit 10-j to Registrant's Annual Report on Form 10-K for the year ended October 31, 2016)*</u></a>                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 10-m           | <a href="#"><u>Employment Agreement between Registrant and Michael F. Hilton (incorporated herein by reference to Exhibit 10-m to Registrant's Annual Report on Form 10-K for the year ended October 31, 2015)*</u></a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 10-n           | <a href="#"><u>Employment Agreement (Change in Control Retention Agreement) between Registrant and Michael F. Hilton (incorporated herein by reference to Exhibit 10-n to Registrant's Annual Report on Form 10-K for the year ended October 31, 2015)*</u></a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 10-o           | <a href="#"><u>Supplemental Retirement Agreement between the Registrant and Michael F. Hilton (incorporated herein by reference to Exhibit 10-o to Registrant's Annual Report on Form 10-K for the year ended October 31, 2016)*</u></a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| (21)           | Subsidiaries of the Registrant                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| (23)           | Consent of Independent Registered Public Accounting Firm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 31.1           | <a href="#"><u>Certification pursuant to Rule 13a-14(a)/15d-14(a) of the Securities Exchange Act of 1934 by the Chief Executive Officer, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002</u></a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 31.2           | <a href="#"><u>Certification pursuant to Rule 13a-14(a)/15d-14(a) of the Securities Exchange Act of 1934 by the Chief Financial Officer, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002</u></a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 32.1           | <a href="#"><u>Certification of CEO pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002</u></a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 32.2           | <a href="#"><u>Certification of CFO pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002</u></a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 99-a           | Form S-8 Undertakings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 101            | The following financial information from Nordson Corporation's Annual Report on Form 10-K for the year ended October 31, 2018, formatted in Extensible Business Reporting Language (XBRL): (i) the Consolidated Statements of Income for the years ended October 31, 2018, 2017 and 2016, (ii) the Consolidated Statements of Comprehensive Income for the years ended October 31, 2018, 2017 and 2016 (iii) the Consolidated Balance Sheets at October 31, 2018 and 2017, (iv) the Consolidated Statements of Changes in Shareholders' Equity for the years ended October 31, 2018, 2017 and 2016, (v) the Consolidated Statements of Cash Flows for the years ended October 31, 2018, 2017 and 2016, and (vi) Notes to Consolidated Financial Statements. |

\* Indicates management contract or compensatory plan, contract or arrangement in which one or more directors and/or executive officers of Nordson Corporation may be participants.

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

**Item 16. Form 10-K Summary**

None.

## Signatures

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

NORDSON CORPORATION

Date: December 14, 2018

By: /s/ Gregory A. Thaxton  
Gregory A. Thaxton  
Executive Vice President, Chief Financial Officer

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Nordson Corporation 78

# POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below hereby constitutes and appoints Gregory A. Thaxton as his or her true and lawful attorney-in-fact and agent with full power to act alone, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments to this Annual Report on Form 10-K, and to file the same, with all exhibits thereto, and all other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent, may lawfully do or cause to be done by virtue hereof.

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

| <u>Signatures</u>                                               | <u>Title</u>                                                                                                      | <u>Date</u>       |
|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|-------------------|
| <u>/s/ Michael F. Hilton</u><br>Michael F. Hilton               | Director, President and Chief Executive Officer (Principal Executive Officer)                                     | December 14, 2018 |
| <u>/s/ Gregory A. Thaxton</u><br>Gregory A. Thaxton             | Executive Vice President, Chief Financial Officer (Principal Financial Officer)<br>(Principal Accounting Officer) | December 14, 2018 |
| <u>/s/ Michael J. Merriman, Jr.</u><br>Michael J. Merriman, Jr. | Chairman of the Board                                                                                             | December 14, 2018 |
| <u>/s/ Lee C. Banks</u><br>Lee C. Banks                         | Director                                                                                                          | December 14, 2018 |
| <u>/s/ Randolph W. Carson</u><br>Randolph W. Carson             | Director                                                                                                          | December 14, 2018 |
| <u>/s/ Arthur L. George, Jr.</u><br>Arthur L. George, Jr.       | Director                                                                                                          | December 14, 2018 |
| <u>/s/ Frank M. Jaehnert</u><br>Frank M. Jaehnert               | Director                                                                                                          | December 14, 2018 |
| <u>/s/ Joseph P. Keithley</u><br>Joseph P. Keithley             | Director                                                                                                          | December 14, 2018 |
| <u>/s/ Mary G. Puma</u><br>Mary G. Puma                         | Director                                                                                                          | December 14, 2018 |
| <u>/s/ Victor L. Richey, Jr.</u><br>Victor L. Richey, Jr.       | Director                                                                                                          | December 14, 2018 |

**Schedule II – Valuation and Qualifying Accounts and Reserves**

|                                                  | <b>Balance at<br/>Beginning<br/>of Year</b> | <b>Charged to<br/>Expense</b> | <b>Deductions</b> | <b>Currency<br/>Effects</b> | <b>Balance<br/>at End<br/>of Year</b> |
|--------------------------------------------------|---------------------------------------------|-------------------------------|-------------------|-----------------------------|---------------------------------------|
| <b>Allowance for Doubtful Accounts</b>           |                                             |                               |                   |                             |                                       |
| 2016                                             | \$ 4,502                                    | 1,867                         | 945               | 111                         | \$ 5,535                              |
| 2017                                             | \$ 5,535                                    | 4,030                         | 349               | 575                         | \$ 9,791                              |
| 2018                                             | <b>\$ 9,791</b>                             | <b>1,185</b>                  | <b>1,189</b>      | <b>(207)</b>                | <b>\$ 9,580</b>                       |
| <b>Inventory Obsolescence and Other Reserves</b> |                                             |                               |                   |                             |                                       |
| 2016                                             | \$ 28,230                                   | 6,719                         | 6,096             | 471                         | \$ 29,324                             |
| 2017                                             | \$ 29,324                                   | 8,888                         | 4,530             | (542)                       | \$ 33,140                             |
| 2018                                             | <b>\$ 33,140</b>                            | <b>13,041</b>                 | <b>8,930</b>      | <b>294</b>                  | <b>\$ 37,545</b>                      |

NORDSON CORPORATION

\_\_\_\_\_

MASTER NOTE PURCHASE AGREEMENT

\_\_\_\_\_

Dated as of July 26, 2012

Initial Issuance of

\$68,000,000 3.07% Senior Notes, Series 2012-A, due July 25, 2025

\$75,000,000 3.13% Senior Notes, Series 2012-B, due July 26, 2024

\$37,000,000 2.62% Senior Notes, Series 2012-C, due July 26, 2021

\$20,000,000 2.27% Senior Notes, Series 2012-D, due July 26, 2017

Series 2012-A PPN: 655663 C#7

Series 2012-B PPN: 655663 D\*0

Series 2012-C PPN: 655663 D@8

Series 2012-D PPN: 655663 D#6

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**NORDSON CORPORATION**  
**28601 Clemens Road Westlake, Ohio 44145**

As of July 26, 2012

TO EACH OF THE PURCHASERS LISTED IN  
THE ATTACHED SCHEDULE A:

Ladies and Gentlemen:

The undersigned, Nordson Corporation, an Ohio corporation (herein called the “**Company**”), hereby agrees with you as set forth below. Reference is made to paragraph 10 hereof for definitions of capitalized terms used herein and not otherwise defined herein.

**1. AUTHORIZATION OF ISSUE NOTES.**

**1A. Description of Notes to be Initially Issued.** The Company has authorized the issue and sale of \$200,000,000 aggregate principal amount of its Senior Notes consisting of (i) \$68,000,000 aggregate principal amount of its 3.07% Senior Notes, Series 2012-A, due July 25, 2025 (the “**Series 2012-A Notes**”); (ii) \$75,000,000 aggregate principal amount of its 3.13% Senior Notes, Series 2012-B, due July 26, 2024 (the “**Series 2012-B Notes**”); (iii) \$37,000,000 aggregate principal amount of its 2.62% Senior Notes, Series 2012-C, due July 26, 2021 (the “**Series 2012-C Notes**”); and (iv) \$20,000,000 aggregate principal amount of its 2.27% Senior Notes, Series 2012-D, due July 26, 2017 (the “**Series 2012-D Notes**” and, collectively with the Series 2012-A Notes, the Series 2012-B Notes and the Series 2012-C Notes, the “**Series 2012 Notes**”, such term to include any such notes issued in substitution or exchange therefor pursuant to paragraph 11D of this Agreement). The Series 2012 Notes shall be substantially in the forms set out in Exhibit A, Exhibit B, Exhibit C and Exhibit D, with such changes therefrom, if any, as may be approved by the purchasers of such Series 2012 Notes, or series thereof, and the Company.

**1B. Additional Series of Notes.** In addition to the issuance and sale of the Series 2012 Notes, the Company may from time to time issue and sell one or more additional series of notes (the “Additional Notes” and together with the Series 2012 Notes, the “Notes”) pursuant to this Agreement, provided that the aggregate principal amount of all Additional Notes issued pursuant to this Agreement shall not exceed \$500,000,000. Each series of Additional Notes will be issued pursuant to a supplement to this Agreement (a “Supplement”) in substantially the form of Exhibit E, and will be subject to the following terms and conditions:

- (i) the designation of each series of Additional Notes shall distinguish such series from the Notes of all other series;
  - (ii) each series of Additional Notes may consist of different and separate tranches and may differ as to currency denominated outstanding principal amounts, maturity dates, interest rates and premiums or make-whole amounts, if any, and price and terms of redemption or payment prior to maturity;
-

(iii) all Notes issued under this Agreement, including pursuant to any Supplement, shall rank pari passu with each other and all other senior unsecured Indebtedness of the Company and its Subsidiaries;

(iv) each series of Additional Notes shall be dated the date of issue, bear interest at such rate or rates, mature on such date or dates, be subject to such mandatory or optional prepayments, if any, on the dates and with the make-whole amounts, premiums or breakage amounts, if any, as are provided in the Supplement under which such Additional Notes are issued, and shall have such additional or different conditions precedent to closing and such additional or different representations and warranties or other terms and provisions as shall be specified in such Supplement; and

(v) except to the extent provided in foregoing clause (iv), all of the provisions of this Agreement shall apply to all Additional Notes.

**1C. Guaranty Agreement.** The payment by the Company of all amounts due with respect to the Notes and the performance by the Company of its obligations under this Agreement will be guaranteed by each Subsidiary that, on or after the date of the Closing, is or becomes a guarantor under the Primary Credit Facility (individually, a “Guarantor of Payment” and collectively, the “Guarantors of Payment”), pursuant to a Guaranty Agreement in form and substance substantially similar to the form of guarantee, if any, given by any Subsidiary to the lenders under the Primary Credit Facility and otherwise completed in a manner reasonably satisfactory to you, as it hereafter may be amended or supplemented from time to time with the consent of the Guarantors (the “Guaranty Agreement”).

## **2. PURCHASE AND SALE OF NOTES; CLOSING.**

**2A. Purchase and Sale of Notes.** Subject to the terms and conditions of this Agreement, the Company will issue and sell to you and each of the other purchasers named in Schedule A (the “Other Purchasers”), and you and the Other Purchasers will purchase from the Company, at the Closing provided for in Section 3, Notes in the denomination, principal amount and series specified opposite your names in Schedule A at the purchase price of 100% of the principal amount thereof. Your obligation hereunder and the obligations of the Other Purchasers are several and not joint obligations and you shall have no liability to any Person for the performance or non-performance by any Other Purchaser hereunder.

**2B. Closing.** The sale and purchase of the Notes to be purchased by you and the Other Purchasers shall occur at the offices of Foley & Lardner LLP, 321 N. Clark Street, Suite 2800, Chicago, Illinois 60654 at 9:00 a.m., Chicago time, at a closing (the “Closing”) on any Business Day on or prior to July 26, 2012 as may be agreed upon by the Company and you and the Other Purchasers. At the Closing the Company will deliver to you the Notes to be purchased by you in the form of a single Note (or such greater number of Notes in denominations of at least \$500,000 as you may request) dated the date of the Closing and registered in your name (or in the name of your nominee), against delivery by you to the Company or their order of immediately available funds in the amount of the purchase price therefor by wire transfer of immediately available funds for the account of the Company (for the benefit of the Company) to account number 0751166 at KeyBank, N.A.,

ABA No. 041001039. If at the Closing the Company fails to tender such Notes to you as provided above in this paragraph 2B, or any of the conditions specified in paragraph 3 shall not have been fulfilled to your satisfaction, you shall, at your election, be relieved of all further obligations under this Agreement, without thereby waiving any rights you may have by reason of such failure or such nonfulfillment.

**3. CONDITIONS OF CLOSING.** Each Purchaser's obligation to purchase and pay for the Notes to be purchased by such Purchaser hereunder at the Closing is subject to the satisfaction, prior to or at the Closing, of the following conditions:

**3A. Certain Documents.** Such Purchaser shall have received original counterparts or, if satisfactory to such Purchaser, certified or other copies of all of the following, each duly executed and delivered by the party or parties thereto, in form and substance satisfactory to such Purchaser dated the date of the Closing unless otherwise indicated, and, on the date of the Closing, in full force and effect with no event having occurred and being then continuing that would constitute a default thereunder or constitute or provide the basis for the termination thereof:

(i) The Note(s) to be purchased by such Purchaser on the date of Closing in the form of Exhibit A hereto;

(ii) a Secretary's Certificate signed by the Secretary or Assistant Secretary and one other officer of the Company and each Guarantor of Payment, if any, certifying, among other things (a) as to the name, titles and true signatures of the officers of the Company or such Guarantor of Payment authorized to sign this Agreement, the Notes being delivered on the date of the Closing, any Guaranty Agreement or Confirmations being delivered on the date of the Closing and the other documents to be delivered in connection with this Agreement, (b) that attached thereto is a true, accurate and complete copy of the certificate of incorporation or other formation document of the Company or such Guarantor of Payment, as applicable, certified by the Secretary of State of the state of organization of the Company or such Guarantor of Payment, as applicable, as of a recent date, (c) that attached thereto is a true, accurate and complete copy of the by-laws, operating agreement or other organizational document of the Company or such Guarantor of Payment, as applicable, which were duly adopted and are in effect as of the date of the Closing and have been in effect immediately prior to and at all times since the adoption of the resolutions referred to in clause (d) below, (d) that attached thereto is a true, accurate and complete copy of the resolutions of the board of directors or other managing body of the Company or such Guarantor of Payment, as applicable, duly adopted at a meeting or by unanimous written consent of such board of directors or other managing body, authorizing the execution, delivery and performance of agreements necessary to effect the transactions in connection with this Agreement, and that such resolutions have not been amended, modified, revoked or rescinded, and are in full force and effect and are the only resolutions of the shareholders, partners or members of the Company or such Guarantor of Payment or of such board of directors or other managing body or any committee thereof relating to the subject matter thereof and (e) that no dissolution or liquidation proceedings as to the Company or any Subsidiary have been commenced or are contemplated;

(iii) a certificate of corporate or other type of entity and tax good standing for the Company from the Secretary of State of the state of organization of the Company; and

(iv) such other certificates, documents and agreements as you may reasonably request.

**3B. Opinion of Special Counsel for the Purchasers.** Such Purchaser shall have received from Foley & Lardner LLP, or such other counsel who is acting as special counsel for such Purchaser in connection with this transaction, a favorable opinion satisfactory to such Purchaser as to such matters incident to the matters herein contemplated as it may reasonably request.

**3C. Opinion of Company's Counsel.** Such Purchaser shall have received from Taft Stettinius & Hollister LLP, special counsel for the Company (or such other counsel designated by the Company and acceptable to such Purchaser), a favorable opinion satisfactory to such Purchaser, dated as of the date of the Closing, and substantially in the form of Exhibit F attached hereto and as to such other matters as such Purchaser may reasonably request. The Company, by its execution hereof, hereby requests and authorizes such special counsel to render such opinions and to allow such Purchaser to rely on such opinions, agrees that the issuance and sale of any Notes will constitute a reconfirmation of such request and authorization, and understands and agrees that each Purchaser receiving such an opinion will and is hereby authorized to rely on such opinion.

**3D. Representations and Warranties; No Default; Satisfaction of Conditions.** The representations and warranties contained in paragraph 8 shall be true on and at the time of Closing, both before and immediately after giving effect to the issuance of the Notes to be issued on the Closing and to the consummation of any other transactions contemplated hereby; there shall exist on the Closing no Event of Default or Default, both before and immediately after giving effect to the issuance of the Notes to be issued on the date of the Closing and to the consummation of any other transactions contemplated hereby; the Company shall have performed all agreements and satisfied all conditions required under this Agreement to be performed or satisfied on or before the date of the Closing; and the Company shall have delivered to such Purchaser an Officer's Certificate, dated as of the Closing, to each such effect.

**3E. Purchase Permitted by Applicable Laws.** The purchase of and payment for the Notes to be purchased by such Purchaser on the date of the Closing on the terms and conditions herein provided (including the use of the proceeds of such Notes by the Company) shall not violate any applicable law or governmental regulation (including, without limitation, Section 5 of the Securities Act or Regulation T, U or X of the Board of Governors of the Federal Reserve System) and shall not subject such Purchaser to any tax, penalty, liability or other onerous condition under or pursuant to any applicable law or governmental regulation, and you shall have received such certificates or other evidence as it may request to establish compliance with this condition. All necessary authorizations, consents, approvals, exceptions or other actions by or notices to or filings with any court or administrative or governmental body or other Person required in connection with the execution, delivery and performance of this Agreement and the Notes to be issued on the date of the Closing or the consummation of the transactions contemplated hereby or thereby shall have been issued or made, shall be final and in full force and effect and shall be in form and substance satisfactory to such Purchaser.

**3F. Compliance Certificates.** The Company shall have delivered to you such certificates, in form and substance satisfactory to such Purchaser, demonstrating that the issuance of the Notes on the date of the Closing is in compliance with the provisions of the Primary Credit Facility and any other Material Indebtedness Agreement as such Purchaser shall request, showing computations in reasonable detail.

**3G. Private Placement Numbers.** A Private Placement Number issued by Standard & Poor's CUSIP Service Bureau (in cooperation with the Securities Valuation Office of the National Association of Insurance Commissioners) shall have been obtained by Foley & Lardner LLP for each series of the Series 2012 Notes.

**3H. Fees and Expenses.** Without limiting the provisions of paragraph 11B hereof, the Company shall have paid the reasonable fees, charges and disbursements of any special counsel to the Purchasers in connection with this Agreement or the transactions contemplated hereby to the extent reflected in a statement of such counsel rendered to the Company at least one Business Day prior to the Closing.

**3I. Proceedings.** All corporate and other proceedings taken or to be taken in connection with the transactions contemplated hereby and all documents incident thereto shall be satisfactory in substance and form to such Purchaser, and such Purchaser shall have received all such counterpart originals or certified or other copies of such documents as it may reasonably request.

**3J. Funding Instructions.** At least three Business Days prior to the date of the Closing, each Purchaser shall have received written instructions signed by a Responsible Officer on letterhead of the Company confirming the information specified in Section 3 including (i) the name and address of the transferee bank, (ii) such transferee bank's ABA number and (iii) the account name and number into which the purchase price for the Notes is to be deposited.

**4. PREPAYMENTS.** The Series 2012 Notes shall be subject to prepayment only with respect to the required prepayments specified in paragraph 4A, the optional prepayments permitted by paragraph 4B, and upon acceleration pursuant to paragraph 7A.

**4A. Scheduled Required Prepayments of Series 2012 Notes.**

(i) Series 2012-A Notes. Payments of interest shall be made on the Series 2012-A Notes on January 26 and July 26 of each year, commencing on January 26, 2013. On July 26, 2018 and on each July 26 thereafter to and including July 26, 2024, the Company will prepay \$8,500,000 principal amount (or such lesser principal amount as shall then be outstanding of the Series 2012-A Notes at par and without payment of the Yield-Maintenance Amount.

(ii) Series 2012-B Notes. Payments of interest shall be made on the Series 2012-B Notes on January 26 and July 26 of each year, commencing on January 26, 2013. On July 26, 2020 and on each July 26 thereafter to and including July 26, 2023, the Company will prepay \$15,000,000 principal amount (or such lesser principal amount as shall then be outstanding of the Series 2012-B Notes at par and without payment of the Yield-Maintenance Amount.

(iii) Series 2012-C Notes. Payments of interest shall be made on the Series 2012-C Notes on January 26 and July 26 of each year, commencing on January 26, 2013.

On July 26, 2017 and on each July 26 thereafter to and including July 26, 2020, the Company will prepay \$7,400,000 principal amount (or such lesser principal amount as shall then be outstanding of the Series 2012-C Notes at par and without payment of the Yield-Maintenance Amount.

(iv) Series 2012-D Notes. Payments of interest shall be made on the Series 2012-C Notes on January 26 and July 26 of each year, commencing on January 26, 2013. No regularly scheduled prepayments are due on the Series 2012-D Notes prior to their stated maturity.

**4B. Optional Prepayment With Yield-Maintenance Amount.** The Company may, at its option, prepay in whole at any time or from time to time in part (in integral multiples of \$1,000,000 and in a minimum amount of \$5,000,000 on any one occurrence) one or more series of the Notes, at 100% of the principal amount so prepaid plus interest thereon to the prepayment date and the Yield-Maintenance Amount, if any, with respect to each such Note. Any partial prepayment of a series of Notes pursuant to this paragraph 4B shall be applied in satisfaction of required payments of principal thereof (including the required payment of principal due upon the maturity thereof) as selected by the Company.

**4C. Notice of Optional Prepayment.** The Company shall give the holder of each series of Notes to be prepaid pursuant to paragraph 4B irrevocable written notice of such prepayment not less than 10 Business Days prior to the prepayment date (which shall be a Business Day), specifying such prepayment date and the aggregate principal amount of each series of Notes, and the Notes held by such holder, to be prepaid on such date, and stating that such prepayment is to be made pursuant to paragraph 4B. Notice of prepayment having been given as aforesaid, the principal amount of the Notes specified in such notice, together with interest thereon to the prepayment date and together with the Yield-Maintenance Amount, if any, with respect thereto, shall become due and payable on such prepayment date.

**4D. Application of Prepayments.** In the case of each prepayment of less than the entire outstanding principal amount of all Notes of the series to be prepaid pursuant to paragraphs 4A or 4B, the principal amount so prepaid shall be allocated pro rata to all Notes of such series at the time outstanding in proportion to the respective outstanding principal amounts thereof.

**4E. No Acquisition of Notes.** The Company shall not, and shall not permit any of its Subsidiaries or Affiliates to, prepay or otherwise retire in whole or in part prior to their stated final maturity (other than by prepayment pursuant to paragraph 4A or 4B or upon acceleration of such final maturity pursuant to paragraph 7A), or purchase or otherwise acquire, directly or indirectly, Notes of any series held by any holder unless the Company or such Subsidiary or Affiliate shall have offered to prepay or otherwise retire or purchase or otherwise acquire, as the case may be, the same proportion of the aggregate principal amount of Notes of such series held by each other holder of Notes of such series at the time outstanding upon the same terms and conditions. Any Notes so prepaid or otherwise retired or purchased or otherwise acquired by the Company or any of its Subsidiaries or Affiliates shall not be deemed to be outstanding for any purpose under this Agreement.

**5. AFFIRMATIVE COVENANTS.** From the date of Closing and so long thereafter as any Note is outstanding and unpaid, the Company covenants as follows:

**5A. Money Obligations.** The Company covenants that it will, and shall cause each of its Subsidiaries to, pay in full (a) prior in each case to the date when penalties would attach, all taxes, assessments and governmental charges and levies (except only those so long as and to the extent that the same shall be contested in good faith by appropriate and timely proceedings and for which adequate reserves have been established in accordance with GAAP) for which it may be or become liable or to which any or all of its properties may be or become subject and the failure to pay would have a Material Adverse Effect; (b) all of its wage obligations to any employees required to be paid in compliance with the Fair Labor Standards Act (29 U.S.C. §§206-207) or any comparable provisions and the failure to pay would have a Material Adverse Effect; and (c) all of its other obligations calling for the payment of money (except only those so long as and to the extent that the same shall be contested in good faith and for which adequate reserves have been established in accordance with GAAP) before such payment becomes overdue and the failure to pay (i) would constitute a Default or Event of Default hereunder or (ii) have a Material Adverse Effect.

**5B. Financial Statements.** The Company covenants that it will deliver to each Significant Holder in duplicate:

(i) within forty-five (45) days after the end of each of the first three (3) quarter-annual periods of each fiscal year of the Company, balance sheets of the Company as of the end of such period and statements of income (loss), stockholders' equity and cash flow for the quarter and fiscal year to date periods, all prepared on a Consolidated basis, in accordance with GAAP, and in form and detail satisfactory to the Required Holders and certified by a Financial Officer of the Company; provided that delivery of the Company's quarterly report for any fiscal quarter of the Company on Form 10-Q as filed with the SEC shall satisfy the requirements of this subpart (i);

(ii) within ninety (90) days after the end of each fiscal year of the Company, (a) an annual audit report of the Company for that year prepared on a Consolidated and consolidating (but only as to the Company and its Subsidiaries) basis, in accordance with GAAP, and in form and detail satisfactory to the Required Holders and certified by an independent public accountant satisfactory to the Required Holders, which report shall include balance sheets and statements of income (loss), stockholders' equity and cash-flow for that period, provided that delivery of the Company's annual report for any fiscal year of the Company on Form 10-K as filed with the SEC shall satisfy the requirements of this subpart (ii)(a), and (b) a certificate by such accountant setting forth the Defaults and Events of Default coming to its attention during the course of its audit or, if none, a statement to that effect;

(iii) concurrently with the delivery of the financial statements in (i) and (ii) above, a Compliance Certificate; and

(iv) as soon as available, copies of all notices, reports, definitive proxy statements and other documents that are publicly available and sent by the Company to

its shareholders, to the holders of any of its debentures or bonds or the trustee of any indenture securing the same or pursuant to which they are issued, or sent by the Company (in final form) to any securities exchange or over the counter authority or system, or to the SEC or any similar federal agency having regulatory jurisdiction over the issuance of the Company's securities.

**5C. Electronic Delivery.** Documents required to be delivered pursuant to 5B(i), (ii) or (iv) (to the extent that any such documents are included in materials otherwise filed with the SEC) may be delivered electronically and if so delivered, shall be deemed to have been delivered on the date (i) on which the Company posts such documents, or provides a link thereto on the Company's website on the Internet at the website address; or (ii) on which such documents are posted on the Company's behalf on an Internet website, if any, to which each Significant Holder has access; provided that: (i) the Company shall deliver paper copies of such documents to any Significant Holder that requests that the Company deliver such paper copies until a written request to cease delivering paper copies is given by such Significant Holder and (ii) the Company shall notify each Significant Holder (by telecopier or electronic mail) of the posting of any such documents.

**5D. Financial Records.** The Company covenants that it will at all times maintain true and complete records and books of account, including, without limiting the generality of the foregoing, appropriate reserves for possible losses and liabilities, all in accordance with GAAP.

**5E. Franchises.** The Company will and shall cause each of its Subsidiaries to preserve and maintain at all times its existence, rights and franchises, except as otherwise permitted pursuant to paragraph 6D hereof; provided that the Company shall not be required to preserve or maintain such rights or franchises where the failure to do so will not have a Material Adverse Effect.

**5F. ERISA Compliance.** None of the Company or its Subsidiaries shall incur any material accumulated funding deficiency within the meaning of ERISA, or any material liability to the PBGC, established thereunder in connection with any ERISA Plan. The Company shall promptly notify each Significant Holder of any material taxes assessed, proposed to be assessed or that the Company has reason to believe may be assessed against the Company or any of its Subsidiaries by the Internal Revenue Service with respect to any ERISA Plan. As used in this Section "material" means the measure of a matter of significance that shall be determined as being an amount equal to five percent (5%) of the Consolidated Total Assets of the Company.

**5G. Notice.** The Company covenants that it will promptly notify each Significant Holder whenever, to the knowledge of a Financial Officer (a) any Default or Event of Default is likely to occur hereunder, or (b) any default, or event with which the passage of time or the giving of notice, or both, would cause a default, shall have occurred under any Material Indebtedness Agreement.

**5H. Environmental Compliance.** Except where the failure to do so would not have or result in a Material Adverse Effect, the Company covenants that it will, and shall cause each Subsidiary to, (i) comply in all respects with any and all Environmental Laws including, without limitation, all Environmental Laws in jurisdictions in which the Company or any Subsidiary

owns or operates a facility or site, arranges for disposal or treatment of hazardous substances, solid waste or other wastes, accepts for transport any hazardous substances, solid waste or other wastes or holds any interest in real property or otherwise and (ii) not allow the release or disposal of hazardous waste, solid waste or other wastes on, under or to any real property in which the Company or any of its Subsidiaries holds any interest or performs any of its operations, in violation of any Environmental Law. The Company shall defend, indemnify and hold the holders of Notes harmless against all costs, expenses, claims, damages, penalties and liabilities of every kind or nature whatsoever (including attorneys' fees) arising out of or resulting from the noncompliance of the Company or any of its Subsidiaries with any Environmental Law. Such indemnification shall survive any termination of this Agreement.

**5I. Pari Passu Ranking.** The Company covenants that the obligations of the Company under this Agreement and the Notes shall, and that it will, and will cause each Subsidiary to, take all necessary action to ensure that the obligations of the Company under this Agreement and the Notes shall, at all times rank at least pari passu in right of payment (to the fullest extent permitted by law) with all other senior unsecured Indebtedness of the Company and its Subsidiaries.

**6. NEGATIVE COVENANTS.** From the date of Closing and so long thereafter as any Note or other amount due hereunder is outstanding and unpaid, the Company covenants as follows:

**6A. Financial Covenants.**

**6A(1). Leverage Ratio.** The Company covenants that it shall not suffer or permit for the most recently completed four (4) fiscal quarters of the Company, the Leverage Ratio to exceed 3.75 to 1.00.

**6A(2). Interest Coverage Ratio.** The Company covenants that it shall not suffer or permit for the most recently completed four (4) fiscal quarters of the Company, the Interest Coverage Ratio to be less than 2.50 to 1.00.

**6B. Indebtedness.** The Company covenants that it will not and shall not permit any of its Subsidiaries to create, incur or have outstanding any obligation for borrowed money or any Indebtedness of any kind; provided, that this paragraph 6B shall not apply to:

- (i) the Notes;
- (ii) unsecured Indebtedness of the Company under the Primary Credit Facility;
- (iii) the unsecured Indebtedness of the Company under the 2008 Note Purchase Agreement in an aggregate principal amount not to exceed Fifty Million Dollars (\$50,000,000);
- (iv) the unsecured Indebtedness of the Company under the 2011 Note Purchase Agreement;

(v) the unsecured Indebtedness of the Company owing to The Bank of Tokyo-Mitsubishi UFJ, Ltd. up to the Dollar Equivalent of One Billion Japanese Yen (¥1,000,000,000);

(vi) loans or capital leases to the Company or any of its Subsidiaries for the purchase or lease of fixed assets, which loans or leases are secured by the assets being purchased or leased, so long as the aggregate principal amount of all such loans and leases for the Company and its Subsidiaries do not exceed the greater of (a) One Hundred Million Dollars (\$100,000,000) and (b) an amount equal to five percent (5%) of Consolidated Total Assets at any time;

(vii) Indebtedness owed by the Company or a Subsidiary (other than the Receivables Subsidiary) to the Company or another Subsidiary (other than the Receivables Subsidiary);

(viii) Indebtedness of the Receivables Subsidiary under the Permitted Receivables Facility, so long as (a) the funded amount, together with any other Indebtedness thereunder, does not exceed the greater of (1) Two Hundred Million Dollars (\$200,000,000) and (2) an amount equal to ten percent (10%) of Consolidated Total Assets at any time, and (b) the Company provides a copy of the documents evidencing such transaction to each Significant Holder; and

(ix) additional Indebtedness of the Company or any Subsidiary, to the extent not otherwise permitted pursuant to any of the foregoing clauses of this paragraph 6B, so long as (a) the Company will be in pro forma compliance as of the applicable measurement period with paragraph 6A hereof after giving effect to the incurrence of such Indebtedness, (b) no Event of Default shall exist prior to or after giving effect to the incurrence of any such Indebtedness and (c) after giving effect to the incurrence of such Indebtedness by any Subsidiary, the amount of outstanding Priority Indebtedness does not exceed an amount equal to fifteen percent (15%) of Consolidated Total Assets.

**6C. Liens.** The Company covenants and warrants that it will not, and will not permit any Subsidiary to create, assume or suffer to exist any Lien upon any of its property or assets, whether now owned or hereafter acquired; provided that this paragraph 6C shall not apply to the following:

(i) Liens for taxes not yet due or that are being actively contested in good faith by appropriate proceedings and for which adequate reserves have been established in accordance with GAAP;

(ii) other statutory Liens incidental to the conduct of its business or the ownership of its property and assets that (a) were not incurred in connection with the borrowing of money or the obtaining of advances or credit, and (b) do not in the aggregate materially detract from the value of its property or assets or materially impair the use thereof in the operation of its business;

(iii) easements or other minor defects or irregularities in title of real property not interfering in any material respect with the use of such property in the business of the Company or any of its Subsidiaries;

(iv) Liens securing the Notes;

(v) Liens on fixed assets securing the loans or capital leases pursuant to paragraph 6B(vi) hereof, provided that such Lien only attaches to the property being acquired or leased;

(vi) Liens on the Receivables Related Assets in connection with the Permitted Receivables Facility securing the obligations under the Permitted Receivables Facility; and

(vii) any other Liens, to the extent not otherwise permitted pursuant to subparts (i) through (vi) hereof, so long as the aggregate amount of Priority Indebtedness does not exceed at any time, for the Company and all Subsidiaries, an amount equal to fifteen percent (15%) of Consolidated Total Assets; provided, however, that no Liens that secure any obligations of the Company under the Primary Credit Facility, the 2008 Note Purchase Agreement or the 2011 Note Purchase Agreement shall be permitted under this clause (vii).

The Company shall not, and shall not permit any Subsidiary (other than the Receivables Subsidiary) to, enter into any Material Indebtedness Agreement (other than any contract or agreement entered into in connection with the Indebtedness permitted to be incurred pursuant to paragraph 6B(ii), (iii), (iv), (v), (vi) or (ix) hereof) that would prohibit the holders of the Notes from acquiring a security interest, mortgage or other Lien on, or a collateral assignment of, any of the property or assets of the Company or any of Subsidiaries.

**6D. Merger and Sale of Assets.** The Company covenants that it will not, and will not permit any Subsidiary to, merge or consolidate with any other Person, or sell, lease or transfer or otherwise dispose of any assets to any Person other than in the ordinary course of business, except that, if no Default or Event of Default shall then exist or immediately thereafter shall begin to exist:

(i) any Subsidiary (other than the Receivables Subsidiary) may merge with (a) the Company (provided that the Company shall be the continuing or surviving Person), or (b) any other Subsidiary (other than the Receivables Subsidiary);

(ii) the Company may sell, lease, transfer or otherwise dispose of any of its assets to any Subsidiary (other than the Receivables Subsidiary) and any Subsidiary (other than the Receivables Subsidiary) may sell, lease, transfer or otherwise dispose of any of its assets to (a) the Company, or (b) any Subsidiary (other than the Receivables Subsidiary);

(iii) in addition to any sale, lease, transfer or other disposition permitted pursuant to subparts (i) and (ii) above, the Company and any Subsidiary may sell accounts receivables and related rights to the Receivables Subsidiary in connection with the Permitted Receivables Facility;

(iv) any merger or consolidation that constitutes an Acquisition permitted pursuant to paragraph 6E hereof;  
and

(v) in addition to any sale, lease, transfer or other disposition permitted pursuant to subparts (i) through (iv) above, the Company or any Subsidiary (other than the Receivables Subsidiary) may sell, lease, transfer or otherwise dispose of any of its assets to any Person so long as the aggregate amount of all such assets sold, leased, transferred or otherwise disposed of by the Company and all of its Subsidiaries in any fiscal year does not exceed an amount equal to ten percent (10.0%) of Consolidated Total Assets as of the end of the immediately preceding fiscal year.

Notwithstanding the foregoing provisions of this paragraph 6D, the Company may, or may permit any Subsidiary to, sell, lease, transfer or otherwise dispose of its assets and the assets subject to such sale, lease, transfer or disposition shall not be subject to or included in any of the foregoing limitations of the preceding sentence if the net proceeds from such Disposition are, within 365 days of such sale, lease, transfer or disposition, are reinvested in productive assets of the Company or applied to the prepayment of the Notes or any other outstanding Indebtedness of the Company or any Subsidiary owed to a non-Affiliate ranking *pari passu* with or senior to the Notes. For purposes of foregoing sentence, the Company shall offer to prepay (not less than 30 or more than 60 days following such offer) the Notes on a pro rata basis at a price of 100% of the principal amount of the Notes to be prepaid (without any Yield-Maintenance Amount) together with interest accrued to the date of prepayment; provided that if any holder of the Notes declines such offer, the proceeds that would have been paid to such holder shall be offered pro rata to the other holders of the Notes that have accepted the offer. A failure by a holder of Notes to respond in writing not later than 10 Business Days prior to the proposed prepayment date to an offer to prepay made pursuant to this paragraph 6D shall be deemed to constitute a rejection of such offer by such holder. Whether or not such offers are accepted by holders, the entire principal amount of the Notes subject thereto shall be deemed to have been prepaid solely for purposes of this paragraph. Any prepayments of principal made pursuant to such offers shall be applied to scheduled payments of principal in inverse order of maturity.

**6E. Acquisitions.** The Company covenants that it will not, and will not permit any Subsidiary to, effect an Acquisition, except that the Company or any Subsidiary (other than the Receivables Subsidiary) may effect an Acquisition so long as (a) the Company shall be the surviving entity if such Acquisition is a merger or consolidation with the Company and if such Acquisition is a merger or consolidation with a Subsidiary, then the surviving entity shall be a Subsidiary on the consummation thereof; (b) the Board of Directors (or equivalent governing body) of the Person acquired shall have approved such Acquisition; and (c) no Default or Event of Default shall then exist or immediately thereafter shall begin to exist.

**6F. Affiliate Transactions.** The Company covenants that it will not, and will not permit any Subsidiary to, directly or indirectly, enter into or permit to exist any transaction (including, without limitation, the purchase, sale, lease or exchange of any property or the rendering of any service) with any Affiliate of the Company or its Subsidiaries on terms that are less favorable to the Company or such Subsidiary, as the case may be, than those that might be obtained at the time in a transaction with a non-Affiliate; provided, however, that the foregoing shall not prohibit (i) the payment of customary and reasonable directors' fees to directors who

are not employees of the Company or its Subsidiaries or any Affiliate thereof; or (ii) any transaction, including, but not limited to the transactions contemplated pursuant to the Permitted Receivables Facility, between the Company and an Affiliate that the Company reasonably determines in good faith is beneficial to the Company and its Affiliates as a whole and that is not entered into for the purpose of hindering the exercise by any holder of a Note of its rights or remedies under this Agreement or any other Transaction Document.

**6G. Restrictive Agreements.** Except as set forth in this Agreement, the Company covenants that it will not, and will not permit any Subsidiary (excluding the Receivable Subsidiary) to, directly or indirectly, create or otherwise cause or suffer to exist or become effective any encumbrance or restriction on the ability of any Subsidiary (excluding the Receivables Subsidiary) to (i) make, directly or indirectly, any Capital Distribution to the Company; (ii) make, directly or indirectly, loans or advances or capital contributions to the Company; or (iii) transfer, directly or indirectly, any of the properties or assets of such Subsidiary (excluding the Receivables Subsidiary) to the Company, except for such encumbrances or restrictions existing under or by reason of (1) applicable law, (2) customary non-assignment provisions in leases or other agreements entered in the ordinary course of business and consistent with past practices, (3) customary restrictions in security agreements or mortgages securing Indebtedness of the Company or its Subsidiaries to the extent such restrictions only restrict the transfer of the property subject to such security agreement or mortgage or (4) customary and reasonable restrictions in agreements necessary to obtain loans and credit facilities so long as such restrictions do not materially encumber the ability of the Subsidiaries taken as a whole to make Capital Distributions.

**6H. Guaranties of Payment; Guaranty Under Material Indebtedness Agreement.** The Company covenants that it will not permit any Subsidiary to become a Guarantor in respect of any Indebtedness under the Primary Credit Facility unless, prior to or concurrently therewith (i) the Company shall have caused each such Subsidiary to execute and deliver to each holder of Notes an executed joinder to the Guaranty Agreement and a certificate of the Secretary or Assistant Secretary of such Subsidiary certifying such Subsidiary's charter and by-laws (or comparable governing documents), resolutions of the board of directors (or comparable governing body) of such Subsidiary authorizing the execution and delivery of such Guaranty Agreement and incumbency and specimen signatures of the officers of such Subsidiary executing such documents and (ii) if any holder of any Indebtedness under the Primary Credit Facility shall be or become a party to an intercreditor agreement with any other holder of any Indebtedness under the Primary Credit Facility, then the holders of the Notes and all holders of Indebtedness under the Primary Credit Facility with respect to which any Subsidiary is a Guarantor shall have entered into an intercreditor agreement in form and substance customary and appropriate for such agreement and otherwise reasonably satisfactory to the Required Holders.

**6I. Terrorism Sanctions Regulations.** The Company covenants that it will not, and will not permit any Subsidiary to, (i) become a Person described or designated in the Specially Designated Nationals and Blocked Persons List of the Office of Foreign Assets Control or in Section 1 of the Anti-Terrorism Order or (ii) be in violation of any law, regulation, or list of any government agency (including, without limitation, the U.S. Office of Foreign Asset Control list, Executive Order No. 13224 or the USA Patriot Act) that prohibits or limits the conduct of business with or the receiving of funds, goods or services to or for the benefit of certain Persons specified therein or that prohibits or limits any Purchaser from purchasing the Notes hereunder from the Company or from otherwise conducting business with the Company or its Subsidiaries.

## 7. EVENTS OF DEFAULT.

**7A. Acceleration.** If any of the following events shall occur and be continuing for any reason whatsoever (and whether such occurrence shall be voluntary or involuntary or come about or be effected by operation of law or otherwise):

(i) (a) the principal of any Note or any Yield-Maintenance Amount shall not be paid in full punctually when due and payable or within three (3) Business Days thereafter, or (b) the interest on any Note or any fee shall not be paid in full punctually when due and payable or within five (5) Business Days thereafter; or

(ii) the Company or any Subsidiary shall fail or omit to perform and observe paragraphs 6A, 6B, 6C, 6D, 6E, 6G or 6H; or

(iii) the Company or any Subsidiary shall fail or omit to perform and observe any agreement or other provision (other than those referred to in paragraphs 7A(i) or 7A(ii) hereof) contained or referred to in this Agreement or any other Transaction Document that is on the Company's or such Subsidiary's part, as the case may be, to be complied with, and that Default shall not have been fully corrected within thirty (30) days after the giving of written notice thereof to the Company by the Required Holders that the specified Default is to be remedied; or

(iv) any representation, warranty or statement made by the Company or any Subsidiary in or pursuant to this Agreement or any other Transaction Document, or any other material information furnished by the Company or any Subsidiary in connection with the transactions contemplated hereby, shall be false or erroneous; or

(v) the Company or any of its Subsidiaries shall default in the payment in an amount in excess of Two Million Five Hundred Thousand Dollars (\$2,500,000) of principal, interest or fees due and owing upon any other obligation for borrowed money (other than the Notes), for all such obligations for all of the Company and its Subsidiaries in aggregate equal to or greater than the greater of (a) Fifty Million Dollars (\$50,000,000) and (b) an amount equal to three percent (3%) of Consolidated Total Assets beyond any period of grace provided with respect thereto, or in the performance or observance of any other agreement, term or condition contained in any agreement under which such obligation is created beyond any period of grace provided with respect thereto, if the effect of such default is to allow the acceleration of the maturity of such Indebtedness or to permit the holder thereof to cause such Indebtedness to become due prior to its stated maturity; or

(vi) the occurrence of one or more ERISA Events that (a) the Required Holders determine could have a Material Adverse Effect, or (b) results in a Lien on any of the assets of the Company or any Subsidiary in excess of the greater of (1) Fifty Million Dollars (\$50,000,000) and (2) an amount equal to three percent (3%) of Consolidated Total Assets; or

(vii) a Change of Control shall occur; or

(viii) a final judgment or order for the payment of money shall be rendered against any the Company or any Subsidiary by a court of competent jurisdiction, that remains unpaid or unstayed and undischarged for a period (during which execution shall not be effectively stayed) of thirty (30) days after the date on which the right to appeal has expired, provided that the aggregate of all such judgments for the Company and its Subsidiaries shall exceed the greater of (i) Fifty Million Dollars (\$50,000,000) and (ii) an amount equal to three percent (3%) of Consolidated Total Assets; or

(ix) (a) any material provision, in the reasonable opinion of any holder of the Notes, of this Agreement or any other Transaction Document shall at any time for any reason cease to be valid and binding and enforceable against the Company or any Subsidiary; (b) the validity, binding effect or enforceability of any material provision of this Agreement or any other Transaction Document against the Company or any Subsidiary shall be contested by such Company or any Subsidiary; (c) the Company or any Subsidiary shall deny that it has any or further liability or obligation thereunder; or (d) any material provision of this Agreement or any other Transaction Document shall be terminated, invalidated or set aside, or be declared ineffective or inoperative or in any way cease to give or provide to the holder of a Note the benefits purported to be created thereby; or

(x) the Company or any Subsidiary (other than any Subsidiary that individually, or in the aggregate when combined with all other Subsidiaries excluded from this paragraph 7A(x) by operation of this parenthetical, has assets less than or equal to the greater of (i) Fifty Million Dollars (\$50,000,000) and (ii) an amount equal to three percent (3%) of Consolidated Total Assets) shall (a) except as permitted pursuant to paragraph 6D hereof, discontinue business, (b) generally not pay its debts as such debts become due, (c) make a general assignment for the benefit of creditors, (d) apply for or consent to the appointment of a receiver, a custodian, a trustee, an interim trustee or liquidator of all or a substantial part of its assets, (e) be adjudicated a debtor or have entered against it an order for relief under Title 11 of the United States Code, as the same may be amended from time to time, (f) file a voluntary petition in bankruptcy, or have an involuntary proceeding filed against it and the same shall continue undismissed for a period of thirty (30) days from commencement of such proceeding or case, or file a petition or an answer seeking reorganization or an arrangement with creditors or seeking to take advantage of any other law (whether federal or state (or the foreign equivalent)) relating to relief of debtors, or admit (by answer, by default or otherwise) the material allegations of a petition filed against it in any bankruptcy, reorganization, insolvency or other proceeding (whether federal or state (or the foreign equivalent)) relating to relief of debtors, (g) suffer or permit to continue unstayed and in effect for thirty (30) consecutive days any judgment, decree or order entered by a court of competent jurisdiction, that approves a petition seeking its reorganization or appoints a receiver, custodian, trustee, interim trustee or liquidator of all or a substantial part of its assets, or (h) take, or omit to take, any action in order thereby to effect any of the foregoing; then (1) if such event is an Event of Default specified in clause (i) of this paragraph 7A, any holder of any Note (other than the Company or any of its Subsidiaries or Affiliates) may at its option, by notice in writing to the Company, declare all of the Notes held by such holder to be, and all of the Notes held by such holder shall thereupon be and become, immediately due and payable at par together with interest accrued thereon, without presentment, demand,

protest or other notice of any kind, all of which are hereby waived by the Company, (2) if such event is an Event of Default specified in clause (x) of this paragraph 7A with respect to the Company, all of the Notes at the time outstanding shall automatically become immediately due and payable together with interest accrued thereon and together with the Yield-Maintenance Amount, if any, with respect to each Note, without presentment, demand, protest or notice of any kind, all of which are hereby waived by the Company, and (3) if such event is not an Event of Default specified in clause (x) of this paragraph 7A with respect to the Company, the Required Holder(s) may at its or their option, by notice in writing to the Company, declare all of the Notes to be, and all of the Notes shall thereupon be and become, immediately due and payable together with interest accrued thereon and together with the Yield-Maintenance Amount, if any, with respect to each Note, without presentment, demand, protest or other notice of any kind, all of which are hereby waived by the Company. The Company acknowledges, and the parties hereto agree, that each holder of a Note has the right to maintain its investment in the Notes free from repayment by the Company (except as herein specifically provided for) and without the occurrence of an Event of Default and that the provision for payment of Yield-Maintenance Amount by the Company in the event the Notes are prepaid or are accelerated as a result of an Event of Default is intended to provide compensation for the deprivation of such right under such circumstances.

**7B. Rescission of Acceleration.** At any time after any or all of the Notes shall have been declared immediately due and payable pursuant to paragraph 7A, the Required Holder(s) may, by notice in writing to the Company, rescind and annul such declaration and its consequences if (i) the Company shall have paid all overdue interest on the Notes, the principal of and Yield-Maintenance Amount, if any, payable with respect to any Notes which have become due otherwise than by reason of such declaration, and interest on such overdue interest and overdue principal and Yield-Maintenance Amount at the Default Rate, (ii) the Company shall not have paid any amounts which have become due solely by reason of such declaration, (iii) all Events of Default and Defaults, other than non-payment of amounts which have become due solely by reason of such declaration, shall have been cured or waived pursuant to paragraph 11C, and (iv) no judgment or decree shall have been entered for the payment of any amounts due pursuant to the Notes or this Agreement. No such rescission or annulment shall extend to or affect any subsequent Event of Default or Default or impair any right arising therefrom.

**7C. Notice of Acceleration or Rescission.** Whenever any Note shall be declared immediately due and payable pursuant to paragraph 7A or any such declaration shall be rescinded and annulled pursuant to paragraph 7B, the Company shall forthwith give written notice thereof to the holder of each Note at the time outstanding.

**7D. Other Remedies.** If any Event of Default or Default shall occur and be continuing, the holder of any Note may proceed to protect and enforce its rights under this Agreement and such Note by exercising such remedies as are available to such holder in respect thereof under applicable law, either by suit in equity or by action at law, or both, whether for specific performance of any covenant or other agreement contained in this Agreement or in aid of the exercise of any power granted in this Agreement. No remedy conferred in this Agreement upon the holder of any Note is intended to be exclusive of any other remedy, and each and every such remedy shall be cumulative and shall be in addition to every other remedy conferred herein or now or hereafter existing at law or in equity or by statute or otherwise.

**8. REPRESENTATIONS, COVENANTS AND WARRANTIES .** The Company represents, covenants and warrants as follows:

**8A. Organization; Subsidiary Preferred Equity.** The Company is a corporation duly organized and existing in good standing under the laws of the State of Ohio, and each Subsidiary is duly organized and existing in good standing under the laws of the jurisdiction in which it is organized. The Company and each of its Subsidiaries have duly qualified or been duly licensed, and are authorized to do business and are in good standing, in each jurisdiction in which the ownership of their respective properties or the nature of their respective businesses makes such qualification or licensing necessary and in which the failure to be so qualified or licensed could be reasonably likely to have a Material Adverse Effect. No Subsidiary has any outstanding shares of any class of capital stock or other equity interests which has priority over any other class of capital stock or other equity interests of such Subsidiary as to dividends or distributions or in liquidation except as may be owned beneficially and of record by the Company or a Wholly-Owned Subsidiary. Each of its Subsidiary's legal name and its state or jurisdiction of organization has been set forth in the Company's most recent annual report on Form 10-K (excluding for any Subsidiary organized or no longer in existence since the date thereof). As of the date of this Agreement, no Subsidiary is a Guarantor with respect to any Indebtedness under the Primary Credit Facility or under any other Material Indebtedness Agreement.

**8B. Power and Authority.** The Company and each Subsidiary has all requisite corporate, limited liability company or partnership, as the case may be, power to own or hold under lease and operate their respective properties which it purports to own or hold under lease and to conduct its business as currently conducted and as currently proposed to be conducted. The Company has all requisite corporate power to execute, deliver and perform its obligations under this Agreement and the Notes. The execution, delivery and performance of this Agreement and the Notes has been duly authorized by all requisite corporate action, and this Agreement and the Notes have been duly executed and delivered by authorized officers of the Company and are valid obligations of the Company, legally binding upon and enforceable against the Company in accordance with their terms, except as such enforceability may be limited by (i) bankruptcy, insolvency, reorganization or other similar laws affecting the enforcement of creditors' rights generally and (ii) general principles of equity (regardless of whether such enforceability is considered in a proceeding in equity or at law).

**8C. Financial Statements.** The Company has made available to each Purchaser of any Note (i) its annual report on Form 10K for each of the three fiscal years of the Company most recently completed prior to the date of this Agreement (other than fiscal years completed within 90 days prior to such date for which audited financial statements have not been released) and (ii) quarterly report on Form 10-Q as at the end of the quarterly period (if any) most recently completed prior to such date and after the end of such fiscal year (other than quarterly periods completed within 45 days prior to such date for which financial statements have not been released). There has been no material adverse change in the business, property or assets, condition (financial or otherwise), operations or prospects of the Company and its Subsidiaries taken as a whole since the end of the most recent fiscal year for which such audited financial statements had been furnished to each Purchaser of any Note.

**8D. Actions Pending.** There is no action, suit, investigation or proceeding pending or, to the knowledge of the Company, threatened against the Company or any of its Subsidiaries, or any properties or rights of the Company or any of its Subsidiaries, by or before any court, arbitrator or administrative or governmental body which, individually or in the aggregate, could reasonably be expected to result in any Material Adverse Effect.

**8E. Outstanding Indebtedness.** Neither the Company nor any of its Subsidiaries has outstanding any Indebtedness except as permitted by paragraph 6B. There exists no default under the provisions of any instrument evidencing such Indebtedness or of any agreement relating thereto.

**8F. Title to Properties.** The Company has and each of its Subsidiaries has good and indefeasible title to its respective real properties (other than properties which it leases) and good title to all of its other respective properties and assets, including the properties and assets reflected in the most recent audited balance sheet referred to in paragraph 8B (other than properties and assets disposed of in the ordinary course of business), subject to no Lien of any kind except Liens permitted by paragraph 6C and except where the failure to have such title would not have a Material Adverse Affect. All leases necessary in any material respect for the conduct of the respective businesses of the Company and its Subsidiaries are valid and subsisting and are in full force and effect except for those leases which the failure to be so would not have a Material Adverse Effect.

**8G. Taxes.** The Company has, and each of its Subsidiaries has, filed all federal, state and other income tax returns which, to the knowledge of the officers of the Company and its Subsidiaries, are required to be filed, and each has paid all taxes as shown on such returns and on all assessments received by it to the extent that such taxes have become due, except such taxes as are being actively contested in good faith by appropriate proceedings for which adequate reserves have been established in accordance with generally accepted accounting principles or which the failure to file or pay would not have a Material Adverse Affect.

**8H. Conflicting Agreements and Other Matters.** Neither the Company nor any of its Subsidiaries is a party to any contract or agreement or subject to any charter, by-law, limited liability company operating agreement, partnership agreement or other corporate, limited liability company or partnership restriction which materially and adversely affects its business, property or assets, condition (financial or otherwise) or operations. Neither the execution nor delivery of this Agreement or the Notes, nor the offering, issuance and sale of the Notes, nor fulfillment of nor compliance with the terms and provisions hereof and of the Notes will conflict with, or result in a breach of the terms, conditions or provisions of, or constitute a default under, or result in any violation of, or result in the creation of any Lien upon any of the properties or assets of the Company or any of its Subsidiaries pursuant to, the charter, by-laws, limited liability company operating agreement or partnership agreement of the Company or any of its Subsidiaries, any award of any arbitrator or any agreement (including any agreement with stockholders, members or partners), instrument, order, judgment, decree, statute, law, rule or regulation to which the Company or any of its Subsidiaries is subject and the violation of which would have a Material Adverse Affect. Neither the Company nor any of its Subsidiaries is a party to, or otherwise subject to any provision contained in, any instrument evidencing Indebtedness of the Company or such Subsidiary, any agreement relating thereto or any other contract or agreement (including

its charter, by-laws, limited liability company operating agreement or partnership agreement), the violation of which would have a Material Adverse Affect, which limits the amount of, or otherwise imposes restrictions on the incurring of, Indebtedness of the Company of the type to be evidenced by the Notes except as set forth in the agreements listed in Schedule 8H attached hereto.

**8I. Offering of Notes.** Neither the Company nor any agent acting on its behalf has, directly or indirectly, offered the Notes or any similar security of the Company for sale to, or solicited any offers to buy the Notes or any similar security of the Company from, or otherwise approached or negotiated with respect thereto with, any Person other than Institutional Investors, and neither the Company nor any agent acting on its behalf has taken or will take any action which would subject the issuance or sale of the Notes to the provisions of Section 5 of the Securities Act or to the provisions of any securities or Blue Sky law of any applicable jurisdiction.

**8J. Use of Proceeds.** The proceeds of the Series 2012 Notes will be used for general corporate purposes. Neither the Company nor any Subsidiary owns or has any present intention of acquiring any “margin stock” as defined in Regulation U (12 CFR Part 221) of the Board of Governors of the Federal Reserve System (herein called “margin stock”). None of the proceeds of the sale of any Notes will be used, directly or indirectly, for the purpose, whether immediate, incidental or ultimate, of purchasing or carrying any margin stock or for the purpose of maintaining, reducing or retiring any Indebtedness which was originally incurred to purchase or carry any stock that is then a margin stock or for any other purpose which might constitute the sale or purchase of any Notes a “purpose credit” within the meaning of such Regulation U. The Company is not engaged principally, or as one of its important activities, in the business of extending credit for the purpose of purchasing or carrying margin stock. Neither the Company nor any agent acting on its behalf has taken or will take any action which might cause this Agreement or any Note to violate Regulation T, Regulation U or any other regulation of the Board of Governors of the Federal Reserve System or to violate the Exchange Act, in each case as in effect now or as the same may hereafter be in effect.

**8K. ERISA.** Except as referred to in the Company’s report as Form 10-K for its most recently concluded fiscal year, no accumulated funding deficiency (as defined in section 302 of ERISA and section 412 of the Code), whether or not waived, exists with respect to any Plan (other than a Multiemployer Plan). No liability to the PBGC has been or is expected by the Company or any ERISA Affiliate to be incurred with respect to any Plan (other than a Multiemployer Plan) by the Company, any Subsidiary or any ERISA Affiliate which is or could reasonably be expected to be materially adverse to the business, property or assets, condition (financial or otherwise) or operations of the Company and its Subsidiaries taken as a whole. Neither the Company, any Subsidiary nor any ERISA Affiliate has incurred or presently expects to incur any withdrawal liability under Title IV of ERISA with respect to any Multiemployer Plan which is or could reasonably be expected to be materially adverse to the business, property or assets, condition (financial or otherwise) or operations of the Company and its Subsidiaries taken as a whole. The execution and delivery of this Agreement and the issuance and sale of the Notes will be exempt from or will not involve any transaction which is subject to the prohibitions of section 406 of ERISA and will not involve any transaction in connection with which a penalty could be imposed under section 502(i) of ERISA or a tax could be imposed pursuant to section 4975 of the Code. The representation by the Company in the next preceding sentence is made in reliance upon and subject to the accuracy of each Purchaser’s representation in paragraph 9B.

**8L. Governmental Consent.** Neither the nature of the Company or of any Subsidiary, nor any of their respective businesses or properties, nor any relationship between the Company or any Subsidiary and any other Person, nor any circumstance in connection with the offering, issuance, sale or delivery of the Notes is such as to require any authorization, consent, approval, exemption or other action by or notice to or filing with any court or administrative or governmental body (other than routine filings after the date of the Closing for any Notes with the Securities and Exchange Commission and/or state Blue Sky authorities) in connection with the execution and delivery of this Agreement, the offering, issuance, sale or delivery of the Notes or fulfillment of or compliance with the terms and provisions hereof or of the Notes.

**8M. Compliance with Environmental and Other Laws.** The Company and its Subsidiaries and all of their respective properties and facilities have complied at all times and in all respects with all federal, state, local, foreign and regional statutes, laws, ordinances and judicial or administrative orders, judgments, rulings and regulations, including, without limitation, those relating to protection of the environment, except, in any such case, where failure to comply, individually or in the aggregate, could not reasonably be expected to result in a Material Adverse Effect.

**8N. Regulatory Status.** Neither the Company nor any of its Subsidiaries is (i) an “investment company” or a company “controlled” by an “investment company” within the meaning of the Investment Company Act of 1940, as amended, or an “investment adviser” within the meaning of the Investment Advisers Act of 1940, as amended, (ii) a “holding company” or a “subsidiary company” or an “affiliate” of a “holding company” or of a “subsidiary company” of a “holding company”, within the meaning of the Public Utility Holding Company Act of 2005, or (iii) a “public utility” within the meaning of the Federal Power Act, as amended.

**8O. Permits and Other Operating Rights.** The Company and each Subsidiary has all such valid and sufficient certificates of convenience and necessity, franchises, licenses, permits, operating rights and other authorizations from federal, state, foreign, regional, municipal and other local regulatory bodies or administrative agencies or other governmental bodies having jurisdiction over the Company or any Subsidiary or any of its properties, as are necessary for the ownership, operation and maintenance of its businesses and properties, as presently conducted and as proposed to be conducted while the Notes are outstanding, subject to exceptions and deficiencies which, individually or in the aggregate, could not reasonably be expected to have a Material Adverse Effect, and such certificates of convenience and necessity, franchises, licenses, permits, operating rights and other authorizations from federal, state, foreign, regional, municipal and other local regulatory bodies or administrative agencies or other governmental bodies having jurisdiction over the Company, any Subsidiary or any of its properties are free from restrictions or conditions which, individually or in the aggregate, could reasonably be expected to have a Material Adverse Effect, and neither the Company nor any Subsidiary is in violation of any thereof in any material respect.

**8P. Absence of Financing Statements, etc.** Except with respect to Liens permitted by paragraph 6C hereof there is, to the knowledge of a Financial Officer, no financing statement, security agreement, chattel mortgage, real estate mortgage or other document filed or recorded with any filing records, registry or other public office, that purports to cover, affect or give notice of any present or possible future Lien on, or security interest in, any assets or property of the Company or any of its Subsidiaries or any rights relating thereto.

**8Q. Foreign Assets Control Regulations, Etc.**

(i) Neither the sale of any Notes by the Company hereunder nor its use of the proceeds thereof will violate the Trading with the Enemy Act, as amended, or any of the foreign assets control regulations of the United States Treasury Department (31 CFR, Subtitle B, Chapter V, as amended) or any enabling legislation or executive order relating thereto.

(ii) Neither the Company nor any Subsidiary (i) is a Person described or designated in the Specially Designated Nationals and Blocked Persons List of the Office of Foreign Assets Control or in Section 1 of the Anti-Terrorism Order or (ii) engages in any dealings or transactions with any such Person. The Company and its Subsidiaries are in compliance, in all material respects, with the USA Patriot Act.

(iii) No part of the proceeds from the sale of any Notes hereunder will be used, directly or indirectly, for any payments to any governmental official or employee, political party, official of a political party, candidate for political office, or anyone else acting in an official capacity, in order to obtain, retain or direct business or obtain any improper advantage, in violation of the United States Foreign Corrupt Practices Act of 1977, as amended, assuming in all cases that such Act applies to the Company.

**8R. Disclosure.** Neither this Agreement nor any other document, certificate or statement furnished to any Purchaser by or on behalf of the Company in connection herewith contains any untrue statement of a material fact or omits to state a material fact necessary in order to make the statements contained herein and therein not misleading. There is no fact or facts peculiar to the Company or any of its Subsidiaries which materially adversely affects or in the future may (so far as the Company can now reasonably foresee), individually or in the aggregate, reasonably be expected to materially adversely affect the business, property or assets, or financial condition of the Company or any of its Subsidiaries and which has not been set forth in this Agreement or in the other documents, certificates and statements furnished to each Purchaser by or on behalf of the Company prior to the date hereof in connection with the transactions contemplated hereby. Any financial projections delivered to any Purchaser on or prior to the date of this Agreement are reasonable based on the assumptions stated therein and the best information available to the officers of the Company. The copy of the Primary Credit Facility furnished to each Purchaser prior to the date of this Agreement is a true and complete copy of the Primary Credit Facility as in effect on the date of this Agreement.

**8S. Hostile Tender Offers.** None of the proceeds of the sale of any Notes will be used to finance a Hostile Tender Offer.

**9. REPRESENTATIONS OF EACH PURCHASER.** Each Purchaser represents as follows:

**9A. Nature of Purchase.** Such Purchaser is not acquiring the Notes purchased by it hereunder with a view to or for sale in connection with any distribution thereof within the meaning of the Securities Act, provided that the disposition of such Purchaser's property shall at all times be and remain within its control.

**9B. Source of Funds.** At least one of the following statements is an accurate representation as to each source of funds (a “Source”) to be used by such Purchaser to pay the purchase price of the Notes to be purchased by such Purchaser hereunder:

(i) the Source is an “insurance company general account” (as that term is defined in the United States Department of Labor’s Prohibited Transaction Exemption (“**PTE**”) 95-60) in respect of which the reserves and liabilities (as defined by the annual statement for life insurance companies approved by the National Association of Insurance Commissioners (the “**NAIC Annual Statement**”)) for the general account contract(s) held by or on behalf of any employee benefit plan together with the amount of the reserves and liabilities for the general account contract(s) held by or on behalf of any other employee benefit plans maintained by the same employer (or affiliate thereof as defined in PTE 95-60) or by the same employee organization in the general account do not exceed 10% of the total reserves and liabilities of the general account (exclusive of separate account liabilities) plus surplus as set forth in the NAIC Annual Statement filed with such Purchaser’s state of domicile; or

(ii) the Source is a separate account that is maintained solely in connection with such Purchaser’s fixed contractual obligations under which the amounts payable, or credited, to any employee benefit plan (or its related trust) that has any interest in such separate account (or to any participant or beneficiary of such plan (including any annuitant)) are not affected in any manner by the investment performance of the separate account; or

(iii) the Source is either (a) an insurance company pooled separate account, within the meaning of PTE 90-1, or (b) a bank collective investment fund, within the meaning of the PTE 91-38 and, except as disclosed by such Purchaser to the Company in writing pursuant to this clause (iii), no employee benefit plan or group of plans maintained by the same employer or employee organization beneficially owns more than 10% of all assets allocated to such pooled separate account or collective investment fund; or

(iv) the Source constitutes assets of an “investment fund” (within the meaning of Part V of PTE 84-14 (the “**QPAM Exemption**”)) managed by a “qualified professional asset manager” or “QPAM” (within the meaning of Part V of the QPAM Exemption), no employee benefit plan’s assets that are included in such investment fund, when combined with the assets of all other employee benefit plans established or maintained by the same employer or by an affiliate (within the meaning of Section V(c)(1) of the QPAM Exemption) of such employer or by the same employee organization and managed by such QPAM, exceed 20% of the total client assets managed by such QPAM, the conditions of Part I(c) and (g) of the QPAM Exemption are satisfied, neither the QPAM nor a person controlling or controlled by the QPAM (applying the definition of “control” in Section V(e) of the QPAM Exemption) owns a 5% or more interest in the Company and (a) the identity of such QPAM and (b) the names of all employee benefit plans whose assets are included in such investment fund have been disclosed to the Company in writing pursuant to this clause (iv); or

(v) the Source constitutes assets of a “plan(s)” (within the meaning of Section IV of PTE 96-23 (the “**INHAM Exemption**”)) managed by an “in-house asset manager” or “INHAM” (within the meaning of Part IV of the INHAM Exemption), the conditions of Part I(a), (g) and (h) of the INHAM Exemption are satisfied, neither the INHAM nor a person controlling or controlled by the INHAM (applying the definition of “control” in Section IV(h) of the INHAM Exemption) owns a 5% or more interest in the Company and (a) the identity of such INHAM and (b) the name(s) of the employee benefit plan(s) whose assets constitute the Source have been disclosed to the Company in writing pursuant to this clause (v); or

(vi) the Source is a governmental plan; or

(vii) the Source is one or more employee benefit plans, or a separate account or trust fund comprised of one or more employee benefit plans, each of which has been identified to the Company in writing pursuant to this clause (vii); or

(viii) the Source does not include assets of any employee benefit plan, other than a plan exempt from the coverage of ERISA.

As used in this paragraph 9B, the terms “**employee benefit plan**”, “**governmental plan**”, and “**separate account**” shall have the respective meanings assigned to such terms in Section 3 of ERISA.

**10. DEFINITIONS; ACCOUNTING MATTERS.** For the purpose of this Agreement, the terms defined in paragraphs 10A and 10B (or within the text of any other paragraph) shall have the respective meanings specified therein and all accounting matters shall be subject to determination as provided in paragraph 10C.

**10A. Yield-Maintenance Terms.**

“**Called Principal**” shall mean, with respect to any Note, the principal of such Note that is to be prepaid pursuant to paragraph 4B or is declared to be or otherwise becomes due and payable pursuant to paragraph 7A, as the context requires.

“**Discounted Value**” shall mean, with respect to the Called Principal of any Note, the amount obtained by discounting all Remaining Scheduled Payments with respect to such Called Principal from their respective scheduled due dates to the Settlement Date with respect to such Called Principal, in accordance with accepted financial practice and at a discount factor (as converted to reflect the periodic basis on which interest on such Note is payable, if interest is payable other than on a semi-annual basis) equal to the Reinvestment Yield with respect to such Called Principal.

“**Reinvestment Yield**” shall mean, with respect to the Called Principal of any Note, 0.50% over the yield to maturity implied by (i) the yields reported as of 10:00 a.m. (New York City local time) on the Business Day next preceding the Settlement Date with respect to such Called Principal for the most recent actively traded on the run U.S. Treasury securities having a maturity equal to the Remaining Average Life of such Called Principal as of such Settlement Date on the display designated as “Page PX1” on Bloomberg Financial Markets (or

such other display as may replace Page PX1 on Bloomberg Financial Markets, or (ii) if such yields shall not be reported as of such time or the yields reported as of such time shall not be ascertainable (including by way of interpolation), the Treasury Constant Maturity Series yields reported, for the latest day for which such yields shall have been so reported as of the Business Day next preceding the Settlement Date with respect to such Called Principal, in Federal Reserve Statistical Release H.15 (or any comparable successor publication) for U.S. Treasury securities having a constant maturity equal to the Remaining Average Life of such Called Principal as of such Settlement Date. In the case of each determination under clause (i) or (ii) of the preceding sentence, such implied yield shall be determined, if necessary, by (a) converting U.S. Treasury bill quotations to bond equivalent yields in accordance with accepted financial practice and (b) interpolating linearly between (1) the applicable U.S. Treasury security with the maturity closest to and greater than such Remaining Average Life and (2) the applicable U.S. Treasury security with the maturity closest to and less than such Remaining Average Life. The Reinvestment Yield shall be rounded to that number of decimal places as appears in the coupon of the applicable Note.

**“Remaining Average Life”** shall mean, with respect to the Called Principal of any Note, the number of years (calculated to the nearest one-twelfth year) obtained by dividing (i) such Called Principal into (ii) the sum of the products obtained by multiplying (a) each Remaining Scheduled Payment of such Called Principal (but not of interest thereon) by (b) the number of years (calculated to the nearest one-twelfth year) which will elapse between the Settlement Date with respect to such Called Principal and the scheduled due date of such Remaining Scheduled Payment.

**“Remaining Scheduled Payments”** shall mean, with respect to the Called Principal of any Note, all payments of such Called Principal and interest thereon that would be due on or after the Settlement Date with respect to such Called Principal if no payment of such Called Principal were made prior to its scheduled due date.

**“Settlement Date”** shall mean, with respect to the Called Principal of any Note, the date on which such Called Principal is to be prepaid pursuant to paragraph 4B or is declared to be or otherwise becomes due and payable pursuant to paragraph 7A, as the context requires.

**“Yield-Maintenance Amount”** shall mean, with respect to any Note, an amount equal to the excess, if any, of the Discounted Value of the Called Principal of such Note over the sum of (i) such Called Principal plus (ii) interest accrued thereon as of (including interest due on) the Settlement Date with respect to such Called Principal. The Yield-Maintenance Amount shall in no event be less than zero.

#### **10B. Other Terms.**

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

**“Additional Notes”** shall have the meaning given in paragraph 1A.

**“Affiliate”** shall mean with respect to any specified Person, any other Person that, directly or indirectly, controls, is controlled by, or is under common control with such specified Person. “Control” (including the correlative meanings, the terms “controlling”, “controlled by” and “under common control with”) shall mean the possession, directly or indirectly of, the power to direct or cause the direction of the management and policies of such specified Person, whether through the ownership of voting securities, by contract or otherwise.

**“Alternate Currency”** shall mean Euros, Pounds Sterling, Japanese Yen or any other currency, other than Dollars, that is freely transferable and convertible into Dollars.

**“Anti-Terrorism Order”** means Executive Order No. 13,224 of September 24, 2001, Blocking Property and Prohibiting Transactions with Persons Who Commit, Threaten to Commit or Support Terrorism, 66 U.S. Fed. Reg. 49, 079 (2001), as amended.

**“Business Day”** shall mean any day other than (i) a Saturday or a Sunday and (ii) a day on which commercial banks in New York City or Cleveland, Ohio, are required or authorized to be closed.

**“Capital Distribution”** shall mean a payment made, liability incurred or other consideration given for the purchase, acquisition, redemption or retirement of any capital stock or other equity interest of the Company or any Subsidiary or as a dividend, return of capital or other distribution (other than any stock dividend, stock split or other equity distribution payable only in capital stock or other equity of the Company or such Subsidiary in question) in respect of the Company’s or any Subsidiary’s capital stock or other equity interest, including, but not limited to, any Share Repurchase.

**“Cash Equivalent”** shall mean any debt instrument that would be deemed a cash equivalent in accordance with GAAP.

**“Change of Control”** shall mean (a) the acquisition of, or, if earlier, the shareholder or director approval of the acquisition of, ownership or voting control, directly or indirectly, beneficially or of record, on or after the date of this Agreement, by any Person or group (within the meaning of Rule 13d-3 of the Exchange Act) other than the Current Management Team, of shares representing more than fifty percent (50%) of the aggregate ordinary Voting Power represented by the issued and outstanding capital stock of the Company; (b) the occupation of a majority of the seats (other than vacant seats) on the board of directors of the Company by persons who were neither (i) nominated by the board of directors of the Company nor (ii) appointed by directors so nominated; or (c) the occurrence of a change of control, or other similar provision, as defined in any Material Indebtedness Agreement.

**“Closing”** shall have the meaning given in paragraph 2B.

**“Code”** shall mean the Internal Revenue Code of 1986, as amended, together with the rules and regulations promulgated thereunder.

**“Compliance Certificate”** shall mean a certificate, substantially in the form of the attached Exhibit G.

**“Consideration”** shall mean, in connection with an Acquisition, the aggregate consideration paid, including borrowed funds, cash, the issuance of securities or notes, the assumption or incurring of liabilities (direct or contingent), the payment, in excess of fair and reasonable amounts, of consulting fees or fees for a covenant not to compete and any other consideration paid for the purchase.

**“Consolidated”** shall mean the resultant consolidation of the financial statements of the Company and its Subsidiaries in accordance with GAAP, including principles of consolidation consistent with those applied in preparation of the consolidated financial statements referred to in paragraph 5B hereof.

**“Consolidated Depreciation and Amortization Charges”** shall mean, for any period, the aggregate of all depreciation and amortization charges for fixed assets, leasehold improvements and general intangibles (specifically including goodwill) as well as impairments thereof and any losses traced to the write-off of goodwill, fixed assets, leasehold improvements and general intangibles associated with the disposal or exiting of a business of the Company or any of its Subsidiaries for such period, all as determined on a Consolidated basis and in accordance with GAAP.

**“Consolidated EBIT”** shall mean, for any period, on a Consolidated basis and in accordance with GAAP, Consolidated Net Earnings for such period plus the aggregate amounts deducted in determining such Consolidated Net Earnings in respect of (a) income taxes, (b) Consolidated Interest Expense, (c) any non-cash charges taken in accordance with GAAP, (d) any non-cash charges relating to annual costs associated with expensing the Company’s employee stock option program if the Company is required or chooses to do so, and (e) any non-cash charges.

**“Consolidated EBITDA”** shall mean, for any period, on a Consolidated basis and in accordance with GAAP, Consolidated EBIT plus Consolidated Depreciation and Amortization Charges.

**“Consolidated Interest Expense”** shall mean, for any period, the interest expense of the Company for such period, as determined on a Consolidated basis and in accordance with GAAP, and shall include that portion of the expenses of a Permitted Receivables Facility that would be the equivalent to interest expense if a Company obtained funding in a manner that would give rise to interest expense, in an amount approximately equal to the amount of the Permitted Receivables Facility.

**“Consolidated Net Earnings”** shall mean, for any period, the net income (loss) of the Company for such period, as determined on a Consolidated basis and in accordance with GAAP.

**“Consolidated Total Assets”** shall mean the book value of all assets of the Company and its Subsidiaries, as determined on a Consolidated basis and in accordance with GAAP, based upon the financial statements of the Company for the most recently completed fiscal quarter.

**“Consolidated Trailing EBITDA”** shall mean the sum of (a) Consolidated EBITDA, plus (b)(i) without duplication, the EBITDA of Subsidiaries acquired by the Company and its Subsidiaries during the most recently completed four (4) fiscal quarters to the extent that such EBITDA of Subsidiaries acquired is confirmed by audited financial or other information (which other information need not be audited or auditable) minus (ii) the EBITDA of Subsidiaries disposed of by the Company and its Subsidiaries during the most recently completed four (4) fiscal quarters; provided, however, that, non-recurring gains shall be excluded from the determination of Consolidated Trailing EBITDA.

**“Consolidated Trailing Interest Expense”** shall mean the sum of (a) Consolidated Interest Expense, plus (b)(i) without duplication, the interest expense of Subsidiaries acquired by the Company and its Subsidiaries during the most recently completed four (4) fiscal quarters to the extent that such interest expense of such Subsidiaries acquired is confirmed by audited financial or other information (which other information need not be audited or auditable), minus (ii) the interest expense of Subsidiaries disposed of by the Company and its Subsidiaries during the most recently completed four (4) fiscal quarters.

**“Consolidated Trailing Net Earnings”** shall mean the sum of (a) Consolidated Net Earnings, plus (b)(i) without duplication, the Net Earnings of Subsidiaries acquired by the Company and its Subsidiaries during the most recently completed four (4) fiscal quarters to the extent that such Net Earnings of such Subsidiaries acquired is confirmed by audited financial or other information (which other information need not be audited or auditable), minus (ii) the Net Earnings of Subsidiaries disposed of by the Company and its Subsidiaries during the most recently completed four (4) fiscal quarters.

**“Controlled Group”** shall mean a Company and each Person required to be aggregated with a Company under Code Sections 414(b), (c), (m) or (o).

**“Current Management Team”** shall mean any group comprised of the chief executive officer, the chief operating officer, the chief financial officer and other senior management of the Company (or any combination thereof) as in place on the date of this Agreement, and their respective spouses and children (and/or trusts of which the only beneficiaries are such members of senior management and their respective spouses and children) or any “group” (within the meaning of Rule 13d under the Exchange Act) that includes at least three (3) of such members of senior management, together with their “affiliates” and “associates” (within the meaning of Rule 12b-2 under the Exchange Act).

**“Default”** shall mean any of the events specified in paragraph 7A, whether or not any requirement for such event to become an Event of Default has been satisfied.

**“Default Rate”** shall mean, with respect to any Note, a rate per annum from time to time equal to the lesser of (i) the maximum rate permitted by applicable law, and (ii) the greater of (a) 2.00% per annum above the rate of interest stated in such Note, or (b) 2.00% over the rate of interest publicly announced by Wells Fargo Bank, National Association, from time to time in New York City as its Prime Rate.

**“Depreciation and Amortization Charges”** shall mean, with respect to any Person for any period, in accordance with GAAP, the aggregate of all such charges for fixed assets, leasehold improvements and general intangibles (specifically including goodwill) of such Person as well as impairments thereof and any losses traced to the write-off of goodwill, fixed assets, leasehold improvements and general intangibles associated with the disposal or exiting of a business by such Person for such period.

**“Dollar” and the sign “\$”** shall mean lawful money of the United States of America.

**“Dollar Equivalent”** of any amount shall mean the Dollar equivalent of such amount, determined by the Company on the basis of its spot rate at approximately 11:00 A.M. London time on the date for which the Dollar equivalent amount of such amount is being determined, for the purchase of the relevant Alternate Currency with Dollars for delivery on such date.

**“EBITDA”** shall mean, for any period, in accordance with GAAP, Net Earnings for such period, plus the aggregate amounts deducted in determining such Net Earnings in respect of (a) income taxes, (b) interest expense, and (c) Depreciation and Amortization Charges.

**“Environmental Laws”** shall mean all provisions of law, statutes, ordinances, rules, regulations, permits, licenses, judgments, writs, injunctions, decrees, orders, awards and standards promulgated by the government of the United States of America or any other applicable country or sovereignty or by any state or municipality thereof or by any court, agency, instrumentality, regulatory authority or commission of any of the foregoing concerning health, safety and protection of, or regulation of the discharge of substances into, the environment.

**“ERISA”** shall mean the Employee Retirement Income Security Act of 1974, as amended from time to time, and the regulations promulgated pursuant thereto.

**“ERISA Affiliate”** shall mean any corporation which is a member of the same controlled group of corporations as the Company within the meaning of section 414(b) of the Code, or any trade or business which is under common control with the Company within the meaning of section 414(c) of the Code.

**“ERISA Event”** shall mean (a) the existence of a condition or event with respect to an ERISA Plan that presents a risk of the imposition of an excise tax or any other liability on a Company or of the imposition of a Lien on the assets of the Company or its Subsidiaries; (b) the engagement by a Controlled Group member in a non-exempt “prohibited transaction” (as defined under ERISA Section 406 or Code Section 4975) or a breach of a fiduciary duty under ERISA that could result in liability to a Company; (c) the application by a Controlled Group member for

a waiver from the minimum funding requirements of Code Section 412 or ERISA Section 302 or a Controlled Group member is required to provide security under Code Section 401(a)(29) or ERISA Section 307; (d) the occurrence of a Reportable Event with respect to any Pension Plan as to which notice is required to be provided to the PBGC; (e) the withdrawal by a Controlled Group member from a Multiemployer Plan in a “complete withdrawal” or a “partial withdrawal” (as such terms are defined in ERISA Sections 4203 and 4205, respectively); (f) the involvement of, or occurrence or existence of any event or condition that makes likely the involvement of, a Multiemployer Plan in any reorganization under ERISA Section 4241; (g) the failure of an ERISA Plan (and any related trust) that is intended to be qualified under Code Sections 401 and 501 to be so qualified or the failure of any “cash or deferred arrangement” under any such ERISA Plan to meet the requirements of Code Section 401(k); (h) the taking by the PBGC of any steps to terminate a Pension Plan or appoint a trustee to administer a Pension Plan, or the taking by a Controlled Group member of any steps to terminate a Pension Plan; (i) the failure by a Controlled Group member or an ERISA Plan to satisfy any requirements of law applicable to an ERISA Plan; (j) the commencement, existence or threatening of a claim, action, suit, audit or investigation with respect to an ERISA Plan, other than a routine claim for benefits; or (k) any incurrence by or any expectation of the incurrence by a Controlled Group member of any liability for post-retirement benefits under any Welfare Plan, other than as required by ERISA Section 601, et. seq. or Code Section 4980B, that, as to (a) through (k) above, would reasonably be likely to have or result in a Material Adverse Effect.

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

**“Event of Default”** shall mean any of the events specified in paragraph 7A, provided that there has been satisfied any requirement in connection with such event for the giving of notice, or the lapse of time, or the happening of any further condition, event or act.

**“Exchange Act”** shall mean the Securities Exchange Act of 1934, as amended.

**“Financial Officer”** shall mean any of the following officers: chief executive officer, president, vice president-finance, chief financial officer, controller or treasurer. Unless otherwise qualified, all references to a Financial Officer in this Agreement shall refer to a Financial Officer of the Company.

**“Guarantor”** shall mean a Person that pledges its credit or property in any manner for the payment or other performance of the indebtedness, contract or other obligation of another and includes (without limitation) any guarantor (whether of payment or of collection), surety, co-maker or co-borrower, endorser or Person that agrees conditionally or otherwise to make any purchase, loan or investment in order thereby to enable another to prevent or correct a default of any kind.

**“Guarantor of Payment”** shall have the meaning given in paragraph 1C.

**“Guaranty Agreement”** shall have the meaning given in paragraph 1C.

**“Hostile Tender Offer”** shall mean, with respect to the use of proceeds of any Note, any offer to purchase, or any purchase of, shares of capital stock of any corporation or equity interests in any other entity, or securities convertible into or representing the beneficial ownership of, or rights to acquire, any such shares or equity interests, if such shares, equity interests, securities or rights are of a class which is publicly traded on any securities exchange or in any over-the-counter market, other than purchases of such shares, equity interests, securities or rights representing less than 5% of the equity interests or beneficial ownership of such corporation or other entity for portfolio investment purposes, and such offer or purchase has not been duly approved by the board of directors of such corporation or the equivalent governing body of such other entity prior to the date on which such Notes are issued.

**“including”** shall mean, unless the context clearly requires otherwise, “including without limitation”, whether or not so stated.

**“Indebtedness”** shall mean, for the Company or any Subsidiary (excluding in all cases trade payables payable in the ordinary course of business by the Company or such Subsidiary), without duplication, (a) all obligations to repay borrowed money, direct or indirect, incurred, assumed, or guaranteed, (b) all obligations for the deferred purchase price of capital assets, in each case, incurred outside of the ordinary course of business, (c) all obligations under conditional sales or other title retention agreements (other than a true consignment), in each case, incurred outside of the ordinary course of business, (d) all synthetic leases, (e) all lease obligations that have been capitalized on the books of the Company or such Subsidiary in accordance with GAAP, (f) all obligations of the Company or such Subsidiary with respect to asset securitization financing programs, including, but not limited to, all indebtedness under the Permitted Receivables Facility, and (g) all material obligations arising outside the ordinary course of business to advance funds to, or to purchase assets, property or services from, any other Person in order to maintain the financial condition of such Person.

**“Institutional Investor”** shall mean any insurance company, commercial, investment or merchant bank, finance company, mutual fund, registered money or asset manager, savings and loan association, credit union, registered investment advisor, pension fund, investment company, licensed broker or dealer, “qualified institutional buyer” (as such term is defined under Rule 144A promulgated under the Securities Act) or “accredited investor” (as such term is defined in Regulation D promulgated under the Securities Act).

**“Interest Coverage Ratio”** shall mean, for the most recently completed four (4) fiscal quarters of the Company, on a Consolidated basis and in accordance with GAAP, the ratio of (a) Consolidated Trailing EBITDA to (b) Consolidated Trailing Interest Expense, as determined after the conclusion of most recently completed fiscal quarter in accordance with the Company’s customary financial reporting practices.

**“Leverage Ratio”** shall mean, at any time, for the most recently completed four (4) fiscal quarters of the Company, on a Consolidated basis and in accordance with GAAP, the ratio of (a)(i) Total Indebtedness minus (ii) the aggregate amount of cash, Cash Equivalents and other marketable securities of the Company and its Subsidiaries as set forth on the financial statements of the Company and its Subsidiaries for the most recently completed fiscal quarter that are not subject to a Lien (other than a Lien in favor of the holders of the Notes), to (b) Consolidated Trailing EBITDA, as determined after the conclusion of most recently completed fiscal quarter in accordance with the Company’s customary financial reporting practices.

**“Lien”** shall mean any mortgage, security interest, lien (statutory or other), charge, encumbrance on, pledge or deposit of, or conditional sale, leasing, sale with a right of redemption or other title retention agreement and any capitalized lease with respect to any property (real or personal) or asset.

**“Material Adverse Effect”** shall mean a material adverse effect on (a) the business, operations, property or condition (financial or otherwise) of the Company and its Subsidiaries taken as a whole, or (b) the validity or enforceability of this Agreement or any of the other Transaction Documents or the rights and remedies of the holders of the Notes hereunder or thereunder.

**“Material Indebtedness Agreement”** shall mean any debt instrument, lease (capital, operating or otherwise), guaranty, contract, commitment, agreement or other arrangement evidencing any Indebtedness of the Company or any Subsidiary in an amount equal to or greater than the greater of (i) Fifty Million Dollars (\$50,000,000) and (ii) an amount equal to five percent (5%) of Consolidated Total Assets.

**“Multiemployer Plan”** shall mean a Pension Plan that is subject to the requirements of Subtitle E of Title IV of ERISA.

**“Net Earnings”** shall mean, for any period, the net income (loss) for such period, determined in accordance with GAAP.

**“Notes”** shall have the meaning given in paragraph 1B hereof.

**“Officer’s Certificate”** shall mean a certificate signed in the name of the Company by a Responsible Officer of the Company.

**“Other Purchasers”** shall have the meaning given in paragraph 2A.

**“PBGC”** shall mean the Pension Benefit Guaranty Corporation, or any successor or replacement entity thereto under ERISA.

**“Pension Plan”** shall mean an ERISA Plan that is a “pension plan” (within the meaning of ERISA Section 3(2)).

**“PNC Term Loan Agreement”** shall mean that certain Credit Agreement dated as of June 4, 2012 by and among, inter alia, the Company and PNC Bank, National Association, as Administrative Agent.

**“Purchaser”** means each purchaser listed in Schedule A.

**“Permitted Receivables Facility”** shall mean an accounts receivable facility whereby the Company or its Subsidiaries sell or transfer the accounts receivables of the Company or its Subsidiaries to the Receivables Subsidiary which in turn transfers to a buyer, purchaser or lender undivided fractional interests in such accounts receivable, so long as (a) no portion of the Indebtedness or any other obligation (contingent or otherwise) under such Permitted Receivables Facility is guaranteed by the Company or any Subsidiary, (b) there is no

recourse or obligation to the Company or any Subsidiary (other than the Receivables Subsidiary) whatsoever other than pursuant to customary representations, warranties, covenants and indemnities entered into in the ordinary course of business in connection with such Permitted Receivables Subsidiary, and (c) neither the Company nor any Subsidiary (other than the Receivables Subsidiary) provides, either directly or indirectly, any other credit support of any kind in connection with such Permitted Receivables Facility other than as set forth in subpart (b) of this definition.

**“Person”** shall mean any individual, sole proprietorship, partnership, joint venture, unincorporated organization, corporation, limited liability company, institution, trust, estate, government or other agency or political subdivision thereof or any other entity.

**“Plan”** shall mean any employee pension benefit plan (as such term is defined in section 3 of ERISA) which is or has been established or maintained, or to which contributions are or have been made, by the Company or any ERISA Affiliate.

**“Primary Credit Facility”** shall mean the \$500 million unsecured multicurrency credit facility pursuant to the terms and conditions of that certain credit agreement dated as of December 9, 2011, by the Company and the Banks (as defined in therein) with KeyBank National Association and J.P. Morgan Securities Inc. as co-lead arrangers, as amended, supplemented, restated, extended, refinanced, replaced or otherwise modified from time to time.

**“Priority Indebtedness”** shall mean, without duplication, the sum of (a) all Indebtedness of Subsidiaries permitted by paragraph 6B(ix) and (b) all Indebtedness of the Company secured by any Liens permitted by paragraph 6C(vii).

**“Receivables Related Assets”** shall mean accounts receivable, instruments, chattel paper, obligations, general intangibles and other similar assets, in each case relating to receivables subject to the Permitted Receivables Facility, including interests in merchandise or goods, the sale or lease of which gave rise to such receivables, related contractual rights, guaranties, insurance proceeds, collections and proceeds of all of the foregoing.

**“Receivables Subsidiary”** shall mean a Wholly-Owned Subsidiary of the Company that is established as a “bankruptcy remote” Subsidiary for the sole purpose of acquiring accounts receivable under the Permitted Receivables Facility and that shall not engage in any activities other than in connection with the Permitted Receivables Facility.

**“Reportable Event”** shall mean a reportable event as that term is defined in Title IV of ERISA, except actions of general applicability by the Secretary of Labor under Section 110 of such Act.

**“Required Holder(s)”** shall mean the holder or holders of more than 50% of the aggregate principal amount of the Notes or, if the term is expressly used with respect to a series of Notes, of such series of Notes from time to time outstanding.

**“Responsible Officer”** shall mean the chief executive officer, chief operating officer, chief financial officer or chief accounting officer of the Company or any other officer of the Company involved principally in its financial administration or its controllership function.

**“SEC”** shall mean the United States Securities Exchange Commission.

**“Securities Act”** shall mean the Securities Act of 1933, as amended.

**“Series 2012 Notes”** shall have the meaning given in paragraph 1A.

**“Series 2012-A Notes”** shall have the meaning given in paragraph 1A.

**“Series 2012-B Notes”** shall have the meaning given in paragraph 1A.

**“Series 2012-C Notes”** shall have the meaning given in paragraph 1A.

**“Series 2012-D Notes”** shall have the meaning given in paragraph 1A.

**“Share Repurchase”** shall mean the purchase, repurchase, redemption or other acquisition by the Company from any Person of any capital stock or other equity interest of the Company.

**“Significant Holder”** shall mean (a) any original purchaser of a Note (but not any successors or assigns) or (b) any holder (together with its Affiliates) of more than \$25,000,000 in aggregate principal amount of the Notes at the time outstanding.

**“Subordinated”**, as applied to Indebtedness, shall mean that the Indebtedness has been subordinated (by written terms or written agreement being, in either case, in form and substance satisfactory to the Required Holders) in favor of the prior payment in full of the obligations of the Company and its Subsidiaries under this Agreement, the Notes and the other Transaction Documents.

**“Subsidiary”** of the Company or any of its Subsidiaries shall mean (i) a corporation more than fifty percent (50%) of the Voting Power of which is owned, directly or indirectly, by the Company or by one or more other Subsidiaries of the Company or by the Company and one or more Subsidiaries of the Company, (ii) a partnership or limited liability company of which the Company, one or more other Subsidiaries of the Company or the Company and one or more Subsidiaries of the Company, directly or indirectly, is a general partner or managing member, as the case may be, or otherwise has the power to direct the policies, management and affairs thereof, or (iii) any other Person (other than a corporation) in which the Company, one or more other Subsidiaries of the Company or the Company and one or more Subsidiaries of the Company, directly or indirectly, has at least a majority interest in the Voting Power or the power to direct the policies, management and affairs thereof.

**“Supplement”** shall have the meaning given in paragraph 1B.

**“Transaction Documents”** shall mean this Agreement, the Notes, any Guaranty Agreement and any other agreements, documents, writings or instruments now or hereafter executed or deemed by the Company or any Subsidiary in connection with this Agreement.

**“Transferee”** shall mean any direct or indirect transferee of all or any part of any Note purchased by any Purchaser under this Agreement.

**“Total Indebtedness”** shall mean, at any time, on a Consolidated basis, all Indebtedness of the Company, including, but not limited to, current, long-term and Subordinated Indebtedness, if any, and all Indebtedness under the Permitted Receivables Facility.

**“2008 Note Purchase Agreement”** shall mean the Note Purchase and Private Shelf Agreement, dated as of February 22, 2008, pursuant to which the Company issued and sold Fifty Million Dollars (\$50,000,000) in aggregate principal amount of its 4.98% Series A Senior Notes due February 22, 2013.

**“2011 Note Purchase Agreement”** shall mean the Note Purchase and Private Shelf Agreement, dated as of June 30, 2011, pursuant to which the Company issued and sold Seventy-Five Million Dollars (\$75,000,000) in aggregate principal amount of its 2.21% Senior Notes, \$25,000,000 and \$50,000,000, due August 31, 2018 and September 1, 2020, respectively, and may issue and sell additional senior notes.

**“USA Patriot Act”** shall mean United States Public Law 107-56, Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism (USA PATRIOT ACT) Act of 2001, as amended from time to time, and the rules and regulations promulgated thereunder from time to time in effect.

**“Voting Power”** shall mean, with respect to any Person, the exclusive ability to control, through the ownership of shares of capital stock, partnership interests, membership interests or otherwise, the election of members of the board of directors or other similar governing body of such Person, and the holding of a designated percentage of Voting Power of a Person means the ownership of shares of capital stock, partnership interests, membership interests or other interests of such Person sufficient to control exclusively the election of that percentage of the members of the board of directors or similar governing body of such Person.

**“Voting Stock”** shall mean, with respect to any corporation, any shares of stock of such corporation whose holders are entitled under ordinary circumstances to vote for the election of directors of such corporation (irrespective of whether at the time stock of any other class or classes shall have or might have voting power by reason of the happening of any contingency).

**“Welfare Plan”** shall mean an ERISA Plan that is a “welfare plan” within the meaning of ERISA Section 3 (l).

**“Wholly-Owned Subsidiary”** shall mean, with respect to any Person, any corporation, limited liability company or other entity, except for director’s qualifying shares or shares required to be owned individually due to country specific regulations regarding ownership or control of the organization or operation of such entity, all of the securities or other ownership interest of which having ordinary voting power to elect a majority of the board of directors, or other persons performing similar functions, are at the time directly or indirectly owned by such Person.

**10C. Accounting and Legal Principles, Terms and Determinations.** All references in this Agreement to “generally accepted accounting principles” or “GAAP” shall be deemed to refer to generally accepted accounting principles in effect in the United States at the time of

application thereof. Unless otherwise specified herein, all accounting terms used herein shall be interpreted, all determinations with respect to accounting matters hereunder shall be made, and all unaudited consolidated financial statements and certificates and reports as to financial matters required to be furnished hereunder shall be prepared, in accordance with generally accepted accounting principles applied on a basis consistent with the most recent audited consolidated financial statements of the Company and its Subsidiaries delivered pursuant to clause (ii) of paragraph 5A or, if no such statements have been so delivered, the most recent audited financial statements referred to in clause (i) of paragraph 8B. Any reference herein to any specific citation, section or form of law, statute, rule or regulation shall refer to such new, replacement or analogous citation, section or form should such citation, section or form be modified, amended or replaced.

## **11. MISCELLANEOUS.**

**11A. Note Payments.** The Company agrees that, so long as any Purchaser shall hold any Note, it will make payments of principal of, interest on, and any Yield-Maintenance Amount payable with respect to, such Note, which comply with the terms of this Agreement, by wire transfer of immediately available funds for credit (not later than 12:00 noon, New York City time, on the date due) to (i) such Purchaser's account or accounts specified in Schedule A attached hereto or (ii) such other account or accounts in the United States as such Purchaser may from time to time designate in writing, notwithstanding any contrary provision herein or in any Note with respect to the place of payment. Each Purchaser agrees that, before disposing of any Note, such Purchaser will make a notation thereon (or on a schedule attached thereto) of all principal payments previously made thereon and of the date to which interest thereon has been paid. The Company agrees to afford the benefits of this paragraph 11A to any Transferee which shall have made the same agreement as each Purchaser has made in this paragraph 11A. No holder shall be required to present or surrender any Note or make any notation thereon, except that upon the written request of the Company made concurrently with or reasonably promptly after the payment or prepayment in full of any Note, the applicable holder shall surrender such Note for cancellation, reasonably promptly after such request, to the Company at its principal office.

**11B. Expenses.** Whether or not the transactions contemplated hereby shall be consummated, the Company shall pay, and save each Purchaser and any Transferee harmless against liability for the payment of the following out-of-pocket expenses arising in connection with such transactions:

- (i) (a) all stamp and documentary taxes and similar charges and (b) costs (not to exceed \$3,500) of obtaining a private placement number from Standard and Poor's Ratings Group for the Notes;
- (ii) document production and duplication charges and the fees and expenses of any special counsel engaged by such Purchaser or such Transferee in connection (a) with any transaction contemplated by this Agreement and (b) with any subsequent proposed waiver, amendment or modification of, or proposed consent under, this Agreement, whether or not such proposed waiver, amendment, modification or consent shall be effected or granted;

(iii) the reasonable costs and expenses, including attorneys' and financial advisory fees, incurred by such Purchaser or such Transferee in enforcing (or determining whether or how to enforce) any rights under this Agreement or the Notes or in responding to any subpoena or other legal process or informal investigative demand issued in connection with this Agreement or the transactions contemplated hereby or by reason of your or such Transferee's having acquired any Note, including without limitation costs and expenses incurred in any workout, restructuring or renegotiation proceeding or bankruptcy case; and

(iv) any judgment, liability, claim, order, decree, cost, fee, expense, action or obligation resulting from the consummation of the transactions contemplated hereby, including the use of the proceeds of the Notes by the Company.

The Company also will promptly pay or reimburse each Purchaser or holder of a Note (upon demand, in accordance with each such Purchaser's or holder's written instruction) for all fees and costs paid or payable by such Purchaser or holder to the Securities Valuation Office of the National Association of Insurance Commissioners in connection with the initial filing of this Agreement and all related documents and financial information, and all subsequent annual and interim filings of documents and financial information related to this Agreement, with such Securities Valuation Office or any successor organization acceding to the authority thereof.

The obligations of the Company under this paragraph 11B shall survive the transfer of any Note or portion thereof or interest therein by any Purchaser or any Transferee and the payment of any Note.

**11C. Consent to Amendments.** This Agreement may be amended, and the Company may take any action herein prohibited, or omit to perform any act herein required to be performed by it, if the Company shall obtain the written consent to such amendment, action or omission to act, of the Required Holder(s) except that, (i) with the written consent of the holders of all Notes of a particular series, and, if an Event of Default shall have occurred and be continuing, of the holders of all Notes of all series at the time outstanding (and not without such written consents), the Notes of such series may be amended or the provisions thereof waived to change the maturity thereof, to change or affect the principal thereof, or to change or affect the rate, method of computation or time of payment of interest on or any Yield-Maintenance Amount payable with respect to the Notes of such Series and (ii) without the written consent of the holder or holders of all Notes at the time outstanding, no amendment to or waiver of the provisions of this Agreement shall change or affect the provisions of paragraph 7A or this paragraph 11C insofar as such provisions relate to proportions of the principal amount of the Notes of any series, or the rights of any individual holder of Notes, required with respect to any declaration of Notes to be due and payable or with respect to any consent, amendment, waiver or declaration. Each holder of any Note at the time or thereafter outstanding shall be bound by any consent authorized by this paragraph 11C, whether or not such Note shall have been marked to indicate such consent, but any Notes issued thereafter may bear a notation referring to any such consent. No course of dealing between the Company and the holder of any Note nor any delay in exercising any rights hereunder or under any Note shall operate as a waiver of any rights of any holder of any Note. Without limiting the generality of the foregoing, no negotiations or discussions in which any holder of any Note may engage regarding any possible amendments,

consents or waivers with respect to this Agreement or the Notes shall constitute a waiver of any Default or Event of Default, any term of this Agreement or any Note or any rights of any such holder under this Agreement or the Notes. As used herein and in the Notes, the term “this Agreement” and references thereto shall mean this Agreement as it may from time to time be amended or supplemented.

**11D. Form, Registration, Transfer and Exchange of Notes; Lost Notes.** The Notes are issuable as registered notes without coupons in denominations of at least \$100,000, except as may be necessary to (i) reflect any principal amount not evenly divisible by \$100,000 or (ii) enable the registration of transfer by a holder of its entire holding of Notes; provided, however, that no such minimum denomination shall apply to Notes issued upon transfer by any holder of the Notes to any other entity or group of Affiliates with respect to which the Notes so issued or transferred shall be managed by a single entity. The Company shall keep at its principal office a register in which the Company shall provide for the registration of Notes and of transfers of Notes. Upon surrender for registration of transfer of any Note at the principal office of the Company, the Company shall, at its expense, execute and deliver one or more new Notes of like tenor and of a like aggregate principal amount, registered in the name of such transferee or transferees. At the option of the holder of any Note, such Note may be exchanged for other Notes of like tenor and of any authorized denominations, of a like aggregate principal amount, upon surrender of the Note to be exchanged at the principal office of the Company. Whenever any Notes are so surrendered for exchange, the Company shall, at its expense, execute and deliver the Notes which the holder making the exchange is entitled to receive. Every Note surrendered for registration of transfer or exchange shall be duly endorsed, or be accompanied by a written instrument of transfer duly executed, by the holder of such Note or such holder’s attorney duly authorized in writing. Any Note or Notes issued in exchange for any Note or upon transfer thereof shall carry the rights to unpaid interest and interest to accrue which were carried by the Note so exchanged or transferred, so that neither gain nor loss of interest shall result from any such transfer or exchange. Upon receipt of written notice from the holder of any Note of the loss, theft, destruction or mutilation of such Note and, in the case of any such loss, theft or destruction, upon receipt of such holder’s unsecured indemnity agreement, or in the case of any such mutilation upon surrender and cancellation of such Note, the Company will make and deliver a new Note, of like tenor, in lieu of the lost, stolen, destroyed or mutilated Note.

**11E. Persons Deemed Owners; Participations.** Prior to due presentment for registration of transfer, the Company may treat the Person in whose name any Note is registered as the owner and holder of such Note for the purpose of receiving payment of principal of, interest on and any Yield-Maintenance Amount payable with respect to such Note and for all other purposes whatsoever, whether or not such Note shall be overdue, and the Company shall not be affected by notice to the contrary. Subject to the preceding sentence, the holder of any Note may from time to time grant participations in all or any part of such Note to any Person on such terms and conditions as may be determined by such holder in its sole and absolute discretion.

**11F. Survival of Representations and Warranties; Entire Agreement.** All representations and warranties contained herein or made in writing by or on behalf of the Company in connection herewith shall survive the execution and delivery of this Agreement and the Notes, the transfer by any Purchaser of any Note or portion thereof or interest therein and the

payment of any Note, and may be relied upon by any Transferee, regardless of any investigation made at any time by or on behalf of any Purchaser or any Transferee. Subject to the preceding sentence, this Agreement and the Notes embody the entire agreement and understanding between the Purchasers and the Company with respect to the subject matter hereof and supersede all prior agreements and understandings relating to such subject matter.

**11G. Successors and Assigns.** All covenants and other agreements in this Agreement by or on behalf of any of the parties hereto shall bind and inure to the benefit of the respective successors and assigns of the parties hereto (including, without limitation, any Transferee) whether so expressed or not.

**11H. Independence of Covenants.** All covenants hereunder shall be given independent effect so that if a particular action or condition is prohibited by any one of such covenants, the fact that it would be permitted by an exception to, or otherwise be in compliance within the limitations of, another covenant shall not (i) avoid the occurrence of a Default or Event of Default if such action is taken or such condition exists or (ii) in any way prejudice an attempt by the holder of any Note to prohibit through equitable action or otherwise the taking of any action by the Company or any Subsidiary which would result in a Default or Event of Default.

**11I. Notices.** All written communications provided for hereunder (other than communications provided for under paragraph 2) shall be sent by first class mail or nationwide overnight delivery service (with charges prepaid) and (i) if to any Purchaser, addressed to such Purchaser at the address specified for such communications in Schedule A attached hereto or at such other address as such Purchaser shall have specified to the Company in writing, (ii) if to any other holder of any Note, addressed to such other holder at such address as such other holder shall have specified to the Company in writing or, if any such holder shall not have so specified an address to the Company, then addressed to such holder in care of the last holder of such Note which shall have so specified an address to the Company and (iii) if to the Company, addressed to it at Nordson Corporation, 28601 Clemens Road, Westlake, Ohio 44145, Attention: Chief Financial Officer or at such other address as the Company shall have specified to the holder of each Note in writing, provided, however, that any such communication to the Company may also, at the option of the Person sending such communication, be delivered by any other means either to the Company at its address specified above.

**11J. Payments Due on Non-Business Days.** Anything in this Agreement or the Notes to the contrary notwithstanding, any payment of principal of, interest on, or Yield-Maintenance Amount payable with respect to, any Note that is due on a date other than a Business Day shall be made on the next succeeding Business Day without including the additional days elapsed in the computation of the interest payable on such next succeeding Business Day.

**11K. Satisfaction Requirement.** If any agreement, certificate or other writing, or any action taken or to be taken, is by the terms of this Agreement required to be satisfactory to any Purchaser, to any holder of Notes or to the Required Holder(s), the determination of such satisfaction shall be made by such Purchaser, such holder or the Required Holder(s), as the case may be, in the sole and exclusive judgment (exercised in good faith) of the Person or Persons making such determination.

**11L. GOVERNING LAW.** THIS AGREEMENT SHALL BE CONSTRUED AND ENFORCED IN ACCORDANCE WITH, AND THE RIGHTS OF THE PARTIES SHALL BE GOVERNED BY, THE LAW OF THE STATE OF NEW YORK (EXCLUDING ANY CONFLICTS OF LAW RULES WHICH WOULD OTHERWISE CAUSE THIS AGREEMENT TO BE CONSTRUED OR ENFORCED IN ACCORDANCE WITH, OR THE RIGHTS OF THE PARTIES TO BE GOVERNED BY, THE LAWS OF ANY OTHER JURISDICTION).

**11M. SUBMISSION TO JURISDICTION; WAIVER OF JURY TRIAL.** ANY LEGAL ACTION OR PROCEEDING WITH RESPECT TO THIS AGREEMENT OR THE NOTES MAY BE BROUGHT IN THE COURTS OF THE STATE OF NEW YORK IN NEW YORK COUNTY, OR OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF NEW YORK AND, BY EXECUTION AND DELIVERY OF THIS AGREEMENT, THE COMPANY HEREBY IRREVOCABLY ACCEPTS, UNCONDITIONALLY, THE JURISDICTION OF THE AFORESAID COURTS WITH RESPECT TO ANY SUCH ACTION OR PROCEEDING. THE COMPANY FURTHER IRREVOCABLY CONSENTS TO THE SERVICE OF PROCESS OUT OF ANY OF THE AFOREMENTIONED COURTS IN ANY SUCH ACTION OR PROCEEDING BY THE MAILING OF COPIES THEREOF BY REGISTERED OR CERTIFIED MAIL, POSTAGE PREPAID, TO IT AT ITS ADDRESS PROVIDED IN PARAGRAPH 11I, SUCH SERVICE TO BECOME EFFECTIVE UPON RECEIPT. THE COMPANY AGREES THAT A FINAL JUDGMENT IN ANY SUCH ACTION OR PROCEEDING SHALL BE CONCLUSIVE AND MAY BE ENFORCED IN ANY OTHER JURISDICTION BY SUIT ON SUCH JUDGMENT OR IN ANY OTHER MANNER PROVIDED BY LAW. NOTHING HEREIN SHALL AFFECT THE RIGHT OF ANY HOLDER OF A NOTE TO SERVE PROCESS IN ANY OTHER MANNER PERMITTED BY LAW OR TO COMMENCE LEGAL PROCEEDINGS OR OTHERWISE PROCEED AGAINST THE COMPANY IN ANY OTHER JURISDICTION. THE COMPANY HEREBY IRREVOCABLY WAIVES ANY OBJECTION WHICH IT MAY NOW OR HEREAFTER HAVE TO THE LAYING OF VENUE OF ANY OF THE AFORESAID ACTIONS OR PROCEEDINGS ARISING OUT OF OR IN CONNECTION WITH THIS AGREEMENT OR THE NOTES BROUGHT IN ANY OF THE AFORESAID COURTS AND HEREBY FURTHER IRREVOCABLY WAIVES AND AGREES NOT TO PLEAD OR CLAIM IN ANY SUCH COURT THAT ANY SUCH ACTION OR PROCEEDING BROUGHT IN ANY SUCH COURT HAS BEEN BROUGHT IN AN INCONVENIENT FORUM. TO THE EXTENT THAT THE COMPANY HAS OR MAY HEREAFTER ACQUIRE IMMUNITY FROM JURISDICTION OF ANY COURT OR FROM ANY LEGAL PROCESS (WHETHER THROUGH SERVICE OF NOTICE, ATTACHMENT PRIOR TO JUDGMENT, ATTACHMENT IN AID OF EXECUTION, EXECUTION OR OTHERWISE WITH RESPECT TO ITSELF OR ITS PROPERTY), THE COMPANY HEREBY IRREVOCABLY WAIVES SUCH IMMUNITY IN RESPECT OF ITS OBLIGATIONS UNDER THIS AGREEMENT OR THE NOTES. THE COMPANY AND EACH PURCHASER HEREBY IRREVOCABLY WAIVES ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY LEGAL PROCEEDING ARISING OUT OF OR RELATING TO THIS AGREEMENT, THE NOTES OR THE TRANSACTIONS CONTEMPLATED THEREBY.

**11N. Severability.** Any provision of this Agreement which is prohibited or unenforceable in any jurisdiction shall, as to such jurisdiction, be ineffective to the extent of such prohibition or unenforceability without invalidating the remaining provisions hereof, and any such prohibition or unenforceability in any jurisdiction shall not invalidate or render unenforceable such provision in any other jurisdiction.

**11O. Descriptive Headings; Advice of Counsel; Interpretation; Time of the Essence.** The descriptive headings of the several paragraphs of this Agreement are inserted for convenience only and do not constitute a part of this Agreement. Each party to this Agreement represents to the other parties to this Agreement that such party has been represented by counsel in connection with this Agreement and the Notes, that such party has discussed this Agreement and the Notes with its counsel and that any and all issues with respect to this Agreement and the Notes have been resolved as set forth herein and therein. No provision of this Agreement or the Notes shall be construed against or interpreted to the disadvantage of any party hereto by any court or other governmental or judicial authority by reason of such party having or being deemed to have structured, drafted or dictated such provision. Time is of the essence in the performance of this Agreement and the Notes.

**11P. Counterparts; Facsimile or Electronic Signatures.** This Agreement may be executed in any number of counterparts (or counterpart signature pages), each of which counterparts shall be an original, but all of which together shall constitute one instrument. Delivery of an executed counterpart of a signature page to this Agreement by facsimile or electronic transmission shall be effective as delivery of a manually executed counterpart of this Agreement.

**11Q. Independent Investigation.** Each Purchaser represents to and agrees with each other Purchaser that it has made its own independent investigation of the condition (financial and otherwise), prospects and affairs of the Company and its Subsidiaries in connection with its purchase of the Notes hereunder and has made and shall continue to make its own appraisal of the creditworthiness of the Company. No holder of Notes shall have any duties or responsibility to any other holder of Notes, either initially or on a continuing basis, to make any such investigation or appraisal or to provide any credit or other information with respect thereto. No holder of Notes is acting as agent or in any other fiduciary capacity on behalf of any other holder of Notes.

**11R. Directly or Indirectly.** Where any provision in this Agreement refers to actions to be taken by any Person, or which such Person is prohibited from taking, such provision shall be applicable whether the action in question is taken directly or indirectly by such Person.

If you are in agreement with the foregoing, please sign the form of agreement on the accompanying counterpart of this Agreement and return it to the Company, whereupon the foregoing shall become a binding agreement between you and the Company.

Very truly yours,

**NORDSON CORPORATION**

By:

Name: \_\_\_\_\_  
Gregory A. Thaxton

Title: Senior Vice President, Chief Financial Officer

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The foregoing Agreement is  
hereby accepted as of the  
date first above written.

AVIVA LIFE AND ANNUITY COMPANY  
ROYAL NEIGHBORS OF AMERICA

By: Aviva Investors North America, Inc., Its authorized attorney-in-fact

By: \_\_\_\_\_  
Name: Roger D. Fors  
Title: VP-Private Fixed Income

JACKSON NATIONAL LIFE INSURANCE COMPANY

By: PPM America, Inc., as attorney in fact,  
on behalf of Jackson National Life Insurance Company

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Title:

JACKSON NATIONAL LIFE INSURANCE COMPANY OF NEW YORK

By: PPM America, Inc., as attorney in fact,  
on behalf of Jackson National Life Insurance Company of New York

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Title:

AMERIPRISE CERTIFICATE COMPANY

By

\_\_\_\_\_  
Name:  
Title:

RIVERSOURCE LIFE INSURANCE CO. OF NEW YORK

By

\_\_\_\_\_  
Name:  
Title:

MONY LIFE INSURANCE COMPANY

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

AXA EQUITABLE LIFE INSURANCE COMPANY

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

HORIZON BLUE CROSS BLUE SHIELD OF NEW JERSEY

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

THE WESTERN AND SOUTHERN LIFE INSURANCE COMPANY

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

COLUMBUS LIFE INSURANCE COMPANY

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

THE LAFAYETTE LIFE INSURANCE COMPANY

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

INTEGRITY LIFE INSURANCE COMPANY

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

INTEGRITY LIFE INSURANCE COMPANY SEPARATE ACCOUNT  
GPO

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

NATIONAL INTEGRITY LIFE INSURANCE COMPANY

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

NATIONAL INTEGRITY LIFE INSURANCE COMPANY SEPARATE  
ACCOUNT GPO

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

KENTUCKY FARM BUREAU MUTUAL INSURANCE COMPANY

By \_\_\_\_\_  
Name: Maureen Williams  
Title: Director, Treasury Management  
\_\_\_\_\_

MODERN WOODMEN OF AMERICA

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

PROTECTIVE LIFE INSURANCE COMPANY (PLI)

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

UNITED OF OMAHA LIFE INSURANCE COMPANY

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

COMPANION LIFE INSURANCE COMPANY

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
\_\_\_\_\_

WOODMEN OF THE WORLD LIFE INSURANCE SOCIETY

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

INFORMATION RELATING TO PURCHASERS

| <u>Name of Purchaser</u>       | <u>Principal Amount of Series 2012 Notes<br/>to be Purchased</u> |                      |
|--------------------------------|------------------------------------------------------------------|----------------------|
| AVIVA LIFE AND ANNUITY COMPANY | <u>Series 2012-A</u>                                             | <u>Series 2012-B</u> |
|                                | \$20,000,000                                                     | \$19,000,000         |
|                                | <u>Series 2012-C</u>                                             | <u>Series 2012-D</u> |
|                                | \$10,000,000                                                     |                      |

Registered in the name of: HARE & CO.

- (1) All scheduled payments of principal and interest by wire transfer of immediately available funds to:

The Bank of New York  
 New York, NY  
 ABA #021000018  
 Credit A/C# GLA111566  
 A/C Name: Institutional Custody Insurance Division  
 Custody Account Name: Aviva Life and Annuity Co-Annuity  
 Custody Account Number: 010048

with sufficient information to identify the source and application of such funds, including issuer, PPN#, interest rate, maturity and whether payment is of principal, interest, make whole amount or otherwise.

- (2) Address for all notices relating to payments:

PREFERRED REMITTANCE: [privateplacements@avivainvestors.com](mailto:privateplacements@avivainvestors.com)

Aviva Life and Annuity Company  
 c/o Aviva Investors North America, Inc.  
 Attn: Private Fixed Income Dept.  
 215 10th Street, Suite 1000  
 Des Moines, IA 50309

- (3) All other communications and notices:

PREFERRED REMITTANCE: [privateplacements@avivainvestors.com](mailto:privateplacements@avivainvestors.com)

Aviva Life and Annuity Company  
c/o Aviva Investors North America, Inc.  
Attn: Private Fixed Income Dept.  
215 10th Street, Suite 1000  
Des Moines, IA 50309

- (4) Address for delivery of Notes:

The Bank of New York  
One Wall Street, 3rd Floor  
Window A  
New York, NY 10286  
FAO: Aviva Life and Annuity Co-Annuity, A/C #010048

- (5) Taxpayer I.D. Number: 42-0175020 (Aviva Life and Annuity Company)

13-6062916 (Hare & Co.)

# INFORMATION RELATING TO PURCHASERS

| <u>Name of Purchaser</u>   | <u>Principal Amount of Series 2012 Notes<br/>to be Purchased</u> |                                     |
|----------------------------|------------------------------------------------------------------|-------------------------------------|
| ROYAL NEIGHBORS OF AMERICA | <u>Series 2012-A</u>                                             | <u>Series 2012-B</u><br>\$1,000,000 |
|                            | <u>Series 2012-C</u>                                             | <u>Series 2012-D</u>                |

Registered in the name of: ELL & CO

- (1) All scheduled payments of principal and interest by wire transfer of immediately available funds to:

Federal Funds Wire Transfer  
Northern Chgo/Trust  
ABA 071000152  
Credit wire account 5186041000  
F/C 26-73769/Royal Neighbors

with sufficient information to identify the source and application of such funds, including issuer, PPN#, interest rate, maturity and whether payment is of principal, interest, make whole amount or otherwise.

- (2) Address for all notices relating to payments:

PREFERRED REMITTANCE:

Ell & Co, c/o Northern Trust Co.  
PO Box 92395, Chicago, IL 60675

With copy to:

PREFERRED REMITTANCE: [privateplacements@avivainvestors.com](mailto:privateplacements@avivainvestors.com)

Royal Neighbors of America  
c/o Aviva Investors North America, Inc.  
Attn: Private Fixed Income  
215 10th Street, Suite 1000  
Des Moines, IA 50309

- (3) All other communications and notices:

PREFERRED REMITTANCE: [privateplacements@avivainvestors.com](mailto:privateplacements@avivainvestors.com)

Royal Neighbors of America  
c/o Aviva Investors North America, Inc.  
Attn: Private Fixed Income  
215 10th Street, Suite 1000  
Des Moines, IA 50309

- (4) Address for delivery of Notes:

Northern Trust Co  
Trade Securities Processing, C1N  
801 South Canal Street  
Chicago, IL 60607

- (5) Taxpayer I.D. Number: 36-1711198 (Royal Neighbors of America)

36-6412623 (ELL & CO)

# INFORMATION RELATING TO PURCHASERS

| <u>Name of Purchaser</u>                   | <u>Principal Amount of Series 2012 Notes<br/>to be Purchased</u> |                      |
|--------------------------------------------|------------------------------------------------------------------|----------------------|
| JACKSON NATIONAL LIFE INSURANCE<br>COMPANY | <u>Series 2012-A</u><br>\$10,000,000                             | <u>Series 2012-B</u> |
|                                            | <u>Series 2012-C</u>                                             | <u>Series 2012-D</u> |

- (1) All scheduled payments of principal and interest by wire transfer of immediately available funds to:

The Bank of New York  
 ABA # 021-000-018  
 BNF Account #: IOC566  
 FBO: JNL A/C # 187242  
 Ref: CUSIP / PPN, Description, and Breakdown (P&I)

with sufficient information to identify the source and application of such funds, including issuer, PPN#, interest rate, maturity and whether payment is of principal, interest, make whole amount or otherwise.

- (2) Address for all notices relating to payments:

Jackson National Life Insurance Company  
 C/O The Bank of New York  
 Attn: P&I Department  
 P. O. Box 19266  
 Newark, New Jersey 07195  
 Phone: (718) 315-3035, Fax: (718) 315-3076

- (3) All other communications and notices:

PPM America, Inc.  
 225 West Wacker Drive, Suite 1200  
 Chicago, IL 60606-1228  
 Attn: Private Placements – Elena Unger  
 Phone: (312) 634-7853, Fax: (312) 634-0054  
 Email: elena.unger@ppmamerica.com

(4) Address for delivery of Notes:

The Bank of New York  
Special Processing – Window A  
One Wall Street, 3rd Floor  
New York, NY 10286  
Ref: JNL – JNL ELI, A/C # 187242

(5) Financial Information should be sent to:

PPM America, Inc.  
225 West Wacker Drive, Suite 1200  
Chicago, IL 60606-1228  
Attn: Private Placements – Elena Unger  
Phone: (312) 634-7853, Fax: (312) 634-0054  
Email: [privatereporting@ppmamerica.com](mailto:privatereporting@ppmamerica.com)

and to:

Jackson National Life Insurance Company  
One Corporate Way  
Lansing, MI 48951  
Attn: Investment Accounting – Mark Stewart  
Phone: (517) 367-3190, Fax: (517) 706-5503

(6) Taxpayer I.D. Number: 38-1659835

# INFORMATION RELATING TO PURCHASERS

| <u>Name of Purchaser</u>                   | <u>Principal Amount of Series 2012 Notes<br/>to be Purchased</u> |               |
|--------------------------------------------|------------------------------------------------------------------|---------------|
| JACKSON NATIONAL LIFE INSURANCE<br>COMPANY | Series 2012-A<br>\$10,000,000                                    | Series 2012-B |
|                                            | Series 2012-C                                                    | Series 2012-D |

- (1) All scheduled payments of principal and interest by wire transfer of immediately available funds to:

The Bank of New York  
 ABA # 021-000-018  
 BNF Account #: IOC566  
 FBO: JNL A/C # 187244  
 Ref: CUSIP / PPN, Description, and Breakdown (P&I)

with sufficient information to identify the source and application of such funds, including issuer, PPN#, interest rate, maturity and whether payment is of principal, interest, make whole amount or otherwise.

- (2) Address for all notices relating to payments:

Jackson National Life Insurance Company  
 C/O The Bank of New York  
 Attn: P&I Department  
 P. O. Box 19266  
 Newark, New Jersey 07195  
 Phone: (718) 315-3035, Fax: (718) 315-3076

- (3) All other communications and notices:

PPM America, Inc.  
 225 West Wacker Drive, Suite 1200  
 Chicago, IL 60606-1228  
 Attn: Private Placements – Curtis Spillers  
 Phone: (312) 634-7853 Fax: (312) 634-0054  
 Email: elena.unger@ppmamerica.com

(4) Address for delivery of Notes:

The Bank of New York  
Special Processing – Window A  
One Wall Street, 3rd Floor  
New York, NY 10286  
Ref: JNL – JNL MVA, A/C # 187244

(5) Financial information should be sent to:

PPM America, Inc.  
225 West Wacker Drive, Suite 1200  
Chicago, IL 60606-1228  
Attn: Private Placements – Curtis Spillers  
Phone: (312) 634-7853, Fax: (312) 634-0054  
Email: [privatereporting@ppmamerica.com](mailto:privatereporting@ppmamerica.com)  
and to:

Jackson National Life Insurance Company  
One Corporate Way  
Lansing, MI 48951  
Attn: Investment Accounting – Mark Stewart  
Phone: (517) 367-3190, Fax: (517) 706-5503

(6) Taxpayer I.D. Number: 38-1659835

# INFORMATION RELATING TO PURCHASERS

| <u>Name of Purchaser</u>                   | <u>Principal Amount of Series 2012 Notes<br/>to be Purchased</u> |                      |
|--------------------------------------------|------------------------------------------------------------------|----------------------|
| JACKSON NATIONAL LIFE INSURANCE<br>COMPANY | <u>Series 2012-A</u><br>\$10,000,000                             | <u>Series 2012-B</u> |
|                                            | <u>Series 2012-C</u><br>\$12,000,000                             | <u>Series 2012-D</u> |

- (1) All scheduled payments of principal and interest by wire transfer of immediately available funds to:

The Bank of New York  
 ABA # 021-000-018  
 BNF Account #: IOC566  
 FBO: JNL A/C # 187241  
 Ref: CUSIP / PPN, Description, and Breakdown (P&I)

with sufficient information to identify the source and application of such funds, including issuer, PPN#, interest rate, maturity and whether payment is of principal, interest, make whole amount or otherwise.

- (2) Address for all notices relating to payments:

Jackson National Life Insurance Company  
 C/O The Bank of New York  
 Attn: P&I Department  
 P. O. Box 19266  
 Newark, New Jersey 07195  
 Phone: (718) 315-3035, Fax: (718) 315-3076

- (3) All other communications and notices:

PPM America, Inc.  
 225 West Wacker Drive, Suite 1200  
 Chicago, IL 60606-1228  
 Attn: Private Placements – Elena Unger  
 Phone: (312) 634-7853, Fax: (312) 634-0054  
 Email: elena.unger@ppmamerica.com

(4) Address for delivery of Notes:

The Bank of New York  
Special Processing – Window A  
One Wall Street, 3rd Floor  
New York, NY 10286  
Ref: JNL – JNL 241 / Non Insul., A/C # 187241

(5) Financial information should be sent to:

PPM America, Inc.  
225 West Wacker Drive, Suite 1200  
Chicago, IL 60606-1228  
Attn: Private Placements – Elena Unger  
Phone: (312) 634-7853, Fax: (312) 634-0054  
Email: [privatereporting@ppmamerica.com](mailto:privatereporting@ppmamerica.com)

and to:

Jackson National Life Insurance Company  
One Corporate Way  
Lansing, MI 48951  
Attn: Investment Accounting – Mark Stewart  
Phone: (517) 367-3190, Fax: (517) 706-5503

(6) Taxpayer I.D. Number: 38-1659835

# INFORMATION RELATING TO PURCHASERS

| <u>Name of Purchaser</u>                   | <u>Principal Amount of Series 2012 Notes<br/>to be Purchased</u> |                                     |
|--------------------------------------------|------------------------------------------------------------------|-------------------------------------|
| JACKSON NATIONAL LIFE INSURANCE<br>COMPANY | <u>Series 2012-A</u>                                             | <u>Series 2012-B</u><br>\$5,000,000 |
|                                            | <u>Series 2012-C</u>                                             | <u>Series 2012-D</u>                |

- (1) All scheduled payments of principal and interest by wire transfer of immediately available funds to:

The Bank of New York  
 ABA # 021-000-018  
 BNF Account #: IOC566  
 FBO: JNL A/C # 187243  
 Ref: CUSIP / PPN, Description, and Breakdown (P&I)

with sufficient information to identify the source and application of such funds, including issuer, PPN#, interest rate, maturity and whether payment is of principal, interest, make whole amount or otherwise.

- (2) Address for all notices relating to payments:

Jackson National Life Insurance Company  
 C/O The Bank of New York  
 Attn: P&I Department  
 P. O. Box 19266  
 Newark, New Jersey 07195  
 Phone: (718) 315-3035, Fax: (718) 315-3076

- (3) All other communications and notices:

PPM America, Inc.  
 225 West Wacker Drive, Suite 1200  
 Chicago, IL 60606-1228  
 Attn: Private Placements – Curtis Spillers  
 Phone: (312) 634-7853, Fax: (312) 634-0054  
 Email: elena.unger@ppmamerica.com

- (4) Address for delivery of Notes:

The Bank of New York  
Special Processing – Window A  
One Wall Street, 3rd Floor  
New York, NY 10286  
Ref: JNL – JNL GIC, A/C # 187243

- (5) Financial Information should be sent to:

PPM America, Inc.  
225 West Wacker Drive, Suite 1200  
Chicago, IL 60606-1228  
Attn: Private Placements – Elena Unger  
Phone: (312) 634-7853, Fax: (312) 634-0054  
Email: [privatereporting@ppmamerica.com](mailto:privatereporting@ppmamerica.com)

and to:

Jackson National Life Insurance Company  
One Corporate Way  
Lansing, MI 48951  
Attn: Investment Accounting – Mark Stewart  
Phone: (517) 367-3190, Fax: (517) 706-5503

- (6) Taxpayer I.D. Number: 38-1659835

# INFORMATION RELATING TO PURCHASERS

| <u>Name of Purchaser</u>                            | <u>Principal Amount of Series 2012 Notes<br/>to be Purchased</u> |                                     |
|-----------------------------------------------------|------------------------------------------------------------------|-------------------------------------|
| JACKSON NATIONAL LIFE INSURANCE COMPANY OF NEW YORK | <u>Series 2012-A</u>                                             | <u>Series 2012-B</u><br>\$3,000,000 |
|                                                     | <u>Series 2012-C</u>                                             | <u>Series 2012-D</u>                |

- (1) All scheduled payments of principal and interest by wire transfer of immediately available funds to:

The Bank of New York  
 ABA # 021-000-018  
 BNF Account #: IOC566  
 FBO: JNLNY A/C # 187271  
 Ref: CUSIP / PPN, Description, and Breakdown (P&I)

with sufficient information to identify the source and application of such funds, including issuer, PPN#, interest rate, maturity and whether payment is of principal, interest, make whole amount or otherwise.

- (2) Address for all notices relating to payments:

Jackson National Life Insurance Company of New York  
 C/O The Bank of New York  
 Attn: P&I Department  
 P. O. Box 19266  
 Newark, New Jersey 07195  
 Phone: (718) 315-3035, Fax: (718) 315-3076

- (3) All other communications and notices:

PPM America, Inc.  
 225 West Wacker Drive, Suite 1100  
 Chicago, IL 60606-1228  
 Attn: Private Placements – Elena Unger  
 Phone: (312) 634-7853, Fax: (312) 634-0054  
 Email: elena.unger@ppmamerica.com  
 Email: privatereporting@ppmamerica.com  
 and to:

Jackson National Life Insurance Company of New York  
One Corporate Way  
Lansing MI 48951  
Attn: Investment Accounting – Mark Stewart  
Phone: (517) 367-3190, Fax: (517) 706-5503

(4) Address for delivery of Notes:

The Bank of New York  
Special Processing – Window A  
One Wall Street, 3rd Floor  
New York, NY 10286  
Ref: JNL – JNLNY Gen. Account, A/C # 187271

(5) Taxpayer I.D. Number: 13-3873709

# INFORMATION RELATING TO PURCHASERS

| <u>Name of Purchaser</u>             | <u>Principal Amount of Series 2012 Notes to be Purchased</u> |                      |
|--------------------------------------|--------------------------------------------------------------|----------------------|
|                                      | <u>Series 2012-A</u>                                         | <u>Series 2012-B</u> |
| AMERIPRISE CERTIFICATE COMPANY (910) |                                                              |                      |
|                                      | <u>Series 2012-C</u>                                         | <u>Series 2012-D</u> |
|                                      |                                                              | \$15,000,000         |

Registered in the name of: Cudd & Co.

- (1) All scheduled payments of principal and interest by wire transfer of immediately available funds to:

ABA#: 021000021  
Bank: JPMorgan Chase Bank  
Beneficiary #: 9009000127  
Beneficiary name: JPMorgan Chase Bank  
For further credit to: P01162

with sufficient information to identify the source and application of such funds, including issuer, PPN#, interest rate, maturity and whether payment is of principal, interest, make whole amount or otherwise.

- (2) Address for all notices relating to payments:

Ameriprise Certificate Company  
JPMorgan Chase Bank, N.A. Attention:  
Jamshid Irshad@JPMorgan.com  
Amit K Aswani@JPMorgan.com  
Donna Preston@JPMorgan.com  
Fonda J Mitchell@JPMorgan.com  
Telephone: 469-477-8185  
Facsimile: 469-477-1904

A duplicate copy for all **unscheduled** payments of interest and/or principal to:  
Columbia Management Investment Advisers, LLC  
Attention: Fixed Income Investment Dept – Private Placements  
216 Ameriprise Financial Center  
Minneapolis, MN 55474  
Telephone: 612-671-2400  
Facsimile: 612-671-2180

(3) All other communications and notices:

Columbia Management Investment Advisers, LLC  
Attention: Fixed Income Investment Department – Private Placements  
216 Ameriprise Financial Center  
Minneapolis, MN 55474  
Telephone: 612-671-2400  
Facsimile: 612-671-2180

(4) Address for delivery of Notes:

JPMorgan Chase  
Attention Physical Receiving Area  
4 Chase Metrotech Center, 3rd Floor  
Brooklyn, NY 11245-0001  
Telephone: 718-242-0264 (Frederic Cavanaugh)  
Reference: P01162  
cc: via email: [chris.h.patton@columbiamanagement.com](mailto:chris.h.patton@columbiamanagement.com) or  
facsimile: (612) 47-2670

(5) Taxpayer I.D. Number: 13-6022143 (Cudd & Co.)

# INFORMATION RELATING TO PURCHASERS

| <u>Name of Purchaser</u>                         | <u>Principal Amount of Series 2012 Notes<br/>to be Purchased</u> |                      |
|--------------------------------------------------|------------------------------------------------------------------|----------------------|
|                                                  | <u>Series 2012-A</u>                                             | <u>Series 2012-B</u> |
| RIVERSOURCE LIFE INSURANCE CO. OF NEW YORK (902) |                                                                  |                      |
|                                                  | <u>Series 2012-C</u>                                             | <u>Series 2012-D</u> |
|                                                  |                                                                  | \$5,000,000          |

Registered in the name of: Cudd & Co.

- (1) All scheduled payments of principal and interest by wire transfer of immediately available funds to:

ABA#: 021000021  
Bank: JPMorgan Chase Bank  
Beneficiary #: 9009000127  
Beneficiary name: JPMorgan Chase Bank  
For further credit to: P01162

with sufficient information to identify the source and application of such funds, including issuer, PPN#, interest rate, maturity and whether payment is of principal, interest, make whole amount or otherwise.

- (2) Address for all notices relating to payments:

RiverSource Life Insurance Co. of New York  
JPMorgan Chase Bank, N.A. Attention:  
Jamshid Irshad@JPMorgan.com  
Amit K Aswani@JPMorgan.com  
Donna Preston@JPMorgan.com  
Fonda J Mitchell@JPMorgan.com  
Telephone: 469-477-8185  
Facsimile: 469-477-1904

A duplicate copy for all **unscheduled** payments of interest and/or principal to:  
Columbia Management Investment Advisers, LLC  
Attention: Fixed Income Investment Dept – Private Placements  
216 Ameriprise Financial Center  
Minneapolis, MN 55474  
Telephone: 612-671-2400  
Facsimile: 612-671-2180

(3) All other communications and notices:

Columbia Management Investment Advisers, LLC  
Attention: Fixed Income Investment Department – Private Placements  
216 Ameriprise Financial Center  
Minneapolis, MN 55474  
Telephone: 612-671-2400  
Facsimile: 612-671-2180

(4) Address for delivery of Notes:

JPMorgan Chase  
Attention Physical Receiving Area  
4 Chase Metrotech Center, 3rd Floor  
Brooklyn, NY 11245-0001  
Telephone: 718-242-0264 (Frederic Cavanaugh)  
Reference: P 01155  
cc: via email: [chris.h.patton@columbiamanagement.com](mailto:chris.h.patton@columbiamanagement.com) or  
facsimile: (612) 547-2670

(5) Taxpayer I.D. Number: 13-6022143 (Cudd & Co.)

# INFORMATION RELATING TO PURCHASERS

| <u>Name of Purchaser</u>    | <u>Principal Amount of Series 2012 Notes<br/>to be Purchased</u> |                      |
|-----------------------------|------------------------------------------------------------------|----------------------|
| MONY LIFE INSURANCE COMPANY | <u>Series 2012-A</u>                                             | <u>Series 2012-B</u> |
|                             | \$10,000,000.00                                                  |                      |
|                             | <u>Series 2012-C</u>                                             | <u>Series 2012-D</u> |
|                             |                                                                  |                      |

- (1) All scheduled payments of principal and interest by wire transfer of immediately available funds to:

JP Morgan/Chase  
ABA No.: 021-000021  
For credit to MONY Closed Block  
Account Number: 321-023803  
A/C: MONY Closed Block – G 52963  
Face Amount of \$10,000,000.00

with sufficient information to identify the source and application of such funds, including issuer, PPN#, interest rate, maturity and whether payment is of principal, interest, make whole amount or otherwise.

- (2) Address for all notices relating to payments:

MONY Life Insurance Company  
C/O AllianceBernstein LP  
1345 Avenue of the America  
37th Floor  
New York, New York 10105  
Attention: Mike Maher  
Telephone #: (212) 823-2873  
Fax #: (212) 969-6298

- (3) All other communications and notices:

MONY Life Insurance Company  
C/O AllianceBernstein LP  
1345 Avenue of the Americas, 37th Floor  
New York, NY 10105  
Attention: Monique Meany  
AllianceBernstein LP  
Telephone #: (212) 823-2758

(4) Address for delivery of Notes:

MONY Life Insurance Company  
c/o AXA/Equitable Life Insurance Company  
1290 Avenue of the Americas, 12th Floor  
New York, New York 10104  
Attention: Neville Hemmings  
Law Department  
Telephone #: (212) 314-4103

(5) Taxpayer I.D. Number: 13-1632487

# INFORMATION RELATING TO PURCHASERS

| <u>Name of Purchaser</u>             | <u>Principal Amount of Series 2012 Notes<br/>to be Purchased</u> |                      |
|--------------------------------------|------------------------------------------------------------------|----------------------|
| AXA EQUITABLE LIFE INSURANCE COMPANY | <u>Series 2012-A</u><br>\$6,000,000.00                           | <u>Series 2012-B</u> |
|                                      | <u>Series 2012-C</u>                                             | <u>Series 2012-D</u> |

- (1) All scheduled payments of principal and interest by wire transfer of immediately available funds to:

The Chase Manhattan Bank, N.A.  
 Account (s): AXA Equitable Life Insurance Company  
 4 Chase Metrotech Center  
 Brooklyn, New York 11245  
 ABA No.: 021-000021  
 Bank Account: 037-2-417394  
 Custody Account: G05476  
 Face Amount of \$6,000,000.00

with sufficient information to identify the source and application of such funds, including issuer, PPN#, interest rate, maturity and whether payment is of principal, interest, make whole amount or otherwise.

- (2) Address for all notices relating to payments:

AXA Equitable Life Insurance Company  
 C/O AllianceBernstein LP  
 1345 Avenue of the America  
 37th Floor  
 New York, New York 10105  
 Attention: Cosmo Valente  
 Telephone #: (212) 969-6384

- (3) All other communications and notices:

AXA Equitable Life Insurance Company  
 C/O AllianceBernstein LP  
 1345 Avenue of the Americas, 38th Floor  
 New York, NY 10105  
 Attention: Monique Meany  
 AllianceBernstein LP  
 Telephone #: (212) 823-2758

(4) Address for delivery of Notes:

AXA Equitable Life Insurance Company  
1290 Avenue of the Americas, 12th Floor  
New York, New York 10104  
Attention: Neville Hemmings  
Telephone #: (212) 314-4103

(5) Taxpayer I.D. Number: 13-557-0651

# INFORMATION RELATING TO PURCHASERS

| <u>Name of Purchaser</u>                     | <u>Principal Amount of Series 2012 Notes<br/>to be Purchased</u> |                      |
|----------------------------------------------|------------------------------------------------------------------|----------------------|
| HORIZON BLUE CROSS BLUE SHIELD OF NEW JERSEY | <u>Series 2012-A</u><br>\$2,000,000.00                           | <u>Series 2012-B</u> |
|                                              | <u>Series 2012-C</u>                                             | <u>Series 2012-D</u> |

Registered in the name of: CUDD & Co.

- (1) All scheduled payments of principal and interest by wire transfer of immediately available funds to:

JP Morgan/Chase  
ABA No. 021-000021  
For credit to the Private Income Processing Group  
Account Number: 900-9000-200  
Account: Horizon Blue Cross Blue Shield of New Jersey-P60748  
Face Amount of \$2,000,000.00

with sufficient information to identify the source and application of such funds, including issuer, PPN#, interest rate, maturity and whether payment is of principal, interest, make whole amount or otherwise.

- (2) Address for all notices relating to payments:

JP Morgan Chase Manhattan Bank  
14201 N. Dallas Parkway  
13th Floor  
Dallas, Texas 75254-2917  
Fax: 469-477-1904

## **Second Copy of Payments and Written Confirmations:**

Horizon Blue Cross Blue Shield of New Jersey  
c/o AllianceBernstein LP  
1345 Avenue of the Americas  
New York, NY 10105  
Attention: Mei Wong / Mike Maher  
Phone: 212-969-2112 / 212-823-2873  
Fax: 212-969-6298

**Third Copy of Payments and Written Confirmations:**

Horizon Blue Cross Blue Shield of New Jersey  
Three Penn Plaza  
PP-15K  
Newark, NJ 07105-2200  
Attention: Susan McCarthy-Manager Cash & Investments  
Phone:973-466-8568 or 973-466-4375  
Fax:973-466-8461

- (3) All other communications and notices:

AllianceBernstein LP  
1345 Avenue of the Americas--38th Floor  
New York, NY 10105  
Attention: Amy Judd  
Phone:212-969-1145  
Fax:212-969-6089

- (4) Address for delivery of Notes:

AllianceBernstein LP  
1345 Avenue of the Americas  
New York, NY 10105  
Attention: Angel Salazar/Cosmo Valente  
Insurance Operations  
Phone:212-969-2491 or 212-969-6384

- (5) Taxpayer I.D. Number: 22-0999690

# INFORMATION RELATING TO PURCHASERS

| <u>Name of Purchaser</u>                        | <u>Principal Amount of Series 2012 Notes<br/>to be Purchased</u> |                      |
|-------------------------------------------------|------------------------------------------------------------------|----------------------|
| THE WESTERN AND SOUTHERN LIFE INSURANCE COMPANY | <u>Series 2012-A</u>                                             | <u>Series 2012-B</u> |
|                                                 | <u>Series 2012-C</u><br>\$7,000,000                              | <u>Series 2012-D</u> |

Registered in the name of: Hare & Co.

- (1) All scheduled payments of principal and interest by wire transfer of immediately available funds to:

The Bank of New York Mellon  
ABA# 021000018  
BNF: IOC566  
Attn: PP P&I Department  
Ref: Bank # 952621/Cusip 655663D @8

with sufficient information to identify the source and application of such funds, including issuer, PPN#, interest rate, maturity and whether payment is of principal, interest, make whole amount or otherwise.

- (2) Address for all notices relating to payments:

The Western and Southern Life Insurance Company  
400 Broadway, MS 80  
Cincinnati, OH 45202-3341  
invacctg@wslife.com

- (3) All other communications and notices:

Fort Washington Investment Advisors  
Suite 1200 - Private Placements  
303 Broadway  
Cincinnati, OH 45202  
Email address:  
privateplacements@fortwashington.com

(4) Address for delivery of Notes:

The Bank of New York Mellon  
One Wall Street  
3rd Floor - Window A  
New York, NY 10286  
Ref: A/C Number 952621  
The Western and Southern Life Insurance Company  
Contact: Ada Casiano (212) 635-9121

(5) Taxpayer I.D. Number: 13-6062916

# INFORMATION RELATING TO PURCHASERS

| <u>Name of Purchaser</u>        | <u>Principal Amount of Series 2012 Notes<br/>to be Purchased</u> |                      |
|---------------------------------|------------------------------------------------------------------|----------------------|
| COLUMBUS LIFE INSURANCE COMPANY | <u>Series 2012-A</u>                                             | <u>Series 2012-B</u> |
|                                 | <u>Series 2012-C</u><br>\$2,000,000                              | <u>Series 2012-D</u> |

Registered in the name of: Hare & Co.

- (1) All scheduled payments of principal and interest by wire transfer of immediately available funds to:

The Bank of New York Mellon  
ABA# 021000018  
BNF: IOC566  
Attn: PP P&I Department  
Ref: Bank # 067067/Cusip 655663D @8

with sufficient information to identify the source and application of such funds, including issuer, PPN#, interest rate, maturity and whether payment is of principal, interest, make whole amount or otherwise.

- (2) Address for all notices relating to payments:

Columbus Life Insurance Company  
400 East Fourth Street, MS 80  
Cincinnati, OH 45202-3302  
invacctg@wslife.com

- (3) All other communications and notices:

Fort Washington Investment Advisors  
Suite 1200 - Private Placements  
303 Broadway  
Cincinnati, OH 45202  
Email address:  
privateplacements@fortwashington.com

(4) Address for delivery of Notes:

The Bank of New York Mellon  
One Wall Street  
3rd Floor - Window A  
New York, NY 10286  
Ref: A/C Number 067067  
Columbus Life Insurance Company  
Contact: Ada Casiano (212) 635-9121

(5) Taxpayer I.D. Number: 13-6062916

# INFORMATION RELATING TO PURCHASERS

| <u>Name of Purchaser</u>                | <u>Principal Amount of Series 2012 Notes<br/>to be Purchased</u> |                      |
|-----------------------------------------|------------------------------------------------------------------|----------------------|
| THE LAFAYETTE LIFE INSURANCE<br>COMPANY | <u>Series 2012-A</u>                                             | <u>Series 2012-B</u> |
|                                         | <u>Series 2012-C</u><br>\$2,000,000                              | <u>Series 2012-D</u> |

Registered in the name of: Hare & Co.

- (1) All scheduled payments of principal and interest by wire transfer of immediately available funds to:

The Bank of New York Mellon  
ABA# 021000018  
BNF: IOC566  
Attn: PP P&I Department  
Ref: Bank # 205724/Cusip 655663D @8

with sufficient information to identify the source and application of such funds, including issuer, PPN#, interest rate, maturity and whether payment is of principal, interest, make whole amount or otherwise.

- (2) Address for all notices relating to payments:

The Lafayette Life Insurance Company  
400 Broadway, MS 80  
Cincinnati, OH 45202-3341  
invacctg@wslife.com

- (3) All other communications and notices:

Fort Washington Investment Advisors  
Suite 1200 - Private Placements  
303 Broadway  
Cincinnati, OH 45202  
Email address:  
privateplacements@fortwashington.com

(4) Address for delivery of Notes:

The Bank of New York Mellon  
One Wall Street  
3rd Floor - Window A  
New York, NY 10286  
Ref: A/C Number 205724  
The Lafayette Life Insurance Company  
Contact: Ada Casiano (212) 635-9121

(5) Taxpayer I.D. Number: 13-6062916

# INFORMATION RELATING TO PURCHASERS

| <u>Name of Purchaser</u>         | <u>Principal Amount of Series 2012 Notes<br/>to be Purchased</u> |                      |
|----------------------------------|------------------------------------------------------------------|----------------------|
| INTEGRITY LIFE INSURANCE COMPANY | <u>Series 2012-A</u>                                             | <u>Series 2012-B</u> |
|                                  | <u>Series 2012-C</u><br>\$1,000,000                              | <u>Series 2012-D</u> |

Registered in the name of: Hare & Co.

- (1) All scheduled payments of principal and interest by wire transfer of immediately available funds to:

The Bank of New York Mellon  
ABA# 021000018  
BNF: IOC566  
Attn: PP P&I Department  
Ref: Bank # 952701/Cusip 655663D @8

with sufficient information to identify the source and application of such funds, including issuer, PPN#, interest rate, maturity and whether payment is of principal, interest, make whole amount or otherwise.

- (2) Address for all notices relating to payments:

Integrity Life Insurance Company  
400 Broadway, MS 80  
Cincinnati, OH 45202-3341  
invacctg@wslife.com

- (3) All other communications and notices:

Fort Washington Investment Advisors  
Suite 1200 - Private Placements  
303 Broadway  
Cincinnati, OH 45202  
Email address:  
privateplacements@fortwashington.com

(4) Address for delivery of Notes:

The Bank of New York Mellon  
One Wall Street  
3rd Floor - Window A  
New York, NY 10286  
Ref: A/C Number 952701  
Integrity Life Insurance Company  
Contact: Ada Casiano (212) 635-9121

(5) Taxpayer I.D. Number: 13-6062916

# INFORMATION RELATING TO PURCHASERS

| <u>Name of Purchaser</u>                                 | <u>Principal Amount of Series 2012 Notes<br/>to be Purchased</u> |                      |
|----------------------------------------------------------|------------------------------------------------------------------|----------------------|
| INTEGRITY LIFE INSURANCE COMPANY SEPARATE ACCOUNT<br>GPO | <u>Series 2012-A</u>                                             | <u>Series 2012-B</u> |
|                                                          | <u>Series 2012-C</u><br>\$1,000,000                              | <u>Series 2012-D</u> |

Registered in the name of: Hare & Co.

- (1) All scheduled payments of principal and interest by wire transfer of immediately available funds to:

The Bank of New York Mellon  
ABA# 021000018  
BNF: IOC566  
Attn: PP P&I Department  
Ref: Bank # 952705/Cusip 655663D @8

with sufficient information to identify the source and application of such funds, including issuer, PPN#, interest rate, maturity and whether payment is of principal, interest, make whole amount or otherwise.

- (2) Address for all notices relating to payments:

Integrity Life Insurance Company Separate Account  
400 Broadway, MS 80  
Cincinnati, OH 45202-3341  
invacctg@wslife.com

- (3) All other communications and notices:

Fort Washington Investment Advisors  
Suite 1200 - Private Placements  
303 Broadway  
Cincinnati, OH 45202  
Email address:  
privateplacements@fortwashington.com

(4) Address for delivery of Notes:

The Bank of New York Mellon  
One Wall Street  
3rd Floor - Window A  
New York, NY 10286  
Ref: A/C Number 952705  
Integrity Life Insurance Company Separate Account  
Contact: Ada Casiano (212) 635-9121

(5) Taxpayer I.D. Number: 13-6062916

# INFORMATION RELATING TO PURCHASERS

| <u>Name of Purchaser</u>                  | <u>Principal Amount of Series 2012 Notes<br/>to be Purchased</u> |                      |
|-------------------------------------------|------------------------------------------------------------------|----------------------|
| NATIONAL INTEGRITY LIFE INSURANCE COMPANY | <u>Series 2012-A</u>                                             | <u>Series 2012-B</u> |
|                                           | <u>Series 2012-C</u><br>\$1,000,000                              | <u>Series 2012-D</u> |

Registered in the name of: Hare & Co.

- (1) All scheduled payments of principal and interest by wire transfer of immediately available funds to:

The Bank of New York Mellon  
ABA# 021000018  
BNF: IOC566  
Attn: PP P&I Department  
Ref: Bank # 952709/Cusip 655663D @8

with sufficient information to identify the source and application of such funds, including issuer, PPN#, interest rate, maturity and whether payment is of principal, interest, make whole amount or otherwise.

- (2) Address for all notices relating to payments:

National Integrity Life Insurance Company  
400 Broadway, Mail Station 80  
Cincinnati, OH 45202-3341  
invacctg@wslife.com

- (3) All other communications and notices:

Fort Washington Investment Advisors  
Suite 1200 - Private Placements  
303 Broadway  
Cincinnati, OH 45202  
Email address:  
privateplacements@fortwashington.com

(4) Address for delivery of Notes:

The Bank of New York Mellon  
One Wall Street  
3rd Floor - Window A  
New York, NY 10286  
Ref: A/C Number 952709  
National Integrity Life Insurance Company  
Contact: Ada Casiano (212) 635-9121

(5) Taxpayer I.D. Number: 13-6062916

# INFORMATION RELATING TO PURCHASERS

| <u>Name of Purchaser</u>                                          | <u>Principal Amount of Series 2012 Notes<br/>to be Purchased</u> |                      |
|-------------------------------------------------------------------|------------------------------------------------------------------|----------------------|
| NATIONAL INTEGRITY LIFE INSURANCE COMPANY SEPARATE<br>ACCOUNT GPO | <u>Series 2012-A</u>                                             | <u>Series 2012-B</u> |
|                                                                   | <u>Series 2012-C</u><br>\$1,000,000                              | <u>Series 2012-D</u> |

Registered in the name of: Hare & Co.

- (1) All scheduled payments of principal and interest by wire transfer of immediately available funds to:

The Bank of New York Mellon  
ABA# 021000018  
BNF: IOC566  
Attn: PP P&I Department  
Ref: Bank # 952713/Cusip 655663D @8

with sufficient information to identify the source and application of such funds, including issuer, PPN#, interest rate, maturity and whether payment is of principal, interest, make whole amount or otherwise.

- (2) Address for all notices relating to payments:

National Integrity Life Insurance Company Separate Account  
400 Broadway, MS 80  
Cincinnati, OH 45202-3341  
invacctg@wslife.com

- (3) All other communications and notices:

Fort Washington Investment Advisors  
Suite 1200 - Private Placements  
303 Broadway  
Cincinnati, OH 45202  
Email address:  
privateplacements@fortwashington.com

(4) Address for delivery of Notes:

The Bank of New York Mellon  
One Wall Street  
3rd Floor - Window A  
New York, NY 10286  
Ref: A/C Number 952713  
National Integrity Life Insurance Company Separate Account  
Contact: Ada Casiano (212) 635-9121

(5) Taxpayer I.D. Number: 13-6062916

# INFORMATION RELATING TO PURCHASERS

| <u>Name of Purchaser</u>                      | <u>Principal Amount of Series 2012 Notes<br/>to be Purchased</u> |                      |
|-----------------------------------------------|------------------------------------------------------------------|----------------------|
| KENTUCKY FARM BUREAU MUTUAL INSURANCE COMPANY | <u>Series 2012-A</u>                                             | <u>Series 2012-B</u> |
|                                               |                                                                  | \$3,000,000          |
|                                               | <u>Series 2012-C</u>                                             | <u>Series 2012-D</u> |
|                                               |                                                                  |                      |

- (1) All scheduled payments of principal and interest by wire transfer of immediately available funds to:

Republic Bank  
601 West Market Street  
Louisville, KY 40202  
ABA# 083001314  
A/C # 53396618  
Republic Bank IMT  
FFC/ KY Farm Bureau Mutual 53443683

with sufficient information to identify the source and application of such funds, including issuer, PPN#, interest rate, maturity and whether payment is of principal, interest, make whole amount or otherwise.

- (2) Address for all notices relating to payments:

Kentucky Farm Bureau Mutual Insurance Company  
Investment Department  
9201 Bunsen Parkway  
Louisville, KY 40220  
Email address: Maureen.Williams@KYFB.com;  
Carrie.Schaaf@KYFB.com; Bob.Ethier@KYFB.com

- (3) All other communications and notices:

Kentucky Farm Bureau Mutual Insurance Company  
Investment Department  
9201 Bunsen Parkway  
Louisville, KY 40220 Email address:  
PrivatePlacements@KYFB.com

(4) Address for delivery of Notes:

Kentucky Farm Bureau Mutual Insurance Company  
Attn: Maureen Williams  
Investment Department  
9201 Bunsen Parkway  
Louisville, KY 40220

(5) Taxpayer I.D. Number: 61-0392792

# INFORMATION RELATING TO PURCHASERS

| Name of Purchaser         | <u>Principal Amount of Series 2012 Notes<br/>to be Purchased</u> |                      |
|---------------------------|------------------------------------------------------------------|----------------------|
| MODERN WOODMEN OF AMERICA | <u>Series 2012-A</u>                                             | <u>Series 2012-B</u> |
|                           |                                                                  | \$15,000,000         |
|                           | <u>Series 2012-C</u>                                             | <u>Series 2012-D</u> |
|                           |                                                                  |                      |

- (1) All scheduled payments of principal and interest by wire transfer of immediately available funds to:

The Northern Trust Company  
50 South LaSalle Street  
Chicago, IL 60675  
ABA No. 071-000-152  
Account Name: Modern Woodmen of America  
Account No. 84352

with sufficient information to identify the source and application of such funds, including issuer, PPN#, interest rate, maturity and whether payment is of principal, interest, make whole amount or otherwise.

- (2) Address for all notices relating to payments:

Modern Woodmen of America  
Attn: Investment Accounting Department  
1701 First Avenue  
Rock Island, IL 61201  
  
Fax: (309) 793-5688

- (3) All other communications and notices:

Modern Woodmen of America  
Attn: Investment Department  
1701 First Avenue  
Rock Island, IL 61201  
  
investments@modern-woodmen.org  
  
Fax: (309) 793-5574

(4) Address for delivery of Notes:

Modern Woodmen of America  
Attn: Aaron Birkland  
1701 First Avenue  
Rock Island, IL 61201

(5) Taxpayer I.D. Number: 36-1493430

# INFORMATION RELATING TO PURCHASERS

| <u>Name of Purchaser</u>                | <u>Principal Amount of Series 2012 Notes<br/>to be Purchased</u> |                      |
|-----------------------------------------|------------------------------------------------------------------|----------------------|
| PROTECTIVE LIFE INSURANCE COMPANY (PLI) | <u>Series 2012-A</u>                                             | <u>Series 2012-B</u> |
|                                         |                                                                  | \$15,000,000         |
|                                         | <u>Series 2012-C</u>                                             | <u>Series 2012-D</u> |
|                                         |                                                                  |                      |

Registered in the name of: HARE & CO.

- (1) All scheduled payments of principal and interest by wire transfer of immediately available funds to:

THE BANK OF NEW YORK  
 ABA #: 021 000 018  
 BNF: IOC566  
 ATTN: PP P & I Department  
 FFC CUSTODY #: 0000294412  
 CUST. NAME: Protective Life Ins., Co.  
 REF: Protective Life Ins., Co. /  
 PPN #: 655663 D\*0

with sufficient information to identify the source and application of such funds, including issuer, PPN#, interest rate, maturity and whether payment is of principal, interest, make whole amount or otherwise.

- (2) Address for all notices relating to payments:

middleoffice@protective.com  
  
 Protective Life Insurance Co. ( PLI )  
 Attn: Investment Department – Jamie Broadhead  
 2801 Hwy. 280 South  
 Birmingham, AL 35223

- (3) All other communications and notices:

middleoffice@protective.com  
  
 Protective Life Insurance Co. ( PLI )  
 Attn: Investment Department – Jamie Broadhead  
 2801 Hwy. 280 South  
 Birmingham, AL 35223

(4) Address for delivery of Notes:

The Bank of New York  
One Wall Street, 3rd floor, Window "A"  
New York, N.Y. 10286  
CUSTODY A/C # 294412  
CUST NAME: PROTECTIVE LIFE INSURANCE COMPANY

(5) Taxpayer I.D. Number: 63-0169720

# INFORMATION RELATING TO PURCHASERS

| <u>Name of Purchaser</u>         | <u>Principal Amount of Series 2012 Notes<br/>to be Purchased</u> |                      |
|----------------------------------|------------------------------------------------------------------|----------------------|
| COMPANION LIFE INSURANCE COMPANY | <u>Series 2012-A</u>                                             | <u>Series 2012-B</u> |
|                                  |                                                                  | \$3,000,000          |
|                                  | <u>Series 2012-C</u>                                             | <u>Series 2012-D</u> |
|                                  |                                                                  |                      |

- (1) All scheduled payments of principal and interest by wire transfer of immediately available funds to:

JPMorgan Chase Bank  
ABA #021000021  
Private Income Processing

For credit to:  
Companion Life Insurance Company  
Account # 900-9000200  
a/c: G07903  
Cusip/PPN: 655663 D\*0  
Interest Amount:  
Principal Amount:

with sufficient information to identify the source and application of such funds, including issuer, PPN#, interest rate, maturity and whether payment is of principal, interest, make whole amount or otherwise.

- (2) Address for all notices relating to payments:

JPMorgan Chase Bank  
14201 Dallas Parkway – 13th Floor  
Dallas, TX 75254-2917  
Attn: Income Processing  
a/c: G07903

- (3) All other communications and notices:

4 - Investment Accounting  
Mutual of Omaha Insurance Company  
Mutual of Omaha Plaza  
Omaha, NE 68175-1011

(4) Address for delivery of Notes:

JPMorgan Chase Bank  
4 Chase Metrotech Center, 3rd Floor  
Brooklyn, NY 11245-0001  
Attention: Physical Receive Department  
Account # G07903

(5) Taxpayer I.D. Number: 13-1595128

# INFORMATION RELATING TO PURCHASERS

| <u>Name of Purchaser</u>               | <u>Principal Amount of Series 2012 Notes<br/>to be Purchased</u> |                      |
|----------------------------------------|------------------------------------------------------------------|----------------------|
| UNITED OF OMAHA LIFE INSURANCE COMPANY | <u>Series 2012-A</u>                                             | <u>Series 2012-B</u> |
|                                        |                                                                  | \$4,000,000          |
|                                        | <u>Series 2012-C</u>                                             | <u>Series 2012-D</u> |
|                                        |                                                                  |                      |

- (1) All scheduled payments of principal and interest by wire transfer of immediately available funds to:

JPMorgan Chase Bank  
ABA #021000021  
Private Income Processing

For credit to:  
Companion Life Insurance Company  
Account # 900-9000200  
a/c: G07097  
Cusip/PPN: 655663 D\*0  
Interest Amount:  
Principal Amount:

with sufficient information to identify the source and application of such funds, including issuer, PPN#, interest rate, maturity and whether payment is of principal, interest, make whole amount or otherwise.

- (2) Address for all notices relating to payments:

JPMorgan Chase Bank  
14201 Dallas Parkway – 13th Floor  
Dallas, TX 75254-2917  
Attn: Income Processing  
a/c: G07097

- (3) All other communications and notices:

4 - Investment Accounting  
Mutual of Omaha Insurance Company  
Mutual of Omaha Plaza  
Omaha, NE 68175-1011

(4) Address for delivery of Notes:

JPMorgan Chase Bank  
4 Chase Metrotech Center, 3rd Floor  
Brooklyn, NY 11245-0001  
Attention: Physical Receive Department  
Account # G07097

(5) Taxpayer I.D. Number: 47-0322111

# INFORMATION RELATING TO PURCHASERS

| <u>Name of Purchaser</u>                    | <u>Principal Amount of Series 2012 Notes<br/>to be Purchased</u> |                      |
|---------------------------------------------|------------------------------------------------------------------|----------------------|
| WOODMEN OF THE WORLD LIFE INSURANCE SOCIETY | <u>Series 2012-A</u>                                             | <u>Series 2012-B</u> |
|                                             |                                                                  | \$7,000,000          |
|                                             | <u>Series 2012-C</u>                                             | <u>Series 2012-D</u> |
|                                             |                                                                  |                      |

- (1) All scheduled payments of principal and interest by wire transfer of immediately available funds to:

U.S. Bank, N.A.  
1700 Farnam Street  
Omaha, Nebraska 68102  
ABA # 104000029  
For the Account of WOW  
Account # 148747770730

with sufficient information to identify the source and application of such funds, including issuer, PPN#, interest rate, maturity and whether payment is of principal, interest, make whole amount or otherwise.

- (2) Address for all notices relating to payments:

Woodmen of the World Life Insurance Society  
Attn: Securities Department  
1700 Farnam Street  
Omaha, Nebraska 68102

- (3) All other communications and notices:

Woodmen of the World Life Insurance Society  
Attn: Securities Department  
1700 Farnam Street  
Omaha, Nebraska 68102

- (4) Address for delivery of Notes:

Woodmen of the World Life Insurance Society  
Attn: Securities Department  
1700 Farnam Street  
Omaha, Nebraska 68102

- (5) Taxpayer I.D. Number: 47-0339250

[FORM OF SERIES 2012-A NOTE]

NORDSON CORPORATION

3.07% SENIOR NOTE, SERIES 2012-A, DUE JULY 25, 2025

No. A-  
PPN

\_\_\_\_\_  
\_\_\_\_\_

FOR VALUE RECEIVED, the undersigned, NORDSON CORPORATION, a corporation organized and existing under the laws of the State of Ohio (herein called the "Company"), hereby promises to pay to \_\_\_\_\_, or registered assigns, the principal sum of \$[ ] on July 25, 2025, with interest (computed on the basis of a 360-day year of twelve 30-day months) on the unpaid balance thereof at the rate of 3.07% per annum from the date hereof. Payments of interest shall be made semiannually, on January 26 and July 26 in each year, commencing on January 26, 2013, until the principal hereof shall have been paid. Any overdue payment (including any overdue prepayment) of principal, any overdue payment of Yield Maintenance Amount and, to the extent permitted by applicable law, any overdue payment of interest, shall be payable semiannually as aforesaid on (or, at the option of the registered holder hereof, on demand), at a rate per annum from time to time equal to the Default Rate. The "Default Rate" shall mean a rate per annum from time to time equal to the lesser of (i) the maximum rate permitted by applicable law, and (ii) the greater of (a) 5.07% or (b) 2.00% over the rate of interest publicly announced by Wells Fargo Bank, National Association, from time to time in New York City as its Prime Rate.

Payments of principal of, interest on and any Yield Maintenance Amount payable with respect to this Note are to be made at the main office of Wells Fargo Bank, National Association, in New York City or at such other place as the holder hereof shall designate to the Company in writing, in lawful money of the United States of America.

This Note is one of a series of Senior Notes (herein called the "Notes") issued pursuant to a Master Note Purchase Agreement, dated as of July 26, 2012 (herein called the "Agreement"), between the Company and the respective Purchasers named therein and is entitled to the benefits thereof.

This Note is a registered Note and, as provided in the Agreement, upon surrender of this Note for registration of transfer, duly endorsed, or accompanied by a written instrument of transfer duly executed, by the registered holder hereof or such holder's attorney duly authorized in writing, a new Note for a like principal amount will be issued to, and registered in the name of, the transferee. Prior to due presentment for registration of transfer, the Company may treat the person in whose name this Note is registered as the owner hereof for the purpose of receiving payment and for all other purposes, and the Company shall not be affected by any notice to the contrary.

The Company agrees to make required prepayments of principal on the dates and in the amounts specified in the Agreement. This Note is also subject to optional prepayment, in whole or from time to time in part, on the terms specified in the Agreement.

The Company and any and all endorsers, guarantors and sureties severally waive grace, demand, presentment for payment, notice of dishonor or default, notice of intent to accelerate, notice of acceleration (except to the extent required in the Agreement), protest and diligence in collecting in connection with this Note, whether now or hereafter required by applicable law.

In case an Event of Default shall occur and be continuing, the principal of this Note may be declared or otherwise become due and payable in the manner and with the effect provided in the Agreement.

Capitalized terms used herein which are defined in the Agreement and not otherwise defined herein shall have the meanings as defined in the Agreement.

**THIS NOTE IS INTENDED TO BE PERFORMED IN THE STATE OF NEW YORK AND SHALL BE CONSTRUED AND ENFORCED IN ACCORDANCE WITH THE LAW OF SUCH STATE (EXCLUDING ANY CONFLICTS OF LAW RULES WHICH WOULD OTHERWISE CAUSE THIS NOTE TO BE CONSTRUED OR ENFORCED IN ACCORDANCE WITH THE LAWS OF ANY OTHER JURISDICTION).**

**NORDSON CORPORATION**

By:  
Title:

[FORM OF SERIES 2012-B NOTE]

NORDSON CORPORATION

3.13% SENIOR NOTE, SERIES 2012-B, DUE JULY 26, 2024

No. B-  
PPN

\_\_\_\_\_  
\_\_\_\_\_

FOR VALUE RECEIVED, the undersigned, NORDSON CORPORATION, a corporation organized and existing under the laws of the State of Ohio (herein called the "Company"), hereby promises to pay to \_\_\_\_\_, or registered assigns, the principal sum of \$[ ] on July 26, 2024, with interest (computed on the basis of a 360-day year of twelve 30-day months) on the unpaid balance thereof at the rate of 3.13% per annum from the date hereof. Payments of interest shall be made semiannually, on January 26 and July 26 in each year, commencing on January 26, 2013, until the principal hereof shall have been paid. Any overdue payment (including any overdue prepayment) of principal, any overdue payment of Yield Maintenance Amount and, to the extent permitted by applicable law, any overdue payment of interest, shall be payable semiannually as aforesaid on (or, at the option of the registered holder hereof, on demand), at a rate per annum from time to time equal to the Default Rate. The "Default Rate" shall mean a rate per annum from time to time equal to the lesser of (i) the maximum rate permitted by applicable law, and (ii) the greater of (a) 5.13% or (b) 2.00% over the rate of interest publicly announced by Wells Fargo Bank, National Association, from time to time in New York City as its Prime Rate.

Payments of principal of, interest on and any Yield Maintenance Amount payable with respect to this Note are to be made at the main office of Wells Fargo Bank, National Association, in New York City or at such other place as the holder hereof shall designate to the Company in writing, in lawful money of the United States of America.

This Note is one of a series of Senior Notes (herein called the "Notes") issued pursuant to a Master Note Purchase Agreement, dated as of July 26, 2012 (herein called the "Agreement"), between the Company and the respective Purchasers named therein and is entitled to the benefits thereof.

This Note is a registered Note and, as provided in the Agreement, upon surrender of this Note for registration of transfer, duly endorsed, or accompanied by a written instrument of transfer duly executed, by the registered holder hereof or such holder's attorney duly authorized in writing, a new Note for a like principal amount will be issued to, and registered in the name of, the transferee. Prior to due presentment for registration of transfer, the Company may treat the person in whose name this Note is registered as the owner hereof for the purpose of receiving payment and for all other purposes, and the Company shall not be affected by any notice to the contrary.

The Company agrees to make required prepayments of principal on the dates and in the amounts specified in the Agreement. This Note is also subject to optional prepayment, in whole or from time to time in part, on the terms specified in the Agreement.

The Company and any and all endorsers, guarantors and sureties severally waive grace, demand, presentment for payment, notice of dishonor or default, notice of intent to accelerate, notice of acceleration (except to the extent required in the Agreement), protest and diligence in collecting in connection with this Note, whether now or hereafter required by applicable law.

In case an Event of Default shall occur and be continuing, the principal of this Note may be declared or otherwise become due and payable in the manner and with the effect provided in the Agreement.

Capitalized terms used herein which are defined in the Agreement and not otherwise defined herein shall have the meanings as defined in the Agreement.

**THIS NOTE IS INTENDED TO BE PERFORMED IN THE STATE OF NEW YORK AND SHALL BE CONSTRUED AND ENFORCED IN ACCORDANCE WITH THE LAW OF SUCH STATE (EXCLUDING ANY CONFLICTS OF LAW RULES WHICH WOULD OTHERWISE CAUSE THIS NOTE TO BE CONSTRUED OR ENFORCED IN ACCORDANCE WITH THE LAWS OF ANY OTHER JURISDICTION).**

**NORDSON CORPORATION**

By:  
Title:

## [FORM OF SERIES 2012-C NOTE]

## NORDSON CORPORATION

2.62% SENIOR NOTE, SERIES 2012-C, DUE JULY 26, 2021

No. C-  
PPN

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FOR VALUE RECEIVED, the undersigned, NORDSON CORPORATION, a corporation organized and existing under the laws of the State of Ohio (herein called the "Company"), hereby promises to pay to \_\_\_\_\_, or registered assigns, the principal sum of \$[ ] on July 26, 2021, with interest (computed on the basis of a 360-day year of twelve 30-day months) on the unpaid balance thereof at the rate of 2.62% per annum from the date hereof. Payments of interest shall be made semiannually, on January 26 and July 26 in each year, commencing on January 26, 2013, until the principal hereof shall have been paid. Any overdue payment (including any overdue prepayment) of principal, any overdue payment of Yield Maintenance Amount and, to the extent permitted by applicable law, any overdue payment of interest, shall be payable semiannually as aforesaid on (or, at the option of the registered holder hereof, on demand), at a rate per annum from time to time equal to the Default Rate. The "Default Rate" shall mean a rate per annum from time to time equal to the lesser of (i) the maximum rate permitted by applicable law, and (ii) the greater of (a) 4.62% or (b) 2.00% over the rate of interest publicly announced by Wells Fargo Bank, National Association, from time to time in New York City as its Prime Rate.

Payments of principal of, interest on and any Yield Maintenance Amount payable with respect to this Note are to be made at the main office of Wells Fargo Bank, National Association, in New York City or at such other place as the holder hereof shall designate to the Company in writing, in lawful money of the United States of America.

This Note is one of a series of Senior Notes (herein called the "Notes") issued pursuant to a Master Note Purchase Agreement, dated as of July 26, 2012 (herein called the "Agreement"), between the Company and the respective Purchasers named therein and is entitled to the benefits thereof.

This Note is a registered Note and, as provided in the Agreement, upon surrender of this Note for registration of transfer, duly endorsed, or accompanied by a written instrument of transfer duly executed, by the registered holder hereof or such holder's attorney duly authorized in writing, a new Note for a like principal amount will be issued to, and registered in the name of, the transferee. Prior to due presentment for registration of transfer, the Company may treat the person in whose name this Note is registered as the owner hereof for the purpose of receiving payment and for all other purposes, and the Company shall not be affected by any notice to the contrary.

The Company agrees to make required prepayments of principal on the dates and in the amounts specified in the Agreement. This Note is also subject to optional prepayment, in whole or from time to time in part, on the terms specified in the Agreement.

The Company and any and all endorsers, guarantors and sureties severally waive grace, demand, presentment for payment, notice of dishonor or default, notice of intent to accelerate, notice of acceleration (except to the extent required in the Agreement), protest and diligence in collecting in connection with this Note, whether now or hereafter required by applicable law.

In case an Event of Default shall occur and be continuing, the principal of this Note may be declared or otherwise become due and payable in the manner and with the effect provided in the Agreement.

Capitalized terms used herein which are defined in the Agreement and not otherwise defined herein shall have the meanings as defined in the Agreement.

**THIS NOTE IS INTENDED TO BE PERFORMED IN THE STATE OF NEW YORK AND SHALL BE CONSTRUED AND ENFORCED IN ACCORDANCE WITH THE LAW OF SUCH STATE (EXCLUDING ANY CONFLICTS OF LAW RULES WHICH WOULD OTHERWISE CAUSE THIS NOTE TO BE CONSTRUED OR ENFORCED IN ACCORDANCE WITH THE LAWS OF ANY OTHER JURISDICTION).**

**NORDSON CORPORATION**

By:  
Title:

[FORM OF SERIES 2012-D NOTE]

NORDSON CORPORATION

2.27% SENIOR NOTE, SERIES 2012-D DUE JULY 26, 2017

No. D- \_\_\_\_\_  
PPN \_\_\_\_\_

FOR VALUE RECEIVED, the undersigned, NORDSON CORPORATION, a corporation organized and existing under the laws of the State of Ohio (herein called the "Company"), hereby promises to pay to \_\_\_\_\_, or registered assigns, the principal sum of \$[ ] on July 26, 2017, with interest (computed on the basis of a 360-day year of twelve 30-day months) on the unpaid balance thereof at the rate of 2.27% per annum from the date hereof. Payments of interest shall be made semiannually, on January 26 and July 26 in each year, commencing on January 26, 2013, until the principal hereof shall have been paid. Any overdue payment (including any overdue prepayment) of principal, any overdue payment of Yield Maintenance Amount and, to the extent permitted by applicable law, any overdue payment of interest, shall be payable semiannually as aforesaid on (or, at the option of the registered holder hereof, on demand), at a rate per annum from time to time equal to the Default Rate. The "Default Rate" shall mean a rate per annum from time to time equal to the lesser of (i) the maximum rate permitted by applicable law, and (ii) the greater of (a) 4.27% or (b) 2.00% over the rate of interest publicly announced by Wells Fargo Bank, National Association, from time to time in New York City as its Prime Rate.

Payments of principal of, interest on and any Yield Maintenance Amount payable with respect to this Note are to be made at the main office of Wells Fargo Bank, National Association, in New York City or at such other place as the holder hereof shall designate to the Company in writing, in lawful money of the United States of America.

This Note is one of a series of Senior Notes (herein called the "Notes") issued pursuant to a Master Note Purchase Agreement, dated as of July 26, 2012 (herein called the "Agreement"), between the Company and the respective Purchasers named therein and is entitled to the benefits thereof.

This Note is a registered Note and, as provided in the Agreement, upon surrender of this Note for registration of transfer, duly endorsed, or accompanied by a written instrument of transfer duly executed, by the registered holder hereof or such holder's attorney duly authorized in writing, a new Note for a like principal amount will be issued to, and registered in the name of, the transferee. Prior to due presentment for registration of transfer, the Company may treat the person in whose name this Note is registered as the owner hereof for the purpose of receiving payment and for all other purposes, and the Company shall not be affected by any notice to the contrary.

This Note is subject to optional prepayment, in whole or from time to time in part, on the terms specified in the Agreement.

The Company and any and all endorsers, guarantors and sureties severally waive grace, demand, presentment for payment, notice of dishonor or default, notice of intent to accelerate, notice of acceleration (except to the extent required in the Agreement), protest and diligence in collecting in connection with this Note, whether now or hereafter required by applicable law.

In case an Event of Default shall occur and be continuing, the principal of this Note may be declared or otherwise become due and payable in the manner and with the effect provided in the Agreement.

Capitalized terms used herein which are defined in the Agreement and not otherwise defined herein shall have the meanings as defined in the Agreement.

**THIS NOTE IS INTENDED TO BE PERFORMED IN THE STATE OF NEW YORK AND SHALL BE CONSTRUED AND ENFORCED IN ACCORDANCE WITH THE LAW OF SUCH STATE (EXCLUDING ANY CONFLICTS OF LAW RULES WHICH WOULD OTHERWISE CAUSE THIS NOTE TO BE CONSTRUED OR ENFORCED IN ACCORDANCE WITH THE LAWS OF ANY OTHER JURISDICTION).**

**NORDSON CORPORATION**

By:  
Title:

**NORDSON CORPORATION**  
**28601 Clemens Road Westlake, Ohio 44145**

[ ] SUPPLEMENT TO MASTER NOTE PURCHASE  
AGREEMENT DATED AS OF JULY 26, 2012

Dated as of [ ]

TO EACH OF THE PURCHASERS LISTED IN  
THE ATTACHED SCHEDULE A:

Ladies and Gentlemen:

The undersigned, Nordson Corporation, an Ohio corporation (herein called the “**Company**”), hereby agrees with you as set forth below:

1. Background. The Company entered into a Master Note Purchase Agreement dated as of July 26, 2012 with the purchasers listed in Schedule A thereto [and one or more supplements or amendments thereto] (as heretofore amended and supplemented, the “**Note Purchase Agreement**”) providing for the issuance by the Company of up to \$500,000,000 aggregate principal amount of Additional Notes in series. Pursuant to the Note Purchase Agreement, the Company has issued \$200,000,000 aggregate principal amount of Series 2012 Notes [and {insert reference to any other series so issued}]. Capitalized terms used but not defined herein have the meanings ascribed in the Note Purchase Agreement.

2. Authorization of the New Series of Additional Notes. The Company has authorized the issue and sale of [ ] aggregate principal amount of Notes to be designated as its [ %] Senior Notes, Series [ ], due [ ], [ ] (the “**Series [ ] Notes**”). The Series [ ] Notes, together with the Series 2012 Notes [and the Series [ ] Notes] heretofore issued pursuant to the Note Purchase Agreement and each series of Additional Notes that may from time to time hereafter be issued pursuant to the provisions of paragraph 1B of the Note Purchase Agreement, are collectively referred to as the “**Notes**” (such term shall also include any such notes issued in substitution therefor pursuant to Section 11D of the Note Purchase Agreement). The Series [ ] Notes shall be substantially in the form set out in Exhibit 1 to this [ ] Supplement, (this “**Supplement**”) with such changes therefrom, if any, as may be approved by you and the other Purchasers and the Company..

3. Sale and Purchase of Series [ ] Notes. Subject to the terms and conditions of this [ ] Supplement and the Note Purchase Agreement, the Company will issue and sell to you and each of the other Purchasers named in the attached Schedule A (the “**Other Purchasers**”), and you and each of the Other Purchasers will purchase from the Company, at the Closing provided for in Section 4 below, Series [ ] Notes in the principal amount specified opposite your respective names in the attached Schedule A at the purchase price of 100% of the

principal amount thereof. Your obligation hereunder and the obligations of the Other Purchasers are several and not joint obligations and you shall have no liability to any Person for the performance or non-performance by any Other Purchaser hereunder.

4. Closing. The sale and purchase of the Series [ ] Notes to be purchased by the Purchasers shall occur at the offices of [ ] at 9:00 a.m., [ ] time, at a closing (the “**Closing**”) on [ ], [ ] or on such other Business Day thereafter on or prior to [ ], [ ] as may be agreed upon by the Company and you and the Other Purchasers. At the Closing the Company will deliver to you the Series [ ] Notes to be purchased by you in the form of a single Note (or such greater number of Series [ ] Notes in denominations of at least \$500,000 as you may request) dated the date of the Closing and registered in your name (or in the name of your nominee), against delivery by you to the Company or its order of immediately available funds in the amount of the purchase price therefor by wire transfer of immediately available funds for the account of the Company to account number [ ] at [Name and Address of Bank], ABA No. [ ]. If at the Closing the Company fails to tender such Series [ ] Notes to you as provided above in this Section 4, or any of the conditions specified in Section 5 shall not have been fulfilled to your satisfaction, you shall, at your election, be relieved of all further obligations under this Supplement, without thereby waiving any rights you may have by reason of such failure or such nonfulfillment.

5. Conditions to Closing. Your obligation to purchase and pay for the Series [ ] Notes to be sold to you at the Closing is subject to the fulfillment to your satisfaction, prior to or at the Closing, of the conditions set forth in paragraph 3 of the Note Purchase Agreement, as hereafter modified, and to the following additional conditions:

[Set forth any modifications and additional conditions.]

6. Representations and Warranties of the Company. The Company represents and warrants to you that each of the representations and warranties contained in paragraph of the Note Purchase Agreement is true and correct as of the date hereof (unless limited to an earlier date, in which case, as of such earlier date) (i) except that all references to “Purchaser” and “you” therein shall be deemed to refer to you and the Other Purchasers hereunder, all references to “this Agreement” shall be deemed to refer to the Note Purchase Agreement as supplemented by this Supplement, and all references to “Notes” therein shall be deemed to include the Series [ ] Notes, and (ii) except for changes to such representations and warranties or the Schedules referred to therein that are set forth in the attached Schedule 6.

7. Representations of the Purchasers. You confirm to the Company that the representations and agreements set forth in paragraph 9 of the Note Purchase Agreement are true and correct as to such you.

8. Prepayment of the Series [ ] Notes. [Insert here optional and mandatory prepayment provisions for the Series [ ] Notes, including prepayment premiums, breakage amounts or yield-maintenance amounts, if any.]

9. Applicability of Note Purchase Agreement. Except as otherwise expressly provided herein (and expressly permitted by the Note Purchase Agreement), all of the provisions of the Note Purchase Agreement are incorporated by reference herein and shall apply to the Series [ ] Notes as if expressly set forth in this Supplement.

If you are in agreement with the foregoing, please sign the form of agreement on the accompanying counterpart of this Agreement and return it to the Company, whereupon the foregoing shall become a binding agreement between you and the Company.

Very truly yours,

NORDSON CORPORATION

By:

Name:

Title:

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The foregoing is agreed  
to as of the date thereof.

[ADD PURCHASER SIGNATURE BLOCKS]

INFORMATION RELATING TO PURCHASERS

| <u>Name and Address of Purchaser</u> | <u>Principal Amount of<br/>Series [ ] Notes to be Purchased</u> |
|--------------------------------------|-----------------------------------------------------------------|
|                                      |                                                                 |
|                                      |                                                                 |

Register Notes in name of:

- (1) All scheduled payments of principal and interest  
by wire transfer of immediately available funds to:

with sufficient information to identify the source and application of such funds, including issuer, PPN#, interest rate, maturity and whether payment is of principal, premium, or interest.

For all payments other than scheduled payments of principal and interest, the Company shall seek instructions from the holder, and in the absence of instructions to the contrary, will make such payments to the account and in the manner set forth above.

- (2) All notices of payments and written confirmations of such wire transfers:

- (3) Original notes delivered to:

- (4) All other communications:

- (5) Tax ID No.

**EXCEPTIONS TO REPRESENTATIONS  
AND WARRANTIES**

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**FORM OF SERIES [ ] NOTE**

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[FORM OF OPINION OF COMPANY’S COUNSEL]

[Letterhead of Taft Stettinius & Hollister LLP]

[Date of Closing]

[List Purchasers]

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Ladies and Gentlemen:

We have acted as counsel for Nordson Corporation (the “Company”) in connection with the Master Note Purchase Agreement, dated as of July 26, 2012, between the Company and each of the Purchasers listed on Schedule A thereto (the “Note Agreement”), pursuant to which the Company has issued to you today (i) \$68,000,000 aggregate principal amount of its 3.07% Senior Notes, Series 2012-A, due July 25, 2025; (ii) \$75,000,000 aggregate principal amount of its 3.13% Senior Notes, Series 2012-B, due July 26, 2024; (iii) \$37,000,000 aggregate principal amount of its 2.62% Senior Notes, Series 2012-C, due July 26, 2021 and (iv) \$20,000,000 aggregate principal amount of its 2.27% Senior Notes, Series 2012-D, due July 26, 2017 (the collectively, “Notes”). All terms used herein that are defined in the Note Agreement have the respective meanings specified in the Note Agreement. This letter is being delivered to you in satisfaction of the condition set forth in paragraph 3C of the Note Agreement and with the understanding that you are purchasing the Notes in reliance on the opinions expressed herein.

In this connection, we have examined such certificates of public officials, certificates of officers of the Company and copies certified to our satisfaction of corporate documents and records of the Company and of other papers, and have made such other investigations, as we have deemed relevant and necessary as a basis for our opinion hereinafter set forth. We have relied upon such certificates of public officials and of officers of the Company with respect to the accuracy of material factual matters contained therein which were not independently established; nothing, however, has come to our attention to cause us to believe that any such factual matters are untrue. With respect to the opinion expressed in paragraph 3 below, we have also relied upon the representation made by each of you in paragraph 9A of the Note Agreement.

Based on the foregoing, it is our opinion that:

1. The Company is a corporation duly organized and validly existing in good standing under the laws of the State of Ohio. The Company has all requisite corporate power to conduct its business as currently conducted and as currently proposed to be conducted.

2. The Company has all requisite corporate power to execute, deliver and perform its obligations under the Note Agreement and the Notes. The Note Agreement and the Notes have been duly authorized by all requisite corporate action on the part of the Company and duly executed and delivered by authorized officers of the Company, and are valid obligations of the Company, legally binding upon and enforceable against the Company in accordance with their respective terms, except as such enforceability may be limited by (a) bankruptcy, insolvency, reorganization or other similar laws affecting the enforcement of creditors' rights generally and (b) general principles of equity (regardless of whether such enforceability is considered in a proceeding in equity or at law).

3. It is not necessary in connection with the offering, issuance, sale and delivery of the Notes under the circumstances contemplated by the Note Agreement to register the Notes under the Securities Act or to qualify an indenture in respect of the Notes under the Trust Indenture Act of 1939, as amended.

4. The extension, arranging and obtaining of the credit represented by the Notes do not result in any violation of Regulation T, U or X of the Board of Governors of the Federal Reserve System.

5. The execution and delivery of the Note Agreement and the Notes, the offering, issuance and sale of the Notes and fulfillment of and compliance with the respective provisions of the Note Agreement and the Notes do not conflict with, or result in a breach of the terms, conditions or provisions of, or constitute a default under, or result in any violation of, or result in the creation of any Lien upon any of the properties or assets of the Company [or any of its Subsidiaries] pursuant to, or require any authorization, consent, approval, exemption or other action by or notice to or filing with any court, administrative or governmental body or other Person (other than routine filings after the date hereof with the Securities and Exchange Commission and/or state Blue Sky authorities) pursuant to, the charter or by-laws of the Company [or any of its Subsidiaries], any applicable law (including any securities or Blue Sky law), statute, rule or regulation or (insofar as is known to us after having made due inquiry with respect thereto) any agreement (including, without limitation, any agreement listed in Schedule 8G to the Note Agreement), instrument, order, judgment or decree to which the Company [or any of its Subsidiaries] is a party or otherwise subject.

6. The Company is not (a) an "investment company" or a company "controlled" by an "investment company" within the meaning of the Investment Company Act of 1940, as amended, or an "investment adviser" within the meaning of the Investment Advisers Act of 1940, as amended, (b) a "holding company" of a "public utility company" of an "affiliate" of a "holding company" or of a "subsidiary company" of a "holding company", within the meaning of the Public Utility Holding Company Act of 2005, or (c) a "public utility" within the meaning of the Federal Power Act, as amended.

7. To our knowledge, there are no actions, suits or proceedings pending or threatened against or affecting the Company or any of its Subsidiaries or any property of the Company or any of its Subsidiaries in any court or before any arbitrator of any kind or before or by any governmental authority either (i) with respect to the Note Agreement or the Notes or (ii) that, individually or in the aggregate, could reasonably be expected to have a Material Adverse Effect.

[Customary assumptions and qualifications]

We acknowledge that the Company has requested that this opinion letter be rendered to each of you and to any Transferee, that this opinion letter is rendered with the intention that each of you and any Transferee may rely on this opinion letter, and that each of you and any Transferee may rely on this opinion letter.

Very truly yours,

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FORM OF COMPLIANCE CERTIFICATE

NORDSON CORPORATION

For Fiscal Quarter ended \_\_\_\_\_

THE UNDERSIGNED HEREBY CERTIFIES THAT:

(1) I am the duly elected [CEO/CFO/Treasurer] of NORDSON CORPORATION, an Ohio corporation (“Nordson”);

(2) I am familiar with the terms of that certain Master Note Purchase Agreement, dated as of July 26, 2012, among Nordson and the Purchasers listed on Schedule A thereto (as the same may from time to time be amended, restated or otherwise modified, the “Agreement”, the terms defined therein being used herein as therein defined), and I have made, or have caused to be made under my supervision, a review in reasonable detail of the transactions and condition of Nordson and its Subsidiaries during the accounting period covered by the attached financial statements;

(3) The review described in paragraph (2) above did not disclose, and I have no knowledge of, the existence of any condition or event that constitutes or constituted a Default or Event of Default, as at the end of the accounting period covered by the attached financial statements or as of the date of this Certificate;

(4) Set forth on Attachment I hereto are calculations of the financial covenants set forth in Section 6A of the Credit Agreement, which calculations show compliance with the terms thereof and a calculation of Consolidated Total Assets.

IN WITNESS WHEREOF, I have signed this certificate the \_\_\_\_ day of \_\_\_, 20[ ].

NORDSON CORPORATION

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

AGREEMENTS RESTRICTING DEBT

1. Primary Credit Facility
2. 2008 Note Purchase Agreement
3. 2011 Note Purchase Agreement
4. Bond Purchase Agreement by and among Emanuel County Development Authority as Issuer, the Company as Lessee, and PNC Bank, National Association, as Original Purchaser.
5. PNC Term Loan Agreement

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= "LAST PAGE ONLY" 1

FIRST AMENDMENT  
TO  
NORDSON CORPORATION  
EXCESS DEFINED CONTRIBUTION RETIREMENT PLAN  
(November 1, 1987 Restatement)

The Nordson Corporation Excess Defined Contribution Retirement Plan (hereinafter referred to as the "Plan"), as originally established for the benefit of certain designated salaried employees effective as of November 1, 1985, and amended and restated in its entirety effective as of November 1, 1987, is hereby amended further, effective as January 1, 1988, to provide as follows:

1. Section 1.1 of the Plan is amended by the addition of a new paragraph (f) at the end thereof to provide as follows:

(f) The term "Non-Union ESOP" shall mean the Nordson Corporation Non-Union Employees Stock Ownership Plan and Trust in effect on the date of an Employee's retirement, death, or other termination of employment.

2. Sections 2.1 and 2.2 of the Plan are amended to provide as follows:

**2.1 Eligibility.** An Employee who is a Participant in the Employees' Savings Trust Plan or the Non-Union ESOP and whose benefits under either Plan have been limited by Section 401(a)(17), Section 402(g)(1), or Section 415 of the Code, including limitations on tax-deferred and employer-matching contributions, shall be eligible for an excess retirement benefit determined by Section 2.2. In addition, in the event that the Tax Deferred Contributions of an eligible Employee under the Employees' Savings Trust Plan are limited by the provisions of Section 401(a)(17), Section 415, or Section 402(g)(1) of the Code, such eligible Employee may elect to defer payment of that portion of his compensation that otherwise could have been made as Tax Deferred Contributions but for these limitations. The deferred payment election shall be made in writing by the eligible Employee and delivered to the Company prior to the beginning of a Plan Year. The election shall be irrevocable until the first day of the next Plan Year. Notwithstanding any of the foregoing, any reference in Section 2.1 and 2.2 hereunder to the limitation imposed by Section 402(g)(1) of the Code shall automatically include any amendments to such limitation to reflect cost of living increases.

**2.2 Amount.** The excess retirement benefit payable to an eligible Employee or his beneficiary shall be an amount equal to the sum of:

(i) the amount, if any, of the limited contributions an eligible Employee elected to defer in Section 2.1, except that if such limited contributions would be further restricted under the Employees' Savings Trust Plan for a Plan Year to comply with Section 401(k) of the Code with respect to the deferral of compensation by highly compensated employees, the amount determined hereunder shall be similarly limited; plus

(ii) an amount that, when added to the vested interest of such Employee in Employer Matching Contributions under the Employees' Savings Trust Plan, equals the value his vested interest in Employer Matching Contributions would have been on the date distribution commences under the Employees' Savings Trust Plan if the limitations of Section 401(a)(17), Section 415, or Section 402(g)(1) of the Code had not been in effect; plus

(iii) an amount, if any, equal to the value of the vested interest an eligible Employee would have been entitled to receive under the Non-Union ESOP if the limitations of Section 401(a)(17) or Section 415 of the Code had not been in effect.

In determining the value that an eligible Employee's interest under the Employees' Savings Trust Plan and under the Non-Union ESOP would have been if the limitations of Section 401(a)(17), Section 415, or Section 402(g)(1) of the Code had not been in effect as described in (i), (ii), and (iii) above, it shall be assumed that:

(a) his Tax Deferred Contributions and his Employer Matching Contributions under the Employees' Savings Trust Plan and any Employer contributions under the Non-Union ESOP were deposited on the dates such contributions

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would have otherwise been made to the Employees' Savings Trust Plan or Non-Union ESOP, as applicable, and held in the guaranteed income contract maintained as part of the Guaranteed Fund that holds the largest amount of assets from the Employees' Savings Trust Plan for such year; and

(b) the interest rate actually paid with respect to such guaranteed income contract under the Guaranteed Fund for the Employee's Savings Trust Plan was paid with respect to the contributions that would otherwise have been made under either Plan; and

(c) such interest was reinvested in the Guaranteed Fund for the Employee's Savings Trust on the date and in the same manner as actual interest under the Guaranteed Fund.

EXECUTED at Westlake, Ohio, this 29th day of May, 1989.

NORDSON CORPORATION

By

\_\_\_\_\_  
Title:

SECOND AMENDMENT  
TO  
NORDSON CORPORATION  
EXCESS DEFINED BENEFIT RETIREMENT PLAN

The Nordson Corporation Excess Defined Benefit Retirement Plan (hereinafter referred to as the "Plan"), as originally established for the benefit of certain designated salaried employees effective as of November 1, 1985, and as amended on one subsequent occasion, is hereby further amended, effective upon execution hereof, to add new Section 2.4 as follows:

2.4 VESTING OF BENEFITS. Notwithstanding any provision of the Plan other than Section 6.6 to the contrary, the excess pension benefit of each eligible Employee determined as if he were to terminate employment on December 31, 1993, shall be fully vested and nonforfeitable on December 31, 1993.

EXECUTED at Westlake, Ohio this       day of       , 1993.

NORDSON CORPORATION

By \_\_\_\_\_

Title \_\_\_\_\_

**NORDSON CORPORATION****Subsidiaries of the Registrant**

The following table sets forth the subsidiaries of the Registrant (each of which is included in the Registrant's consolidated financial statements), and the jurisdiction under the laws of which each subsidiary was organized:

| <u>Name</u>                                                                                   | <u>Jurisdiction of Incorporation</u> |
|-----------------------------------------------------------------------------------------------|--------------------------------------|
| <b>UNITED STATES:</b>                                                                         |                                      |
| LinkTech Quick Couplings, Inc.                                                                | California                           |
| Nordson ASYMTEK, Inc.                                                                         | California                           |
| Nordson DAGE, Inc.                                                                            | California                           |
| Nordson MARCH, Inc                                                                            | California                           |
| Nordson SELECT, Inc.                                                                          | California                           |
| Nordson YESTECH, Inc.                                                                         | California                           |
| Value Plastics, Inc. dba Nordson MEDICAL                                                      | Colorado                             |
| Nordson MEDICAL (CA), LLC fka Avalon Laboratories, LLC                                        | Delaware                             |
| Avalon Laboratories Holding Corp.                                                             | Delaware                             |
| EDI Holdings, Inc.                                                                            | Delaware                             |
| Nordson Extrusion Dies Industries, LLC                                                        | Delaware                             |
| Nordson MEDICAL Design and Development, Inc. fka Vention Medical Design and Development, Inc. | Delaware                             |
| Nordson MEDICAL, Inc. fka Vention Medical Holdings, Inc.                                      | Delaware                             |
| Nordson Xaloy Incorporated                                                                    | Delaware                             |
| Sonoscan, Inc.                                                                                | Delaware                             |
| Vention Medical Acquisition Co.                                                               | Delaware                             |
| VP Acquisition Holdings, Inc.                                                                 | Delaware                             |
| Xaloy Extrusion LLC dba Nordson Xaloy Incorporated                                            | Delaware                             |
| Xaloy Holdings, Inc.                                                                          | Delaware                             |
| Xaloy Superior Holdings, Inc.                                                                 | Delaware                             |
| J and M Laboratories, Inc.                                                                    | Georgia                              |
| Micromedics, Inc. dba Nordson MEDICAL                                                         | Minnesota                            |
| Nordson Medical (NH), Inc. fka Vention Medical Advanced Components, Inc.                      | New Hampshire                        |

| <u>Name</u>                                                | <u>Jurisdiction of Incorporation</u> |
|------------------------------------------------------------|--------------------------------------|
| <b>UNITED STATES:</b>                                      |                                      |
| Nordson Advanced Technology LLC                            | Ohio                                 |
| Nordson Atlantic LLC                                       | Ohio                                 |
| Nordson England L.L.C.                                     | Ohio                                 |
| Nordson Medical Corporation                                | Ohio                                 |
| Nordson Pacific, Inc.                                      | Ohio                                 |
| Nordson U.S. Trading Company                               | Ohio                                 |
| Nordson Xaloy Incorporated                                 | Ohio                                 |
| Realty Land Conservancy III LLC                            | Ohio                                 |
| Spirex Corporation dba Nordson Xaloy Incorporated          | Ohio                                 |
| New Castle Industries, Inc. dba Nordson Xaloy Incorporated | Pennsylvania                         |
| EFD International, Inc.                                    | Rhode Island                         |
| Nordson EFD LLC                                            | Rhode Island                         |

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| <u>Name</u>                                                       | <u>Jurisdiction of Incorporation</u> |
|-------------------------------------------------------------------|--------------------------------------|
| <b>INTERNATIONAL:</b>                                             |                                      |
| Nordson Australia Pty. Limited                                    | Australia                            |
| Nordson Pacific, Inc. Australian Representative Office            | Australia                            |
| Nordson Osterreich GmbH                                           | Austria                              |
| Nordson Benelux S.A./N.V.                                         | Belgium                              |
| Nordson do Brasil Industria e Comercio Ltda.                      | Brazil                               |
| Nordson Canada Limited                                            | Canada                               |
| Dage Test Systems (Suzhou) Co. Ltd.                               | China                                |
| Hanshitong (Shanghai) Enterprise Management Consulting Co. Ltd.   | China                                |
| Nordson (China) Co., Ltd.                                         | China                                |
| Nordson (Shanghai) Business Consulting Co., Ltd.                  | China                                |
| Nordson China Business Trust                                      | China                                |
| Nordson PPS (Shanghai) Co. Ltd.                                   | China                                |
| Nordson PPS (Shanghai) Representative Office                      | China                                |
| PDMC Branch Company of Nordson (China) Ltd.                       | China                                |
| Sonoscan Acoustic Imaging Instruments (Shanghai) Limited          | China                                |
| Suzhou Nordson Electronics Equipment., Co., Ltd.                  | China                                |
| Nordson Andina Limitada                                           | Colombia                             |
| Nordson CS, spol.s.r.o.                                           | Czech Republic                       |
| Nordson Danmark A/S                                               | Denmark                              |
| Nordson Finland Oy                                                | Finland                              |
| Dosage 2000 S.A.R.L                                               | France                               |
| Nordson France S.A.S.                                             | France                               |
| Dage Deutschland GmbH                                             | Germany                              |
| Matrix Technologies GmbH                                          | Germany                              |
| Nordson BKG GmbH fka Nordson PPS GmbH                             | Germany                              |
| Nordson Deutschland GmbH                                          | Germany                              |
| Nordson Engineering GmbH                                          | Germany                              |
| Nordson Germania Ltd. & Co. KG                                    | Germany                              |
| Nordson Holdings S.à r.l. & Co. KG                                | Germany                              |
| Nordson SELECT GmbH                                               | Germany                              |
| Nordson Xaloy Europe GmbH                                         | Germany                              |
| Ligonia Limited                                                   | Hong Kong                            |
| Macaria Limited                                                   | Hong Kong                            |
| Nordson Advanced Technology (Hong Kong) Ltd.                      | Hong Kong                            |
| Nordson Asia Pacific, Limited                                     | Hong Kong                            |
| Sonoscan Asia Pacific Limited                                     | Hong Kong                            |
| Nordson India Private Limited                                     | India                                |
| Nordson S.E. Asia (Pte.) Limited, Indonesia Representative Office | Indonesia                            |

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| <u>Name</u>                                                                                   | <u>Jurisdiction of Incorporation</u> |
|-----------------------------------------------------------------------------------------------|--------------------------------------|
| <b>INTERNATIONAL:</b>                                                                         |                                      |
| Chartview Investments Limited                                                                 | Ireland                              |
| Cladach Nua Teoranta                                                                          | Ireland                              |
| Nordson MEDICAL Ireland Limited fka Vention Medical Ireland Limited                           | Ireland                              |
| CardioNiti Ltd.                                                                               | Israel                               |
| Great Aspirations Ltd.                                                                        | Israel                               |
| MedKardia Ltd.                                                                                | Israel                               |
| Nordson MEDICAL Israel AC Ltd.                                                                | Israel                               |
| Nordson MEDICAL Israel Ltd. fka Lithotech and Vention Medical Israel Advanced Components Ltd. | Israel                               |
| SafePass Vascular Ltd.                                                                        | Israel                               |
| Score It Ltd.                                                                                 | Israel                               |
| Nordson Italia S.p.A.                                                                         | Italy                                |
| Nordson Xaloy Italia S.r.l.                                                                   | Italy                                |
| Nordson Advanced Technology (Japan) K.K.                                                      | Japan                                |
| Nordson K.K.                                                                                  | Japan                                |
| Nordson Xaloy K.K.                                                                            | Japan                                |
| Nordson European Holdings Luxembourg S.à r.l.                                                 | Luxembourg                           |
| Nordson Luxembourg S.à r.l.                                                                   | Luxembourg                           |
| Nordson S.à r.l.                                                                              | Luxembourg                           |
| Nordson (Malaysia) Sdn. Bhd.                                                                  | Malaysia                             |
| Nordson de Mexico, S.A. de C.V.                                                               | Mexico                               |
| Nordson Benelux B.V.                                                                          | The Netherlands                      |
| Nordson B.V.                                                                                  | The Netherlands                      |
| Nordson Dima B.V.                                                                             | The Netherlands                      |
| Nordson New Zealand                                                                           | New Zealand                          |
| Nordson Norge A/S                                                                             | Norway                               |
| Nordson Polska Sp.z.o.o.                                                                      | Poland                               |
| Nordson Portugal Equipamento Industrial, Lda.                                                 | Portugal                             |
| Nordson Russia Limited Liability Company                                                      | Russia                               |
| Matrix Inspection Systems, Pte. Ltd.                                                          | Singapore                            |
| Nordson Advanced Technology (Singapore) Pte. Ltd.                                             | Singapore                            |
| Nordson Advanced Technology International Pte. Ltd.                                           | Singapore                            |
| Nordson S.E. Asia (Pte.) Ltd.                                                                 | Singapore                            |
| Primount Singapore Pte. Ltd.                                                                  | Singapore                            |
| Nordson SA (Pty) Limited                                                                      | South Africa                         |
| Nordson Korea                                                                                 | South Korea                          |
| Nordson Iberica, S.A.                                                                         | Spain                                |
| Nordson AB                                                                                    | Sweden                               |
| Nordson (Schweiz) A.G.                                                                        | Switzerland                          |

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**Name****Jurisdiction of Incorporation****INTERNATIONAL:**

|                                                                               |                |
|-------------------------------------------------------------------------------|----------------|
| Nordson Advanced Technology LLC (Taiwan Branch)                               | Taiwan         |
| Nordson Xaloy Asia (Thailand) Ltd.                                            | Thailand       |
| Dage Holdings Limited                                                         | United Kingdom |
| Dage Pension Trustees Limited                                                 | United Kingdom |
| Dage Precision Industries Limited                                             | United Kingdom |
| Majority Kingdom Investment Limited                                           | United Kingdom |
| Minority Kingdom Investment Limited                                           | United Kingdom |
| Nordson (U.K.) Limited                                                        | United Kingdom |
| YDX Limited 2010 fka Nordson London Limited                                   | United Kingdom |
| Primount LLP                                                                  | United Kingdom |
| Sonoscan (Europe) Ltd.                                                        | United Kingdom |
| Nordson International de Venezuela, CA                                        | Venezuela      |
| Representative Office of Nordson S.E. Asia (Pte.) Limited in Ho Chi Minh City | Vietnam        |

**NORDSON CORPORATION**

**Consent of Independent Registered Public Accounting Firm**

We consent to the incorporation by reference in the following Registration Statements:

1. Registration Statement (Form S-8 No. 333-167406) pertaining to the Nordson Employees' Savings Trust Plan and Nordson Hourly-Rated Employees' Savings Trust Plan,
2. Registration Statement (Form S-8 No. 33-18309) pertaining to the Nordson Employees' Savings Trust Plan,
3. Registration Statement (Form S-8 No. 33-33481) pertaining to the Nordson Hourly-Rated Employees' Savings Trust Plan,
4. Registration Statement (Form S-8 No. 333-119399) pertaining to the Nordson Corporation 2004 Long-Term Performance Plan,
5. Registration Statement (Form S-8 No. 333-188980) pertaining to the Nordson Corporation 2012 Stock Incentive and Award Plan, and
6. Registration Statement (Form S-8 No. 333-225378) pertaining to the Amended and Restated Nordson Corporation 2012 Stock Incentive and Award Plan;

of our reports dated December 14, 2018, with respect to the consolidated financial statements and schedule of Nordson Corporation and the effectiveness of internal control over financial reporting of Nordson Corporation, included in this Annual Report (Form 10-K) for the year ended October 31, 2018.

/s/ Ernst & Young LLP

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Ernst & Young LLP

Cleveland, Ohio

December 14, 2018

**CERTIFICATION PURSUANT TO RULE 13a-14(a)/15d-14(a) OF THE SECURITIES EXCHANGE ACT OF 1934, AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Michael F. Hilton, certify that:

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

Date: December 14, 2018

/s/ Michael F. Hilton

Michael F. Hilton

President and Chief Executive Officer

**CERTIFICATION PURSUANT TO RULE 13a-14(a)/15d-14(a) OF THE SECURITIES EXCHANGE ACT OF 1934, AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Gregory A. Thaxton, certify that:

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

Date: December 14, 2018

/s/ Gregory A. Thaxton

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Gregory A. Thaxton

Executive Vice President, Chief Financial Officer

**CERTIFICATION PURSUANT TO  
18 U.S.C. SECTION 1350,  
AS ADOPTED PURSUANT TO  
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Annual Report of Nordson Corporation (the "Company") on Form 10-K for the year ended October 31, 2018, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Michael F. Hilton, president and chief executive officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

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

December 14, 2018

/s/ Michael F. Hilton

Michael F. Hilton

President and Chief Executive Officer

**CERTIFICATION PURSUANT TO**

**18 U.S.C. SECTION 1350,**

**AS ADOPTED PURSUANT TO**

**SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Annual Report of Nordson Corporation (the "Company") on Form 10-K for the year ended October 31, 2018, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Gregory A. Thaxton, executive vice president, chief financial officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

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

December 14, 2018

/s/ Gregory A. Thaxton

Gregory A. Thaxton

Executive Vice President, Chief Financial Officer