





Pat McHale | President and CEO

To Our Shareholders

Back in 2007, I had the good fortune to be chosen to lead this Company. The business was financially solid with a long history of strong performance. We had an amazing team of committed employees, a global distribution channel second to none, and a knowledgeable and engaged board of directors. New product development and manufacturing were core competencies and competitive advantages. Our brand was strong, and we received high marks for product quality and customer service. We had a great foundation in place.

After spending time listening to stakeholders and conducting strategic planning with the management team and board, it was evident major directional changes were not needed. We were doing the right things – so how could we do them better and faster? To accelerate growth, decisions were made to ramp up spending on new product development, expand our risk tolerance on new ventures and invest more resources in business development. On the back office and operational side, we reaffirmed our commitment to robust metrics and continuous year-over-year improvement.

Growing up in manufacturing, I had tremendous passion for quality improvement and elected to personally lead the charge at Graco in improving our product quality. We already had a leading quality position in most of our markets, so my challenge was to get the organization to rally around the need to do even better. To this end, we made our quality measurements more stringent and set aggressive annual improvement targets that are reviewed quarterly during operating reviews. This heightened emphasis on quality supports our mission to generate sustained profitable growth to benefit our customers, employees, shareholders and communities and be the world's leading supplier of fluid management products.

Customer service has been fundamental at Graco for as long as I can remember. One of our five core values is “customer focus.” We track and review a number of customer service metrics each month and regularly survey our distributors and end users to get feedback on how we are performing. During my first seven or so years in this chair, I reviewed the data and survey outcomes regularly. Generally, our scores were high – let’s say 4.4 out of 5 stars. Satisfied our results and processes were sound, I moved on to what I believed were higher priorities, like revenue growth or product quality initiatives.

Outside of work I’m a “do it yourself” guy. From plumbing, electrical and framing to tractor repair or planting crops, I like to have an active project going on – and like to do it with my own hands. Given the limited time I have, I deal with reputable suppliers and purchase quality brands of tools and equipment. About four years ago in a compressed period of time, I had a rash of bad service experiences. It was astounding to me to be having such bad experiences with highly-rated companies. By nature, when I have a bad experience as a consumer the first thing to come to mind is, “Who is running this place?” My second thought is, “I’m the guy running Graco. Do we ever do this to people?” My initial reaction was, “Of course we don’t. I look at the

metrics. Our survey reports are generally 4.4 out of 5. We are good, right?” But after deeper reflection, it became obvious. The companies failing me also probably get 4.4 out of 5 stars. You can make a lot of mistakes and still get rated 4.4 out of 5.

It was time for me to change my thinking and to drive a whole different expectation of customer service across Graco. Beginning with face-to-face meetings with employees around the world, I made the case that we needed a complete change of mindset. I shared my experiences and frustrations as a consumer and encouraged our employees to share their own consumer nightmares. From there, we expanded our definition of customer service to encompass the total customer experience. We got heads nodding that a bad experience anywhere along the way likely leads to lost customers and lost sales. We explained the need to think in an extremely granular fashion. Metrics and survey data are important but high average scores can mask a multitude of failures. In order to achieve my vision, we need to excel at every single customer touch point – every time.

Some of the new initiatives we implemented to drive the culture change made people nervous. For example, we put a link on our website for anyone worldwide to

“email the CEO” if they’re frustrated and not getting the help they need from Graco. I field those emails from our customers around the world without a go-between. Initially, everyone advised me against doing this. We have tens of thousands of distributors, nearly 100 years of installed base and hundreds of thousands of end users around the world, so they thought my email would blow up if we let people contact me directly. That hasn’t been the case – our employees and distributors already do a great job. It has, however, provided a pressure-relief valve for customers from time to time, given me a daily, real-time direct link to our end users and exposed plenty of improvement opportunities for us to work on.

It’s not easy to challenge an organization in an area where they are already performing. We weren’t going to create any new jobs, like a Chief Experience Officer. I am Graco’s Chief Experience Officer. I am responsible for pushing the initiative and culture from the top, and it is everyone’s job to figure out what they can do to improve the customer experience. We had a few folks who saw the light early on and became champions in their work area, which was an enormous help in propelling the initiative forward.

Today, we have made much progress. Our new goal is

“A+ Service to Every Customer, Every Time™.” This mantra has become so central to our culture and brand promise we literally trademarked it. This goal opens up a vast array of improvement opportunities. We have developed new metrics to track our progress, but most importantly we are working on people and culture. Every single employee must have a clear understanding of their role in delivering a great customer experience, and must be passionate about doing so. As our people have become champions, I see them developing tools and systems all over the world to help us improve. We still have a ways to go, but I’m proud of our employees’ energy and commitment to this effort.

Thank you for being shareholders in Graco. You have invested in a team of people who care deeply about what they do.

We remain committed to our four key growth strategies: new product development, new markets, geographic expansion and acquisitions. And most importantly, we strive to flawlessly deliver products and services so all stakeholders in Graco – shareholders, end users, distributors, suppliers, employees and the community – can be successful.



Pat McHale
President and Chief Executive Officer

New Products 2018

Industrial

E-Flo® SP Electric Supply Pump

Designed for industrial and automotive sealant and adhesive applications, this advanced electric pump easily replaces traditional, inefficient pneumatic pumps by delivering more data, better precision and control, and less cost.



E-Flo SP Pump



Electric Fixed Ratio System

Electric Fixed Ratio Metering System

The Electric Fixed Ratio (EFR) system is an electrically-driven proportioner for two-component sealant and adhesives in the industrial market, providing advanced material control in applications requiring consistent shots and beads.



Gusmer H-20/35 Proportioner



Reactor Mobile App

Gusmer® H-20/35 GH-2 Hydraulic Proportioner

A simple, durable machine with impressive performance designed for residential and commercial spray foam applications.

Reactor® Mobile App

Enables contractors who apply spray foam to make real-time, remote adjustments to Reactor 2 proportioners from their smartphones. The mobile app also provides operational data and reporting, including drum level and inlet sensor information and ratio reports.



Integrated PowerStation



King Airless Sprayer

Integrated PowerStation™

Transforms spray foam rig building with a modular design allowing for more layout options and easier maintenance while saving diesel fuel, space and weight.

King® Airless Sprayer

The new King sprayers feature a trusted XL motor that provides sharp, smooth changeovers and low pulsation – even while multiple guns are operating – for improved performance.

XPs-hf™ Plural-Component Proportioner

Featuring a 25-gallon agitated and heated tank, the XPs-hf system allows contractors to work efficiently with less stopping to refill the hopper and recondition the material.



XPs-hf Proportioner



OptiFlow IG07 Injector



ProMix PD3K Proportioner Platform

New Products 2018

Industrial

ToughTek® F800e Electric Fireproofing Pump

Designed with Graco's patent-pending piston pump technology and a direct-drive electric motor, this pump allows fireproofing contractors to spray up to 40 bags per hour from a pump that weighs less than 400 pounds and plugs into any standard 240-volt, 30-amp outlet.



ToughTek F800e Pump



ToughTek F340e Pump

ToughTek F340e Electric Fireproofing Pump

With its compact and portable size, the F340e pump is ideal for spraying up to 100 bags per day. This pump delivers impressive spray performance thanks to its energy efficient direct-drive electric motor and high-output pump components.

Endura-Flo™ 3:1 Paint Supply Pump

High-pressure diaphragm pumps with airless backing diaphragms for improved durability for abrasive materials and extreme operating conditions.



Endura-Flo 3:1 Pump



E-Flo DC Pump

E-Flo® DC Pumps

This dual-control electric circulating pump for paint circulation and finishing applications has been found to be up to five times more efficient than similar-sized pneumatic pumps and reduce noise levels.

ProMix® PD3K Proportioner Platform

No need for multiple systems. This system mixes up to four materials within one percent accuracy, and offers multiple pump configurations for manual and automatic applications.



OptiStar 4.0 System



Electrostatic Mobile App

OptiFlow™ IG07 Injector

This injector's unique single-component cartridge design for powder coating applications reduces wear consumption, guarantees a long-term consistent powder flow and enables even faster wear part exchange.

OptiStar® 4.0 Type CG20 and CG24

To be used in combination with OptiFlow injectors, OptiGun guns and OptiSpray powder coating application pumps, this system manages crucial coating parameters to ensure an optimized application.

Electrostatic Mobile App

With the new app, essential powder coating application data and parameters can be retrieved at any time via a mobile device.



MagicControl 4.0 System



Reciprocator ZA15

Vertical Reciprocator ZA15

Used in powder coating applications, this state-of-the-art design allows for heavy load axis capabilities as well as gap, height and width detection to improve accuracy and reduce waste.

MagicControl 4.0 System

This system enables users to link and control all components of the powder coating line, monitor warning and error messages, store application programs and generate production data.

OptiFlex® A1 Control Cabinet

A basic solution for entry-level systems that can be integrated into any existing powder coating plant and connect to up to 15 control units.



OptiFlex A1 Control Cabinet



OptiFlex A2 Control Cabinet

OptiFlex A2 Control Cabinet

Designed for more complex installations, this system can be tailored to any powder coating automation need and connect to up to 21 control units.

New Products 2018

Process

Pulse™ Fluid Management System

This wireless fluid management system for vehicle service provides forward-thinking service operations with the insight, control and analytics needed to simplify decisions and drive profitability in the age of the seamlessly-connected shop.



Pulse Fluid Management System

EM Series™ Electronic Meters

These electronic manual meters for vehicle service feature a robust design at an affordable price with weather-rated and impact-resistant construction to withstand the harshest shop conditions.



EM Series Electronic Meters

Yellow Iron Kits and Selector Tool

The selector tool allows users of construction, earth moving or agricultural equipment to select their equipment specifications to find an all-inclusive pump and valve kit package that fits their equipment needs.

SaniForce® 2150e and Husky™ 2150e Electrically-Operated Double Diaphragm Pumps

A broader offering of electrically-operated double diaphragm pumps to support large-scale process applications while improving energy efficiency and durability, running up to 142 gallons per minute at 100 psi. The Saniforce line is ideal for sanitary and hygienic applications, while the Husky line is ideal for industrial applications.

SaniForce Pail Unloader

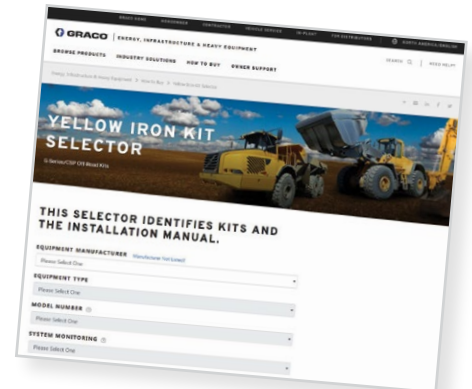
This unloader provides up to 99 percent evacuation rates of medium to high-viscosity materials from five to seven gallon pails. Designed for quick disassembly, the product is suitable for cosmetic, food and pharmaceutical applications.

SEM5000 Portable Methane Detector

The ideal instrument for environmental landfill surface emissions monitoring, reporting and detecting potential leaks at wellheads and surface penetrations, able to detect methane emissions from 0.5 ppm to 100 percent concentration.

Snap Sampler®

The premier choice for passive groundwater sampling, this system eliminates well purging labor and purge water management or disposal. Samples can be collected by one person without field vehicles carrying equipment and water tanks to the site.



Yellow Iron Kits and Selector Tool



Husky 2150e Pumps



SaniForce Pail Unloader



SEM5000 Methane Detector



Snap Sampler



SaniForce 2150e Pumps

New Products 2018

Contractor

RAC® X Low Pressure SwitchTips™

With 46 low-pressure tip sizes, contractors can deliver low-pressure performance on large surface and high production applications with less overspray and reduced prep and cleanup time.



RAC X
Low Pressure SwitchTips

TexSpray™ FastFinish™ Pressure-Boosted Hopper Gun System

The pressure-boosted hopper gun and continuous-flow air compressor in this compact system significantly improve productivity and reduce operator fatigue on small-to-medium touch-up and texture jobs.



TexSpray FastFinish Pressure-Boosted
Hopper Gun System

TexSpray RTX 2500PI Sprayer

This powerful yet compact texture sprayer helps contractors save time with 42 percent more pressure and a large 15-gallon hopper. Its smaller size makes it ideal for one person to load and maneuver around any jobsite.

DutyMax™ GH 675DI Sprayer

The most powerful sprayer in its class with up to 6,750 psi of pressure, the DutyMax GH 675DI sprayer easily handles hard-to-atomize materials like silicones and other protective coatings while its compact size provides jobsite mobility.

LazerGuide 2000 Laser-Guided Layout System

Striping contractors can eliminate tedious manual layout work while producing straight and accurate lines every time. When paired with Graco's AutoLayout™ system, this industry-leading technology reduces setup time and labor costs.

RoadLazer™ RoadPak™ HD System

With double the output of Graco's original RoadPak system and advanced controls, including built-in patterns and independent toggle switch for up to five guns, the RoadPak HD striping system is ideal for airports and large DOT striping jobs.



TexSpray RTX
2500PI Sprayer



DutyMax GH 675DI Sprayer



LazerGuide 2000
Laser-Guided Layout System



RoadLazer RoadPak HD System

10 Year Financial Summary

Graco Inc. & Subsidiaries

(Dollars in thousands, except per share amounts)

	2018	2017	2016 ⁽¹⁾	2015 ⁽²⁾	2014	2013	2012	2011	2010	2009
Operations										
Net Sales	\$1,653,292	\$1,474,744	\$1,329,293	\$1,286,485	\$1,221,130	\$1,104,024	\$1,012,456	\$895,283	\$744,065	\$579,212
Gross Profit ⁽³⁾	882,539	795,202	710,869	684,700	666,736	607,455	550,530	500,205	403,445	292,816
<i>Percent of Sales</i>	53.4%	53.9%	53.5%	53.2%	54.6%	55.0%	54.4%	55.9%	54.2%	50.6%
Operating Earnings ⁽³⁾	436,427	378,745	121,144	302,125	308,925	279,769	224,677	219,514	153,141	74,467
<i>Percent of Sales</i>	26.4%	25.7%	9.1%	23.5%	25.3%	25.3%	22.2%	24.5%	20.6%	12.9%
Net Earnings	341,054	252,412	40,674	345,713	225,573	210,822	149,126	142,328	102,840	48,967
<i>Percent of Sales</i>	20.6%	17.1%	3.1%	26.9%	18.5%	19.1%	14.7%	15.9%	13.8%	8.5%
Net Earnings, Adjusted ⁽⁴⁾	326,075	249,472	202,132	204,327	225,573	210,822	149,126	142,328	102,840	48,967
<i>Percent of Sales, Adjusted⁽⁴⁾</i>	19.7%	16.9%	15.2%	15.9%	18.5%	19.1%	14.7%	15.9%	13.8%	8.5%
Financial Position										
Current Assets ⁽⁵⁾	\$723,216	\$643,338	\$503,362	\$509,017	\$839,538	\$792,593	\$776,996	\$582,970	\$252,408	\$188,993
Current Liabilities ⁽⁵⁾	299,803	245,838	177,985	194,616	172,737	168,853	151,671	131,282	119,754	103,815
Working Capital	423,413	397,500	325,377	314,401	666,801	623,740	625,325	451,688	132,654	85,178
Property, Plant & Equipment, Net	229,295	204,298	189,596	178,437	161,230	151,717	151,544	138,248	134,185	139,053
Total Assets ⁽⁵⁾	1,472,741	1,390,617	1,243,109	1,391,352	1,544,778	1,327,228	1,321,734	874,309	530,474	476,434
Long-term Debt (including current portion)	266,391	226,035	305,685	392,695	615,000	408,370	556,480	300,000	70,255	86,260
Shareholders' Equity	751,873	723,063	573,820	635,551	596,032	634,365	454,114	322,740	264,114	209,654
Capital (long-term debt plus shareholders' equity)	1,018,264	949,098	879,505	1,028,246	1,211,032	1,042,735	1,010,594	622,740	334,369	295,914
Cash Provided (Used) By										
Operations	\$367,985	\$337,864	\$276,006	\$191,414	\$247,889	\$251,402	\$193,899	\$164,239	\$103,111	\$146,907
Investing, excluding marketable securities ⁽⁵⁾	(66,247)	(68,447)	(91,223)	369,939	(216,731)	(31,238)	(694,520)	(27,997)	(18,769)	(12,794)
Financing	(282,711)	(217,076)	(185,165)	(536,186)	(30,208)	(234,239)	228,454	157,446	(78,780)	(139,185)
Other Data										
Depreciation and Amortization	\$47,754	\$45,583	\$48,290	\$44,607	\$35,515	\$37,316	\$38,762	\$32,483	\$33,973	\$35,140
Property, Plant and Equipment Additions	53,854	40,194	42,113	41,749	30,636	23,319	18,234	23,854	16,620	11,463
Per Common Share⁽⁶⁾										
Basic Net Earnings	\$2.04	\$1.50	\$0.24	\$2.00	\$1.25	\$1.15	\$0.82	\$0.79	\$0.57	\$0.27
Diluted Net Earnings	1.97	1.45	0.24	1.95	1.22	1.12	0.81	0.77	0.56	0.27
Diluted Net Earnings, Adjusted ⁽⁴⁾	1.88	1.43	1.18	1.15	1.22	1.12	0.81	0.77	0.56	0.27
Dividends Paid	0.53	0.48	0.44	0.40	0.37	0.33	0.30	0.28	0.27	0.25
Shareholders' Equity	4.55	4.27	3.43	3.80	3.36	3.47	2.49	1.80	1.47	1.16
Other Statistics										
Sales Growth	12.1%	10.9%	3.3%	5.4%	10.6%	9.0%	13.1%	20.3%	28.5%	(29.1%)
Return on Average Shareholders' Equity	46.2%	38.9%	6.7%	56.1%	36.7%	38.7%	38.4%	48.5%	43.4%	26.0%
Return on Average Capital	34.7%	27.6%	4.3%	30.9%	20.0%	20.5%	18.3%	29.7%	32.6%	15.2%
Long-term Debt/Capital	26.2%	23.8%	34.8%	38.2%	50.8%	39.2%	55.1%	48.2%	21.0%	29.2%
Current Ratio	2.4	2.6	2.8	2.6	4.9	4.7	5.1	4.4	2.1	1.8

(1) Operating results in 2016 included intangible asset impairment charges that reduced operating earnings by \$192 million and net earnings by \$161 million (\$0.95 per diluted share).

(2) Net earnings in 2015 included \$141 million (\$0.80 per diluted share) of after-tax dividends and gain on sale of the Liquid Finishing business assets held separately from the Company's other businesses.

(3) Restated 2017 and 2016 gross profit and operating earnings for change in presentation of non-service components of pension cost. Restated 2017 and 2016 cash used by investing for change in presentation of restricted cash.

(4) Adjusted amounts in 2018 exclude impacts of non-recurring income tax adjustments and excess tax benefits from option exercises. Adjusted amounts in 2017 exclude impacts of non-recurring income tax adjustments, excess tax benefits from option exercises and pension restructuring. Adjusted amounts exclude the effects of impairment charges in 2016 and net investment income from the Liquid Finishing businesses sold in 2015. See (1) and (2) above.

(5) Restated 2017 current assets, current liabilities and total assets for change in presentation of returns refund liabilities.

(6) Per share data reflects three-for-one stock split distributed on December 27, 2017.

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**

WASHINGTON, D.C. 20549

FORM 10-K

Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 for the fiscal year ended **December 28, 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 No. 001-09249

Graco Inc.

(Exact name of Registrant as specified in its charter)

Minnesota

(State or other jurisdiction of incorporation or organization)

41-0285640

(I.R.S. Employer Identification No.)

88 –11th Avenue Northeast

Minneapolis, MN 55413

(Address of principal executive offices) (Zip Code)

(612) 623-6000

(Registrant's telephone number, including area code)

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

Common Stock, par value \$1.00 per share

Shares registered on the New York Stock Exchange.

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

None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data file required to be submitted pursuant to Rule 405 of Regulation S-T 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 Accelerated filer Non-accelerated filer Smaller reporting company Emerging growth company

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

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

The aggregate market value of 164,616,510 shares of common stock held by non-affiliates of the registrant was \$7,443,958,602 as of June 29, 2018.

165,298,962 shares of common stock were outstanding as of February 5, 2019.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Company's definitive Proxy Statement for its Annual Meeting of Shareholders to be held on April 26, 2019, are incorporated by reference into Part III, as specifically set forth in said Part III.

TABLE OF CONTENTS

	<u>Page</u>
Part I	
Item 1 Business	3
Item 1A Risk Factors	7
Item 1B Unresolved Staff Comments	10
Item 2 Properties	10
Item 3 Legal Proceedings	12
Item 4 Mine Safety Disclosures	12
Executive Officers of Our Company	13
Part II	
Item 5 Market for Registrant’s Common Equity, Related Shareholder Matters and Issuer Purchases of Equity Securities	15
Item 6 Selected Financial Data	16
Item 7 Management’s Discussion and Analysis of Financial Condition and Results of Operations	17
Item 7A Quantitative and Qualitative Disclosures About Market Risk	28
Item 8 Financial Statements and Supplementary Data	29
Management’s Report on Internal Control Over Financial Reporting	29
Reports of Independent Registered Public Accounting Firm	30
Consolidated Statements of Earnings	32
Consolidated Statements of Comprehensive Income	32
Consolidated Balance Sheets	33
Consolidated Statements of Cash Flows	34
Consolidated Statements of Shareholders’ Equity	35
Notes to Consolidated Financial Statements	36
Item 9 Changes in and Disagreements With Accountants on Accounting and Financial Disclosure	57
Item 9A Controls and Procedures	57
Item 9B Other Information	57
Part III	
Item 10 Directors, Executive Officers and Corporate Governance	58
Item 11 Executive Compensation	58
Item 12 Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters	58
Item 13 Certain Relationships and Related Transactions, and Director Independence	58
Item 14 Principal Accountant Fees and Services	58
Part IV	
Item 15 Exhibits, Financial Statement Schedules	59
Exhibit Index	61
Item 16 Form 10-K Summary	63
Signatures	64

ACCESS TO REPORTS

Investors may obtain access free of charge to the Graco Inc. Annual Report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, other reports and amendments to the reports by visiting the Graco website at www.graco.com. These reports will be available as soon as reasonably practicable following electronic filing with, or furnishing to, the Securities and Exchange Commission.

PART I

Item 1. Business

Graco Inc., together with its subsidiaries (“Graco,” “us,” “we,” or “our Company”), is a multi-national manufacturing company. We supply technology and expertise for the management of fluids and coatings in industrial and commercial applications. We design, manufacture and market systems and equipment used to move, measure, control, dispense and spray fluid and powder materials. Our equipment is used in manufacturing, processing, construction and maintenance industries. Graco is a Minnesota corporation and was incorporated in 1926.

We specialize in providing equipment solutions for difficult-to-handle materials with high viscosities, abrasive or corrosive properties, and multiple component materials that require precise ratio control. We aim to serve niche markets, providing high customer value through product differentiation. Our products enable customers to reduce their use of labor, material and energy, improve quality and achieve environmental compliance.

We make significant investments in developing innovative, high-quality products. We strive to grow into new geographic markets by strategically adding commercial and technical resources and third-party distribution in growing and emerging markets. We have grown our third-party distribution to have specialized experience in particular end-user applications. We leverage our product technologies for new applications and industries.

We also make targeted acquisitions to broaden our product offering, enhance our capabilities in the end-user markets we serve, expand our manufacturing and distribution base and potentially strengthen our geographic presence. These acquisitions may be integrated into existing Graco operations or may be managed as stand-alone operations. Note L (Acquisitions) to the Consolidated Financial Statements of this Form 10-K has additional information on recent acquisitions.

We have particularly strong manufacturing, engineering and customer service capabilities that enhance our ability to provide premium customer experience, produce high-quality and reliable products and drive ongoing cost savings.

Our investment in new products, targeted acquisitions and strong manufacturing, engineering and customer service capabilities comprise our long-term growth strategies, which we coordinate and drive across our geographic regions. Values central to our identity - growth, product innovation, premium customer service, quality and continuous improvement - are leveraged to integrate and expand the capabilities of acquired businesses.

We classify our business into three reportable segments, each with a worldwide focus: Industrial, Process and Contractor.

Each segment sells its products in North, Central and South America (the “Americas”), Europe, Middle East and Africa (“EMEA”), and Asia Pacific. Sales in the Americas represent approximately 56 percent of our Company’s total sales. Sales in EMEA represent approximately 24 percent. Sales in Asia Pacific represent approximately 20 percent. We provide marketing and product design in each of these geographic regions. Our Company also provides application assistance to distributors and employs sales personnel in each of these geographic regions.

Financial information concerning our segments and geographic markets is set forth in Part II, Item 7, Management’s Discussion and Analysis of Financial Condition and Results of Operations and Note B (Segment Information) to the Consolidated Financial Statements of this Form 10-K.

For information about our Company and our products, services and solutions, visit our website at www.graco.com. The information on the website is not part of this report nor any other report filed or furnished to the Securities and Exchange Commission (“SEC”).

Manufacturing and Distribution

We manufacture a majority of our products in the United States (“U.S.”). We manufacture some of our products in Switzerland (Industrial segment), Italy (Industrial segment), the United Kingdom (Process segment), the People’s Republic of China (“P.R.C.”) (all segments), Belgium (all segments) and Romania (Industrial segment). Our manufacturing is aligned with our business segments and is co-located with product development to accelerate technology improvements and improve our cost structure. We perform critical machining, assembly and testing in-house for most of our products to control quality, improve response time and maximize cost-effectiveness. We make our products in focused factories and product cells. We source raw materials and components from suppliers around the world.

For all segments, we primarily sell our equipment through third-party distributors worldwide, positioned throughout our geographic regions, and through selected retailers. Our products are sold from our warehouse to our third-party distributors or retailers who sell

our products to end users. Certain of our acquired businesses historically sold their products directly to end-user customers and continue to have direct relationships with customers.

Outside of the U.S., our subsidiaries located in Australia, Belgium, Japan, Italy, Korea, the P.R.C., the United Kingdom and Brazil distribute our Company's products. Operations in Maasmechelen, Belgium; St. Gallen, Switzerland; Shanghai, P.R.C.; and Montevideo, Uruguay reinforce our commitment to their regions.

During 2018, manufacturing capacity met business demand. Production requirements in the immediate future are expected to be met through existing facilities, planned facility expansions, the installation of new automatic and semi-automatic machine tools, efficiency and productivity improvements, the use of leased space and available subcontract services. In 2018, we completed projects to expand manufacturing and office facilities in our Process segment, and construction is in progress to more than double the size of our Contractor segment facility in Rogers, MN and significantly expand our manufacturing facility in Sioux Falls, SD. We are in the planning and design phases of additional projects to expand capacity in other manufacturing and distribution locations in 2019 and beyond. For more details on our facilities, see Item 2, Properties.

Product Development

Our primary product development efforts are carried out in facilities located in Minneapolis, Anoka and Rogers, Minnesota; North Canton, Ohio; St. Gallen, Switzerland; Suzhou, P.R.C.; Dexter, Michigan; Erie, Pennsylvania; Kamas, Utah; and Coventry and Brighouse, United Kingdom. The product development and engineering groups focus on new product design, product improvements, new applications for existing products and technologies for their specific customer base. Our product development efforts focus on bringing new and supplemental return on investment value to end users of our products.

Our Company consistently makes significant investments in new products. Total product development expenditures for all segments were \$63 million in 2018, \$59 million in 2017 and \$60 million in 2016. The amounts invested in product development averaged approximately 4 percent of sales over the last three years. Our product development activities are focused both on upgrades to our current product lines to provide features and benefits that will provide a return on investment to our end-user customers and development of products that will reach into new industries and applications to incrementally grow our sales. Sales of products that refresh and upgrade our product lines are measured and compared with planned results. Sales of products that provide entry into new industries and applications are also measured, with additional focus on commercial resources and activities to build specialized third-party distribution and market acceptance by end users.

Our Company measures the results of acquired businesses as compared to historical results and projections made at the time of acquisition. Our Company will invest in engineering, manufacturing and commercial resources for these businesses based on expected return on investment.

Business Segments

Industrial Segment

The Industrial segment is our largest segment and represents approximately 47 percent of our total sales in 2018. It includes the Industrial Products and Applied Fluid Technologies divisions. The Industrial segment markets equipment and solutions for moving and applying paints, coatings, sealants, adhesives and other fluids. Markets served include automotive and vehicle assembly and components production, wood and metal products, rail, marine, aerospace, farm, construction, bus, recreational vehicles and various other industries. End users often invest in our equipment to gain process efficiencies, improve quality or save on material or energy costs.

Most Industrial segment equipment is sold worldwide through specialized third-party distributors, integrators, design centers, original equipment manufacturers and material suppliers. Some products are sold directly to end users and may include design and installation to specific customer requirements. We work with material suppliers to develop or adapt our equipment for use with specialized or hard-to-handle materials. Distributors promote and sell the equipment, hold inventory, provide product application expertise and offer on-site service, technical support and integration capabilities. Integrators implement large individual installations in manufacturing plants where products and services from a number of different manufacturers are aggregated into a single system. Design centers engineer systems for their customers using our products. Original equipment manufacturers incorporate our Company's Industrial segment products into systems and assemblies that they then supply to their customers.

Applied Fluid Technologies

The Applied Fluid Technologies division designs and sells equipment for use by industrial customers and specialty contractors. This equipment includes two-component proportioning systems that are used to spray polyurethane foam (spray foam) and polyurea coatings. Spray foam is commonly used for insulating building walls, roofs, water heaters, refrigerators, hot tubs and other items. Polyurea coatings are applied on storage tanks, pipes, roofs, truck beds, concrete and other items. We offer a complete line of pumps and proportioning equipment that sprays specialty coatings on a variety of surfaces for protection and fireproofing. This division also manufactures vapor-abrasive blasting equipment, as well as equipment that pumps, meters, mixes and dispenses sealant, adhesive and composite materials. Our advanced composite equipment includes gel coat equipment, chop and wet-out systems, resin transfer molding systems and applicators. This equipment bonds, molds, seals, vacuum encapsulates and laminates parts and devices in a wide variety of industrial applications.

Industrial Products

The Industrial Products division makes finishing equipment that applies paint and other coatings to products such as motor vehicles, appliances, furniture and other industrial and consumer products. A majority of this division's business is outside of North America.

This division's products include liquid finishing equipment that applies liquids on metals, wood and plastics, with emphasis on solutions that provide easy integration to paint monitoring and control systems. Products include paint circulating and paint supply pumps, paint circulating advanced control systems, plural component coating proportioners, various accessories to filter, transport, agitate and regulate fluid, and spare parts such as spray tips, seals and filter screens. We also offer a variety of applicators that use different methods of atomizing and spraying the paint or other coatings depending on the viscosity of the fluid, the type of finish desired and the need to maximize transfer efficiency, minimize overspray and minimize the release of volatile organic compounds into the air. Manufacturers in the automotive, automotive feeder, commercial and recreational vehicle, military and utility vehicle, aerospace, farm, construction, wood and general metals industries use our liquid finishing products.

This division also makes powder finishing products and systems that coat powder finishing on metals. These products are sold under the Gema® and SAT® trademarks. Gema powder systems coat window frames, metallic furniture, automotive components and sheet metal. Primary end users of our powder finishing products include manufacturers in the construction, home appliance, automotive component and custom coater industries. We strive to provide innovative solutions in powder coating for end users in emerging and developed markets.

Process Segment

The Process segment represented approximately 21 percent of our total sales in 2018. It includes our Process, Oil and Natural Gas, and Lubrication divisions. The Process segment markets pumps, valves, meters and accessories to move and dispense chemicals, oil and natural gas, water, wastewater, petroleum, food, lubricants and other fluids. Markets served include food and beverage, dairy, oil and natural gas, pharmaceutical, cosmetics, semi-conductor, electronics, wastewater, mining, fast oil change facilities, service garages, fleet service centers, automobile dealerships and industrial lubrication applications.

Most Process segment equipment is sold worldwide through third-party distributors and original equipment manufacturers. Some products are sold directly to end users, particularly in the oil and natural gas and semi-conductor industries.

Process

Our Process division makes pumps of various technologies that move chemicals, water, wastewater, petroleum, food and other fluids. Manufacturers and processors in the food and beverage, dairy, pharmaceutical, cosmetic, oil and natural gas, semi-conductor, electronics, wastewater, mining and ceramics industries use these pumps. This division makes environmental monitoring and remediation equipment that is used to conduct ground water sampling and ground water remediation, and for landfill liquid and gas management.

Oil and Natural Gas

Our Oil and Natural Gas division makes high pressure and ultra-high pressure valves used in the oil and natural gas industry, other industrial processes and research facilities. Our high and ultra-high pressure valves are sold directly to end-user customers as well as through distribution worldwide. The division also has a line of chemical injection pumping solutions for precise injection of chemicals into producing oil wells and pipelines and is sold through third-party distributors.

Lubrication

The Lubrication division designs and sells equipment for use in vehicle servicing. We supply pumps, hose reels, meters, valves and accessories for use by fast oil change facilities, service garages, fleet service centers, automobile dealerships, auto parts stores, truck builders and heavy equipment service centers.

The Lubrication division also offers systems, components and accessories for the automatic lubrication of bearings, gears and generators in industrial and commercial equipment, compressors, turbines and on- and off-road vehicles. Automatic lubrication systems reduce maintenance needs and down time and extend the life of the equipment. Industries served include gas transmission, petrochemical, pulp and paper, mining, construction, agricultural equipment, food and beverage, material handling, metal manufacturing, wind energy and oil and natural gas.

Contractor Segment

The Contractor segment represented approximately 32 percent of our total sales in 2018. Through this segment, we offer sprayers that apply paint to walls and other structures, with product models for users ranging from do-it-yourself homeowners to professional painting contractors. Contractor equipment also includes sprayers that apply texture to walls and ceilings, highly viscous coatings to roofs, and markings on roads, parking lots, athletic fields and floors.

This segment's end users are primarily professional painters in the construction and maintenance industries, tradesmen and do-it-yourselfers. Contractor products are marketed and sold in all major geographic areas. We continue to add distributors throughout the world that specialize in the sale of Contractor products. Globally, we are pursuing a broad strategy of converting contractors accustomed to manually applying paint and other coatings by brush-and-roller to spray technology.

Our Contractor products are distributed primarily through distributor outlets whose main products are paint and other coatings. Certain sprayers and accessories are distributed globally through the home center channel. Contractor products are also sold through general equipment distributors outside of North America.

Raw Materials

The primary materials and components in our products are steel of various alloys, sizes and hardness; specialty stainless steel and aluminum bar stock, tubing and castings; tungsten carbide; electric and gas motors; injection molded plastics; sheet metal; forgings; powdered metal; hoses; electronic components and high performance plastics, such as polytetrafluoroethylene (PTFE). The materials and components that we use are generally adequately available through multiple sources of supply. To manage cost, we source significant amounts of materials and components from outside the U.S., primarily in the Asia Pacific region.

In 2018, our raw material and purchased component availability was strong. Pressures from tariffs, mostly on metals and electronics, and increased material prices, particularly in aluminum, stainless steel, carbon steel bar stock, electronic controls, plastics and copper, increased production cost in 2018. We expect these pressures will continue into 2019.

We endeavor to address fluctuations in the price and availability of various materials and components through adjustable surcharges and credits, close management of current suppliers, price negotiations and an intensive search for new suppliers. We have performed risk assessments of our key suppliers, and we factor the risks identified into our commodity plans.

Intellectual Property

We own a number of patents across our segments and have patent applications pending in the U.S. and other countries. We also license our patents to others and are a licensee of patents owned by others. In our opinion, our business is not materially dependent upon any one or more of these patents or licenses. Our Company also owns a number of trademarks in the U.S. and foreign countries, including registered trademarks for "GRACO," "Gema," several forms of a capital "G," and various product trademarks that are material to our business, inasmuch as they identify Graco and our products to our customers.

Sales to Major Customers

Worldwide sales in the Contractor and Industrial segments to The Sherwin-Williams Company represented over 10 percent of the Company's consolidated sales in 2018, 2017 and 2016.

Competition

We encounter a wide variety of competitors that vary by product, industry and geographic area. Each of our segments generally has several competitors. Our competitors are both U.S. and foreign companies and range in size. We believe that our ability to compete depends upon product quality, product reliability, innovation, design, customer support and service, specialized engineering and competitive pricing. Although no competitor duplicates all of our products, some competitors are larger than our Company, both in terms of sales of directly competing products and in terms of total sales and financial resources. We also face competitors with different cost structures and expectations of profitability and these companies may offer competitive products at lower prices. We refresh our product line and continue development of our distribution channel to stay competitive. We also face competitors who illegally sell counterfeits of our products or otherwise infringe on our intellectual property rights. We may have to increase our intellectual property and unfair competition enforcement activities.

Environmental Protection

Our compliance with federal, state and local laws and regulations did not have a material effect upon our capital expenditures, earnings or competitive position during the fiscal year ended December 28, 2018.

Employees

As of December 28, 2018, we employed approximately 3,700 persons. Of this total, approximately 1,500 were employees based outside of the U.S., and 1,000 were hourly factory workers in the U.S. None of our Company's U.S. employees are covered by a collective bargaining agreement. Various national industry-wide labor agreements apply to certain employees in various countries outside of the U.S. Compliance with such agreements has no material effect on our Company or our operations.

Item 1A. Risk Factors

As a global manufacturer of systems and equipment designed to move, measure, control, dispense and spray fluid and powder materials, our business is subject to various risks and uncertainties. Below are the most significant factors that could materially and adversely affect our business, financial condition and results of operations.

Growth Strategies and Acquisitions - Our growth strategies may not provide the return on investment desired if we are not successful in implementation of these strategies.

Making acquisitions, investing in new products, expanding geographically and targeting new industries are among our growth strategies. We may not obtain the return on investment desired if we are not successful in implementing these growth strategies. The success of our acquisition strategy depends on our ability to successfully identify and properly value suitable acquisition candidates, negotiate appropriate acquisition terms, obtain financing at a reasonable cost, prevail against competing acquirers, complete the acquisitions and integrate or add the acquired businesses into our existing businesses or corporate structure. Once successfully integrated into our existing businesses or added to our corporate structure, the acquired businesses may not perform as planned, be accretive to earnings, generate positive cash flows, provide an acceptable return on investment or otherwise be beneficial to us. We may not realize projected efficiencies and cost-savings from the businesses we acquire. We cannot predict how customers, competitors, suppliers, distributors and employees will react to the acquisitions that we make. Acquisitions may result in the assumption of undisclosed or contingent liabilities, the incurrence of increased indebtedness and expenses, and the diversion of management's time and attention away from other business matters. We make significant investments in developing products that have innovative features and differentiated technology in their industries and in niche markets. We are adding to the geographies in which we do business with third-party distributors. We cannot predict whether and when we will be able to realize the expected financial results and accretive effect of the acquisitions that we make, the new products that we develop and the channel expansions that we make.

Currency - Changes in currency translation rates could adversely impact our revenue, earnings and the valuation of assets denominated in foreign currencies.

An increasing number of routine transactions are conducted in foreign currencies. Changes in exchange rates will impact our reported sales and earnings and the valuation of assets denominated in foreign currencies. A majority of our manufacturing and cost structure is based in the U.S. In addition, decreased value of local currency may make it difficult for some of our distributors and end users to purchase products.

Economic Environment - Demand for our products depends on the level of commercial and industrial activity worldwide.

An economic downturn or financial market turmoil may depress demand for our equipment in all major geographies and markets. Economic uncertainty and volatility in various geographies may adversely affect our net sales and earnings. If our distributors and original equipment manufacturers are unable to purchase our products because of unavailable credit or unfavorable credit terms, depressed end-user demand, or are simply unwilling to purchase our products, our net sales and earnings will be adversely affected. An economic downturn may affect our ability to satisfy the financial covenants in the terms of our financing arrangements.

Competition - Our success depends upon our ability to develop, market and sell new products that meet our customers' needs, and anticipate industry changes.

Our profitability will be affected if we do not develop new products and technologies that meet our customers' needs. Our ability to develop, market and sell products that meet our customers' needs depends upon a number of factors, including anticipating the features and products that our customers will need in the future, identifying and entering into new markets, and training our distributors. Changes in industries that we serve, including consolidation of competitors and customers, could affect our success. Increases in the number of competitors, the market reach of competitors, and the quality of competitive products could also affect our success. Price competition and competitor strategies could negatively impact our growth and have an adverse impact on our results of operations.

Global Sourcing - Risks associated with foreign sourcing, supply interruption, delays in raw material or component delivery, supply shortages and counterfeit components may adversely affect our production or profitability.

We source certain of our materials and components from suppliers outside the U.S., and from suppliers within the U.S. who engage in foreign sourcing. Long lead times or supply interruptions associated with a global supply base may reduce our flexibility and make it more difficult to respond promptly to fluctuations in demand or respond quickly to product quality problems. Changes in exchange rates between the U.S. dollar and other currencies and fluctuations in the price of commodities may impact the manufacturing costs of our products and affect our profitability. Protective tariffs, unpredictable changes in duty rates, and changes in trade policies, agreements, relations and regulations, may make certain foreign-sourced parts no longer competitively priced. Long supply chains may be disrupted by environmental events or other political factors. Raw materials may become limited in availability from certain regions. Port labor disputes may delay shipments. We source a large volume and a variety of electronic components, which exposes us to an increased risk of counterfeit components entering our supply chain. If counterfeit components unknowingly become part of our products, we may need to stop delivery and rework our products. We may be subject to warranty claims and may need to recall products.

Information Systems - Interruption of or intrusion into information systems may impact our business.

We rely on information systems and networks, including the internet, to conduct and support our business. Some of these systems and networks are managed by third parties. We use these systems and networks to record, process, summarize, transmit and store electronic information, and to manage or support our business processes and activities. We have implemented measures intended to secure our information systems and networks and prevent unauthorized access to or loss of sensitive data. However, these measures may not be effective against all eventualities, and our information systems and networks may be vulnerable to hacking, human error, fraud or other misconduct, system error, faulty password management or other irregularities. Cybersecurity threats are increasing in frequency, sophistication and severity. We experience cybersecurity threats from time to time, and expect to continue to experience such threats in the future. To date, we have not experienced a material cybersecurity incident. Security breaches or intrusion into our information systems or networks or the information systems or networks of the third parties with whom we do business pose a risk to the confidentiality, availability and integrity of our data, and could lead to any one or more of the following: the compromising of confidential information; manipulation, unauthorized use, theft or destruction of data; product defects or malfunctions; production downtimes and operations disruptions; litigation; regulatory action; fines; and other costs and adverse consequences. The occurrence of a security breach or an intrusion into an information system or a network, or the breakdown, interruption in or inadequate upgrading or maintenance of our information processing software, hardware or networks or the internet, may adversely affect our business, reputation, results of operations and financial condition.

Intellectual Property - Demand for our products may be affected by new entrants who copy our products or infringe on our intellectual property. Competitors may allege that our products infringe the intellectual property of others.

From time to time, we have been faced with instances where competitors have infringed or unfairly used our intellectual property or taken advantage of our design and development efforts. The ability to protect and enforce intellectual property rights varies across jurisdictions. Competitors who copy our products are becoming more prevalent in Asia. If we are unable to effectively meet these challenges, they could adversely affect our revenues and profits and hamper our ability to grow. Competitors and others may also initiate litigation to challenge the validity of our intellectual property or allege that we infringe their intellectual property. We may be required to pay substantial damages if it is determined our products infringe their intellectual property. We may also be required to develop an alternative, non-infringing product that could be costly and time-consuming, or acquire a license (if available) on terms that are not favorable to us. Regardless of whether infringement claims against us are successful, defending against such claims could significantly increase our costs, divert management's time and attention away from other business matters, and otherwise adversely affect our results of operations and financial condition.

Foreign Operations - Conducting business internationally exposes our Company to risks that could harm our business.

In 2018, approximately 51 percent of our sales were generated by customers located outside the United States. Operating and selling outside of the United States exposes us to certain risks that could adversely impact our sales volume, rate of growth or profitability. These risks include: complying with foreign legal and regulatory requirements; international trade factors (export controls, customs clearance, trade sanctions, duties, tariff barriers and other restrictions); protection of our proprietary technology in certain countries; potentially burdensome taxes; potential difficulties staffing and managing local operations; and changes in exchange rates.

Catastrophic Events - Our operations are at risk of damage, destruction or disruption by natural disasters and other unexpected events.

The loss of, or substantial damage to, one of our facilities, our information system infrastructure or the facilities of our suppliers could make it difficult to manufacture product, fulfill customer orders and provide our employees with work. Flooding, tornadoes, hurricanes, unusually heavy precipitation or other severe weather events, earthquakes, tsunamis, fires, explosions or acts of war, terrorism or civil unrest could adversely impact our operations.

Changes in Laws and Regulations - Changes may impact how we can do business and the cost of doing business around the world.

The speed and frequency of implementation and the complexity of new or revised laws and regulations globally appear to be increasing. In addition, as our business grows and expands geographically, we may become subject to laws and regulations previously inapplicable to our business. These laws and regulations increase our cost of doing business, may affect the manner in which our products will be produced or delivered, may affect the locations and facilities from which we conduct business, and may impact our long-term ability to provide returns to our shareholders.

Anti-Corruption and Trade Laws - We may incur costs and suffer damages if our employees, agents, distributors or suppliers violate anti-bribery, anti-corruption or trade laws and regulations.

Laws and regulations related to bribery, corruption and trade, and enforcement thereof, are increasing in frequency, complexity and severity on a global basis. The continued geographic expansion of our business increases our exposure to, and cost of complying with, these laws and regulations. If our internal controls and compliance program do not adequately prevent or deter our employees, agents, distributors, suppliers and other third parties with whom we do business from violating anti-corruption laws, we may incur defense costs, fines, penalties, reputational damage and business disruptions.

Tax Rates and New Tax Legislation - Changes in tax rates or the adoption of new tax legislation may affect our results of operations, cash flows and financial condition.

The Company is subject to taxes in the U.S. and a number of foreign jurisdictions where it conducts business. The Company's effective tax rate could be affected by changes in the mix of earnings in jurisdictions with differing statutory tax rates, changes in the valuation of deferred tax assets and liabilities, and changes in tax laws or their interpretation. If the Company's effective tax rate were to increase, or if the ultimate determination of the Company's taxes owed is for an amount in excess of amounts previously accrued, the Company's results of operations, cash flows and financial condition could be adversely affected.

Impairment - If acquired businesses do not meet performance expectations, assets acquired could be subject to impairment.

Our total assets reflect goodwill from acquisitions, representing the excess cost over the fair value of the identifiable net assets acquired. We test annually whether goodwill has been impaired, or more frequently if events or changes in circumstances indicate the goodwill may be impaired. If future operating performance at one or more of our operating units were to fall significantly below forecast levels or if market conditions for one or more of our acquired businesses were to decline, we could be required to incur a non-cash charge to operating income for impairment. Any impairment in the value of our goodwill would have an adverse non-cash impact on our results of operations and reduce our net worth. In 2016, we recorded an impairment charge of \$192 million for our Oil and Natural Gas reporting unit within the Process segment.

Political Instability - Uncertainty surrounding political leadership may limit our growth opportunities.

Domestic political instability, including government shut downs, may limit our ability to grow our business. International political instability may prevent us from expanding our business into certain geographies and may also limit our ability to grow our business. Civil disturbances may harm our business.

Legal Proceedings - Costs associated with claims, litigation, administrative proceedings and regulatory reviews, and potentially adverse outcomes, may affect our profitability.

As our Company grows, we are at an increased risk of being a target in matters related to the assertion of claims and demands, litigation, administrative proceedings and regulatory reviews. We may also need to pursue claims or litigation to protect our interests. The cost of pursuing, defending and insuring against such matters appears to be increasing, particularly in the U.S. Such costs may adversely affect our Company's profitability. Our businesses expose us to potential toxic tort, product liability, commercial and employment claims. Successful claims against the Company and settlements may adversely affect our results.

Personnel - Our success may be affected if we are not able to attract, develop and retain qualified personnel.

Our success depends in large part on our ability to identify, recruit, develop and retain qualified personnel. If we are unable to successfully identify, recruit, develop and retain qualified personnel, it may be difficult for us to meet our strategic objectives and grow our business, which could adversely affect our results of operations and financial condition.

Major Customers - Our Contractor segment depends on a few large customers for a significant portion of its sales. Significant declines in the level of purchases by these customers could reduce our sales and impact segment profitability.

Our Contractor segment derives a significant amount of revenue from a few large customers. Substantial decreases in purchases by these customers, difficulty in collecting amounts due or the loss of their business would adversely affect the profitability of this segment. The business of these customers is dependent upon the economic vitality of the construction and home improvement markets. If these markets decline, the business of our customers could be adversely affected and their purchases of our equipment could decrease.

Variable Industries - Our success may be affected by variations in the construction, automotive, mining and oil and natural gas industries.

Our business may be affected by fluctuations in residential, commercial and institutional building and remodeling activity. Changes in construction materials and techniques may also impact our business. Our business may also be affected by fluctuations of activity in the automotive, mining and oil and natural gas industries.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

Our facilities are in satisfactory condition, suitable for their respective uses, and are generally adequate to meet current needs. A description of our principal facilities as of February 19, 2019, is set forth in the chart below.

Facility	Owned or Leased	Square Footage	Facility Activities	Operating Segment
North America				
Indianapolis, Indiana, United States	Owned	64,000	Warehouse, office, product development and application laboratory	Industrial
Dexter, Michigan, United States	Owned	65,000	Manufacturing, warehouse, office and product development	Process
Minneapolis, Minnesota, United States	Owned	141,000	Worldwide headquarters; office and product development	Corporate, Industrial and Process
Minneapolis, Minnesota, United States	Owned	42,000	Corporate office	All segments
Minneapolis, Minnesota, United States	Owned	390,000	Manufacturing and office	Industrial and Process
Minneapolis, Minnesota, United States	Owned	87,000	Assembly	Industrial and Process
Anoka, Minnesota, United States	Owned	208,000	Manufacturing, warehouse, office and product development	Process
Rogers, Minnesota, United States	Owned	325,000	Manufacturing, office and product development	Contractor
Rogers, Minnesota, United States	Leased	225,000	Distribution center and office	All segments
North Canton, Ohio, United States	Owned	131,000	Manufacturing, warehouse, office and application laboratory	Industrial
Erie, Pennsylvania, United States	Leased	53,000	Manufacturing, warehouse, office and product development	Process
Sioux Falls, South Dakota, United States	Owned	148,000	Manufacturing and office	Industrial and Contractor
Kamas, Utah, United States	Owned	46,000	Manufacturing, office and test laboratory	Process
Pompano Beach, Florida, USA	Leased	33,000	Warehouse and office	Contractor
Europe				
Maasmechelen, Belgium	Owned	210,000	EMEA headquarters, warehouse, assembly	All segments
Maasmechelen, Belgium	Leased	25,000	Office and assembly	All segments
Rödermark, Germany	Leased	41,000	Warehouse and office	Industrial
Sibiu, Romania	Leased	57,000	Manufacturing	Industrial
St. Gallen, Switzerland	Owned	82,000	Manufacturing, warehouse, office, product development and application laboratory	Industrial
St. Gallen, Switzerland	Leased	22,000	Manufacturing	Industrial
Verona, Italy	Leased	31,000	Warehouse and office	Industrial
Verona, Italy	Leased	53,000	Manufacturing and warehouse	Industrial
Brighouse, West Yorkshire, United Kingdom	Owned	68,000	Manufacturing, warehouse, office and product development	Process
Coventry, United Kingdom	Owned	25,000	Office building	Process
Asia Pacific				
Derrimut, Australia	Leased	22,000	Warehouse	All segments
Gurgaon, India	Leased	18,000	Office	All segments
Yokohama, Japan	Leased	19,000	Office	All segments
Shanghai, P.R.C.	Leased	29,000	Asia Pacific headquarters - current	All segments

Shanghai, P.R.C.	Leased	80,000	Asia Pacific headquarters - future	All segments
Shanghai, P.R.C.	Leased	27,000	Warehouse and office	Industrial
Suzhou, P.R.C.	Owned	80,000	Manufacturing, warehouse, office and product development	All segments
Gyeonggi-do, South Korea	Leased	33,000	Office	All segments

Item 3. Legal Proceedings

Our Company is engaged in routine litigation, administrative proceedings and regulatory reviews incident to our business. It is not possible to predict with certainty the outcome of these unresolved matters, but management believes that they will not have a material effect upon our operations or consolidated financial position.

Item 4. Mine Safety Disclosures

Not applicable.

Executive Officers of Our Company

The following are all the executive officers of Graco Inc. as of February 19, 2019:

Patrick J. McHale, 57, became President and Chief Executive Officer in June 2007. He served as Vice President and General Manager, Lubrication Equipment Division from June 2003 to June 2007. He was Vice President, Manufacturing and Distribution Operations from April 2001 to June 2003. He served as Vice President, Contractor Equipment Division from February 2000 to April 2001. From September 1999 to February 2000, he was Vice President, Lubrication Equipment Division. Prior to September 1999, he held various manufacturing management positions in Minneapolis, Minnesota; Plymouth, Michigan; and Sioux Falls, South Dakota. Mr. McHale joined the Company in 1989.

David M. Ahlers, 60, became Executive Vice President, Human Resources and Corporate Communications in June 2018. From April 2010 to June 2018 he was Vice President, Human Resources and Corporate Communications. From September 2008 through March 2010, he served as the Company's Vice President, Human Resources. Prior to joining Graco, Mr. Ahlers held various human resources positions, including, most recently, Chief Human Resources Officer and Senior Managing Director of GMAC Residential Capital, from August 2003 to August 2008. He joined the Company in 2008.

Caroline M. Chambers, 54, became Executive Vice President, Corporate Controller and Information Systems in June 2018. She has also served as the Company's principal accounting officer since September 2007. She was Vice President, Corporate Controller and Information Systems from December 2013 to June 2018. From April 2009 to December 2013, she was Vice President and Corporate Controller. She served as Vice President and Controller from December 2006 to April 2009. She was Corporate Controller from October 2005 to December 2006 and Director of Information Systems from July 2003 through September 2005. Prior to becoming Director of Information Systems, she held various management positions in the internal audit and accounting departments. Prior to joining Graco, Ms. Chambers was an auditor with Deloitte & Touche in Minneapolis, Minnesota and Paris, France. Ms. Chambers joined the Company in 1992.

Mark D. Eberlein, 58, became President, Worldwide Process and Oil & Natural Gas Divisions in December 2018. He was President, Worldwide Process Division from June 2018 to December 2018. From January 2013 until June 2018 he was Vice President and General Manager, Process Division. From November 2008 to December 2012, he was Director, Business Development, Industrial Products Division. He was Director, Manufacturing Operations, Industrial Products Division from January to October 2008. From 2001 to 2008, he was Manufacturing Operations Manager of a variety of Graco business divisions. Prior to joining Graco, Mr. Eberlein worked as an engineer at Honeywell and at Sheldahl. He joined the Company in 1996.

Karen Park Gallivan, 62, became Executive Vice President, General Counsel and Corporate Secretary in June 2018. She was Vice President, General Counsel and Secretary from September 2005 to June 2018. She was Vice President, Human Resources from January 2003 to September 2005. Prior to joining Graco, she was Vice President of Human Resources and Communications at Syngenta Seeds, Inc. from January 1999 to January 2003. From 1988 through January 1999, she was General Counsel of Novartis Nutrition Corporation. Prior to joining Novartis, Ms. Gallivan was an attorney with the law firm of Rider, Bennett, Egan & Arundel, L.L.P. She joined the Company in 2003.

Dale D. Johnson, 64, became President, Worldwide Contractor Equipment Division in February 2017. From April 2001 through January 2017, he served as Vice President and General Manager, Contractor Equipment Division. From January 2000 through March 2001, he served as President and Chief Operating Officer. From December 1996 to January 2000, he was Vice President, Contractor Equipment Division. Prior to becoming Director of Marketing, Contractor Equipment Division in June 1996, he held various marketing and sales positions in the Contractor Equipment Division and the Industrial Equipment Division. He joined the Company in 1976.

Jeffrey P. Johnson, 59, became President, New Ventures in December 2018. From June 2018 to December 2018 he was President, EMEA. He served as Vice President and General Manager, EMEA from January 2013 to June 2018. From February 2008 to December 2012 he was Vice President and General Manager, Asia Pacific. He served as Director of Sales and Marketing, Applied Fluid Technologies Division, from June 2006 until February 2008. Prior to joining Graco, he held various sales and marketing positions, including, most recently, President of Johnson Krumwiede Roads, a full-service advertising agency, and European sales manager at General Motors Corp. He joined the Company in 2006.

David M. Lowe, 63, became President, Worldwide Industrial Products Division in June 2018. From April 2012 to June 2018 he was Executive Vice President, Industrial Products Division. From February 2005 to April 2012, he was Vice President and General Manager, Industrial Products Division. He was Vice President and General Manager, European Operations from September 1999 to February 2005. Prior to becoming Vice President, Lubrication Equipment Division in December 1996, he was Treasurer. Mr. Lowe joined the Company in 1995.

Bernard J. Moreau, 58, became President, South and Central America in June 2018. He was Vice President and General Manager, South and Central America from January 2013 to June 2018. From November 2003 to December 2012, he was Sales and Marketing Director, EMEA, Industrial/Automotive Equipment Division. From January 1997 to October 2003, he was Sales Manager, Middle East, Africa and East Europe. Prior to 1997, he worked in various Graco sales engineering and sales management positions, mainly to support Middle East, Africa and southern Europe territories. Mr. Moreau joined the Company in 1985.

Peter J. O'Shea, 54, became President, Worldwide Lubrication Equipment Division in June 2018. He was Vice President and General Manager, Lubrication Equipment Division from January 2016 to June 2018. From January 2013 to December 2015, he was Vice President and General Manager, Asia Pacific. From January 2012 until December 2012, he was Director of Sales and Marketing, Industrial Products Division, and from 2008 to 2012, he was Director of Sales and Marketing, Industrial Products Division and Applied Fluid Technologies Division. He was Country Manager, Australia - New Zealand from 2005 to 2008, and from 2002 to 2005 he served as Business Development Manager, Australia - New Zealand. Prior to becoming Business Development Manager, Australia - New Zealand, he worked in various Graco sales management positions. Mr. O'Shea joined the Company in 1995.

Christian E. Rothe, 45, became President, Worldwide Applied Fluid Technologies Division in June 2018. He was Chief Financial Officer and Treasurer from September 2015 to June 2018. From June 2011 through August 2015, he was Vice President and Treasurer. Prior to joining Graco, he held various positions in business development, accounting and finance, including, most recently, at Gardner Denver, Inc., a manufacturer of highly engineered products, as Vice President, Treasurer from January 2011 to June 2011, Vice President - Finance, Industrial Products Group from October 2008 to January 2011, and Director, Strategic Planning and Development from October 2006 to October 2008. Mr. Rothe joined the Company in 2011.

Mark W. Sheahan, 54, became Chief Financial Officer and Treasurer in June 2018. He was Vice President and General Manager, Applied Fluid Technologies Division from February 2008 until June 2018. He served as Chief Administrative Officer from September 2005 until February 2008, and was Vice President and Treasurer from December 1998 to September 2005. Prior to becoming Treasurer in December 1996, he was Manager, Treasury Services. Mr. Sheahan joined the Company in 1995.

Timothy R. White, 49, became President, EMEA in December 2018. From August 2015 to December 2018, he was President of Q.E.D. Environmental Systems, Inc., a Graco subsidiary. He served as Director of Sales and Marketing, Applied Fluid Technologies Division, from April 2012 to August 2015. From May 2011 to April 2012, he was North American Sales Manager, Applied Fluid Technologies Division. From January 2008 until April 2011, he was Operations Director, Contractor Equipment Division. Prior to January 2008, he held various manufacturing management positions. Mr. White joined the Company in 1992.

Angela F. Wordell, 47, became Executive Vice President, Operations in December 2018. From April 2017 to December 2018, she was Purchasing Director. From January 2017 to April 2017, she served as Strategic Sourcing Director. From March 2010 until January 2017, she was Operations Director, Industrial Products Division and China Factory. From February 2008 until March 2010, she was Operations Manager, Industrial Products Division. Prior to February 2008, she held various manufacturing management and engineering positions. Ms. Wordell joined the Company in 1993.

Brian J. Zumbolo, 49, became President, Asia Pacific in June 2018. From January 2016 to June 2018 he was Vice President and General Manager, Asia Pacific. From August 2007 to December 2015, he was Vice President and General Manager, Lubrication Equipment Division. He was Director of Sales and Marketing, Lubrication Equipment and Applied Fluid Technologies, Asia Pacific, from November 2006 through July 2007. From February 2005 to November 2006, he was Director of Sales and Marketing, High Performance Coatings and Foam, Applied Fluid Technologies Division. Mr. Zumbolo was Director of Sales and Marketing, Finishing Equipment from May 2004 to February 2005. Prior to May 2004, he held various marketing positions in the Industrial Equipment division. Mr. Zumbolo joined the Company in 1999.

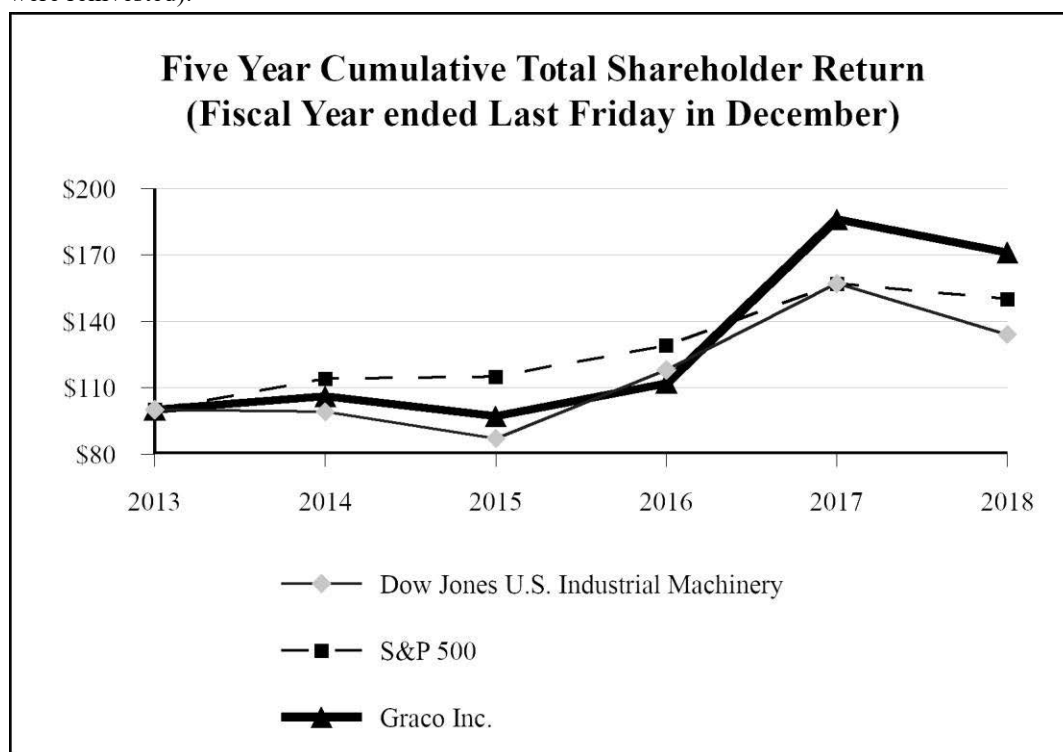
PART II

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

Graco Common Stock

Graco common stock is traded on the New York Stock Exchange under the ticker symbol “GGG.” As of February 5, 2019 the share price was \$43.83 and there were 165,298,962 shares outstanding and 2,013 common shareholders of record, which includes nominees or broker dealers holding stock on behalf of an estimated 93,000 beneficial owners.

The graph below compares the cumulative total shareholder return on the common stock of the Company for the last five fiscal years with the cumulative total return of the S&P 500 Index and the Dow Jones U.S. Industrial Machinery Index over the same period (assuming the value of the investment in Graco common stock and each index was \$100 on December 31, 2013, and all dividends were reinvested).



	2013	2014	2015	2016	2017	2018
Dow Jones U.S. Industrial Machinery	100	99	87	118	157	134
S&P 500	100	114	115	129	157	150
Graco Inc.	100	106	97	112	186	171

Issuer Purchases of Equity Securities

On April 24, 2015, the Board of Directors authorized the purchase of up to 18 million shares of common stock, primarily through open market transactions. There were approximately 3.3 million shares remaining under the authorization on December 7, 2018, when the Board of Directors authorized the purchase of up to an additional 18 million shares. The authorizations are for an indefinite period of time or until terminated by the Board.

In addition to shares purchased under the Board authorization, the Company purchases shares of common stock held by employees who wish to tender owned shares to satisfy the exercise price or tax due upon exercise of stock options or vesting of restricted stock.

Information on issuer purchases of equity securities follows:

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Maximum Number of Shares that May Yet Be Purchased Under the Plans or Programs (at end of period)
September 29, 2018 - October 26, 2018	1,834,088	\$ 39.72	1,834,088	3,471,453
October 27, 2018 - November 23, 2018	127,098	\$ 40.13	127,098	3,344,355
November 24, 2018 - December 28, 2018	341,827	\$ 40.06	341,827	21,002,528

Item 6. Selected Financial Data

The following table includes historical financial data (in millions, except per share amounts):

	2018	2017	2016	2015	2014
Net sales	\$ 1,653.3	\$ 1,474.7	\$ 1,329.3	\$ 1,286.5	\$ 1,221.1
Net earnings	341.1	252.4	40.7	345.7	225.6
Per common share ⁽¹⁾					
Basic net earnings	\$ 2.04	\$ 1.50	\$ 0.24	\$ 2.00	\$ 1.25
Diluted net earnings	1.97	1.45	0.24	1.95	1.22
Cash dividends declared	0.56	0.49	0.45	0.41	0.38
Total assets	\$ 1,472.7	\$ 1,390.6	\$ 1,243.1	\$ 1,391.4	\$ 1,544.8
Long-term debt (including current portion)	266.4	226.0	305.7	392.7	615.0

(1) All per share data reflects the three-for-one stock split distributed on December 27, 2017.

The 2017 Tax Cuts and Jobs Act reduced the Company's 2018 effective income tax rate by approximately 10 percentage points.

Net earnings in 2016 included \$161 million of after-tax loss from impairment charges in the Company's Oil and Natural Gas reporting unit within the Process Segment.

Net earnings in 2015 included \$141 million from the sale of the Liquid Finishing businesses acquired in 2012 held as a cost-method investment. Proceeds from the sale were principally used to retire long-term debt.

Additional information on the comparability of results is included in Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

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

The following Management's Discussion and Analysis reviews significant factors affecting the Company's consolidated results of operations, financial condition and liquidity. This discussion should be read in conjunction with our financial statements and the accompanying notes to the financial statements. Certain prior year disclosures have been revised to conform with current year reporting. The discussion is organized in the following sections:

- Overview
- Results of Operations
- Segment Results
- Financial Condition and Cash Flow
- Critical Accounting Estimates
- Recent Accounting Pronouncements

Overview

Graco designs, manufactures and markets systems and equipment used to move, measure, control, dispense and spray fluid and powder materials. The Company specializes in equipment for applications that involve difficult-to-handle materials with high viscosities, materials with abrasive or corrosive properties and multiple-component materials that require precise ratio control. Graco sells primarily through independent third-party distributors worldwide to industrial and contractor end users. Graco's business is classified by management into three reportable segments: Industrial, Process and Contractor. Each segment is responsible for product development, manufacturing, marketing and sales of their products.

Graco's key strategies include developing and marketing new products, leveraging products and technologies into additional, growing end-user markets, expanding distribution globally and completing strategic acquisitions that provide additional channel and technologies. Long-term financial growth targets accompany these strategies, including our expectation of 10 percent revenue growth and 12 percent consolidated net earnings growth. We continue to develop new products in each operating division that are expected to drive incremental sales growth, as well as continued refreshes and upgrades of existing product lines. Graco has made a number of strategic acquisitions that expand and complement organically developed products and provide new market and channel opportunities.

Manufacturing is a key competency of the Company. Our management team in Minneapolis provides strategic manufacturing expertise, and is also responsible for factories not fully aligned with a single division. Our largest manufacturing facilities are in the U.S. We also manufacture some of our products in Switzerland (Industrial segment), Italy (Industrial segment), the United Kingdom (Process segment), the People's Republic of China ("P.R.C.") (all segments), Belgium (all segments) and Romania (Industrial segment). Our primary distribution facilities are located in the U.S., Belgium, Switzerland, United Kingdom, P.R.C., Japan, Italy, Korea, Australia and Brazil.

Results of Operations

A summary of financial results follows (in millions except per share amounts):

	2018	2017	2016
Net Sales	\$ 1,653.3	\$ 1,474.7	\$ 1,329.3
Operating Earnings	436.4	378.7	121.1
Net Earnings	341.1	252.4	40.7
Diluted Net Earnings per Common Share	\$ 1.97	\$ 1.45	\$ 0.24
Adjusted (non-GAAP) ⁽¹⁾ :			
Operating Earnings, adjusted	\$ 436.4	\$ 378.7	\$ 313.1
Net Earnings, adjusted	326.1	249.4	202.1
Diluted Net Earnings per Common Share, adjusted	\$ 1.88	\$ 1.43	\$ 1.18

(1) Excludes impacts of excess tax benefits from stock option exercises, non-recurring income tax adjustments and pension restructuring. Also excludes the effects of impairment charges in 2016. See adjusted financial results below for a reconciliation of the adjusted non-GAAP financial measures to GAAP.

In 2016, operating results of our Oil and Natural Gas reporting unit ("ONG") within the Process segment fell short of expectations due to weakness in oil and natural gas markets. At the end of the third quarter of 2016, we concluded that the depth and length of industry weakness, and its continuing impact on ONG results, were greater than previously expected, so we initiated an impairment analysis.

We completed the analysis in the fourth quarter of 2016 and recorded adjustments to reduce goodwill by \$147 million and other intangible assets by \$45 million. The impairment charges reduced 2016 operating earnings by \$192 million, created a \$31 million deferred tax benefit, and decreased net earnings by \$161 million.

Multiple events in the last three years caused significant fluctuations in financial results. The restructuring of the Company's funded U.S. pension plan resulted in a \$12 million settlement loss in 2017. U.S. federal income tax reform legislation passed at the end of 2017 required a revaluation of net deferred tax assets and instituted a toll charge on unrepatriated foreign earnings that together increased income taxes by a total of \$36 million in 2017. Excess tax benefits related to stock option exercises reduced income taxes by \$10 million in 2018 and \$36 million in 2017. Other benefits from tax planning activities further reduced income taxes in 2018 and 2017. Impairment charges totaling \$192 million reduced net earnings by \$161 million in 2016. Excluding the impacts of those items presents a more consistent basis for comparison of financial results. A calculation of the non-GAAP measurements of adjusted operating earnings, earnings before income taxes, income taxes, effective income tax rates, net earnings and diluted earnings per share follows (in millions except per share amounts):

	2018	2017	2016
Operating Earnings, as reported	\$ 436.4	\$ 378.7	\$ 121.1
Impairment	—	—	192.0
Operating Earnings, adjusted	<u>\$ 436.4</u>	<u>\$ 378.7</u>	<u>\$ 313.1</u>
Earnings before income taxes, as reported	\$ 410.8	\$ 347.1	\$ 96.7
Pension settlement loss	—	12.1	—
Impairment	—	—	192.0
Earnings before income taxes, adjusted	<u>\$ 410.8</u>	<u>\$ 359.2</u>	<u>\$ 288.7</u>
Income taxes, as reported	\$ 69.7	\$ 94.7	\$ 56.0
Excess tax benefit from option exercises	10.0	36.3	—
Income tax reform	—	(35.6)	—
Other non-recurring tax changes	5.0	10.0	—
Tax effects of adjustments	—	4.4	30.6
Income taxes, adjusted	<u>\$ 84.7</u>	<u>\$ 109.8</u>	<u>\$ 86.6</u>
Effective income tax rate			
As reported	17.0%	27.3%	57.9%
Adjusted	<u>20.6%</u>	<u>30.6%</u>	<u>30.0%</u>
Net Earnings, as reported	\$ 341.1	\$ 252.4	\$ 40.7
Pension settlement loss, net	—	7.7	—
Excess tax benefit from option exercises	(10.0)	(36.3)	—
Income tax reform	—	35.6	—
Other non-recurring tax changes	(5.0)	(10.0)	—
Impairment, net	—	—	161.4
Net Earnings, adjusted	<u>\$ 326.1</u>	<u>\$ 249.4</u>	<u>\$ 202.1</u>
Weighted Average Diluted Shares	<u>173.2</u>	<u>174.3</u>	<u>170.9</u>
Diluted Net Earnings per Share			
As reported	\$ 1.97	\$ 1.45	\$ 0.24
Adjusted	<u>\$ 1.88</u>	<u>\$ 1.43</u>	<u>\$ 1.18</u>

Components of Net Earnings as a Percentage of Sales:

The following table presents an overview of components of net earnings as a percentage of net sales:

	2018	2017	2016
Net Sales	100.0%	100.0%	100.0%
Cost of products sold	46.6	46.1	46.5
Gross profit	53.4	53.9	53.5
Product development	3.8	4.0	4.5
Selling, marketing and distribution	14.9	15.7	16.0
General and administrative	8.3	8.5	9.5
Impairment	—	—	14.4
Operating earnings	26.4	25.7	9.1
Interest expense	0.9	1.1	1.3
Other expense, net	0.7	1.1	0.5
Earnings before income taxes	24.8	23.5	7.3
Income taxes	4.2	6.4	4.2
Net Earnings	20.6%	17.1%	3.1%
Net Earnings, adjusted (see non-GAAP measurements above)	19.7%	16.9%	15.2%

Net Sales

The following table presents net sales by geographic region (in millions):

	2018	2017	2016
Americas ⁽¹⁾	\$ 926.4	\$ 850.5	\$ 777.0
EMEA ⁽²⁾	393.1	343.3	311.1
Asia Pacific	333.8	280.9	241.2
Consolidated	\$ 1,653.3	\$ 1,474.7	\$ 1,329.3

(1) North, South and Central America, including the U.S. Sales in the U.S. were \$806 million in 2018, \$743 million in 2017 and \$686 million in 2016.

(2) Europe, Middle East and Africa

The following table presents the components of net sales change by geographic region:

	2018				2017			
	Volume and Price	Acquisitions	Currency	Total	Volume and Price	Acquisitions	Currency	Total
Americas	8%	1%	0%	9%	9%	0%	0%	9%
EMEA	4%	7%	4%	15%	9%	0%	1%	10%
Asia Pacific	13%	4%	2%	19%	17%	0%	(1)%	16%
Consolidated	8%	3%	1%	12%	11%	0%	0%	11%

Sales in the Americas were up solidly again in 2018, matching the 9 percent increase in 2017, as economic conditions in North America remained broadly favorable. Sales growth in EMEA varied between products and countries in 2018, with Western Europe significantly outperforming the emerging countries. Sales growth in Asia Pacific was more broadly based across products and countries.

There were 52 weeks in fiscal 2017, compared to 53 weeks in fiscal 2016. Strong, broad-based demand levels around the world drove a double-digit percentage increase in sales in 2017. Sales growth was notably strong in China and across most other areas of Asia Pacific.

Gross Profit

Gross profit margin rate for 2018 was slightly lower than the rate for 2017. The unfavorable effects of lower margin rates of acquired operations and higher factory spending and material costs more than offset the favorable effects of currency translation and realized pricing.

In 2017, gross profit margin rate was one-half percentage point higher than the 2016 rate. Favorable effects from currency translation, higher production volume and realized pricing were partially offset by the unfavorable impact of product and channel mix.

Operating Expenses

Operating expenses for 2018 increased \$30 million (7 percent) compared to 2017. The increase includes \$8 million from acquired operations, approximately \$3 million related to currency translation, \$5 million of increases directly based on volume and earnings, and \$2 million of incremental share-based compensation. Investment in new product development was \$63 million in 2018, up 7 percent over 2017.

Total operating expenses for 2016 included an impairment charge of \$192 million. Compared to 2016 expenses before the impairment charge, total operating expenses for 2017 were \$19 million (5 percent) higher, driven by volume and rate-related increases. Investment in new product development was \$59 million, slightly lower than 2016.

Operating Earnings

Strong sales increases and expense leverage in 2018 led to a 15 percent increase in operating earnings and improved return as a percentage of sales.

Operating earnings in 2017 were three times higher than 2016 operating earnings. Excluding the \$192 million impairment charge in 2016, improved gross margin rate and expense leverage in 2017 led to a 21 percent gain in operating earnings and a 2 percentage point increase as a percentage of sales.

Other Expense

Other expense included market-based pension cost of \$8 million in 2018, \$18 million in 2017, including a \$12 million loss related to the restructuring of the Company's funded U.S. pension plan, and \$7 million in 2016. Other expense also included \$3 million of exchange losses on net assets of foreign operations in 2018, compared to \$2 million of gains in 2017 and \$1 million of losses in 2016.

Income Taxes

The effective income tax rate was 17 percent for 2018, down 10 percentage points from 2017. Adjusted to exclude the impacts of excess tax benefits related to stock option exercises, the 2017 provisions totaling \$36 million related to tax reform legislation, the benefit from a \$40 million contribution to a pension plan in 2018, and the benefits from other tax planning activities (see reconciliation of non-GAAP measurements above), the effective income tax rate was 21 percent for 2018 compared to 31 percent for 2017. The adjusted rate was lower in 2018 due to the net effects of U.S. federal income tax reform legislation passed at the end of 2017.

The effective income tax rate for 2017 was 27 percent. Adoption of a new accounting standard, requiring excess tax benefits related to stock option exercises to be credited to the income tax provision (formerly credited to equity), reduced the tax provision by \$36 million, decreasing the effective tax rate by 10 percentage points. U.S. federal income tax reform legislation passed at the end of 2017 required a revaluation of net deferred tax assets and instituted a toll charge on unrepatriated foreign earnings that increased the tax provision by a total of \$36 million, increasing the effective tax rate by 10 percentage points. Effects of tax planning and other non-recurring tax changes decreased the 2017 effective rate by 3 percentage points.

Segment Results

The Company has six operating segments which are aggregated into three reportable segments: Industrial, Process and Contractor. Refer to Part I Item 1. Business, for a description of the Company's three reportable segments. Management assesses performance of segments by reference to operating earnings excluding unallocated corporate expenses and asset impairments.

The following table presents net sales and operating earnings by reporting segment (in millions):

	2018	2017	2016
Sales			
Industrial	\$ 781.0	\$ 692.0	\$ 629.6
Process	338.0	294.6	266.6
Contractor	534.3	488.1	433.1
Total	<u>\$ 1,653.3</u>	<u>\$ 1,474.7</u>	<u>\$ 1,329.3</u>
Operating Earnings			
Industrial	\$ 271.3	\$ 237.7	\$ 207.2
Process	68.5	52.2	35.7
Contractor	120.9	113.9	91.8
Unallocated corporate (expense) ⁽¹⁾	(24.3)	(25.1)	(21.6)
Impairment ⁽²⁾	—	—	(192.0)
Total	<u>\$ 436.4</u>	<u>\$ 378.7</u>	<u>\$ 121.1</u>

(1) Unallocated corporate (expense) includes such items as stock compensation, certain acquisition transaction items, bad debt expense, charitable contributions, and certain facility expenses.

(2) The impairment charge recorded in 2016 related to assets of our Oil and Natural Gas reporting unit included within the Process Segment. Refer to Critical Accounting Estimates for more discussion on the impairment charge.

Industrial Segment

The following table presents net sales and operating earnings as a percentage of sales for the Industrial segment (dollars in millions):

	2018	2017	2016
Sales			
Americas	\$ 314.9	\$ 299.5	\$ 281.3
EMEA	234.3	199.2	184.5
Asia Pacific	231.8	193.3	163.8
Total	<u>\$ 781.0</u>	<u>\$ 692.0</u>	<u>\$ 629.6</u>
Operating Earnings as a Percentage of Sales	35%	34%	33%

The following table presents the components of net sales change by geographic region for the Industrial segment:

	2018				2017			
	Volume and Price	Acquisitions	Currency	Total	Volume and Price	Acquisitions	Currency	Total
Americas	5%	0%	0%	5%	6%	0%	0%	6%
EMEA	3%	11%	4%	18%	6%	1%	1%	8%
Asia Pacific	12%	6%	2%	20%	18%	1%	(1)%	18%
Segment Total	6%	5%	2%	13%	9%	1%	0%	10%

Industrial segment sales growth in 2018 included \$35 million from acquired operations. Generally favorable economic activity across many end markets, including construction, general industry, automotive, aerospace and alternate energy, drove demand in all regions. New product solutions that provide improved process automation, control and material savings contributed to sales growth. Operating margin rate in this segment improved slightly compared to 2017, as the favorable effects of currency translation and volume more than offset the effects of purchase accounting and lower operating margins in acquired operations.

In 2017, strong growth in Asia Pacific drove the Industrial segment to a double-digit percentage increase in sales. The Industrial segment in the Americas benefited from favorable construction markets and continued activity in automotive and general industry, while protective coatings, heavy equipment and South America remained challenging. In EMEA, the Industrial segment benefited from strong improvement in industrial production in Western Europe as well as growth in Eastern Europe, while sales in Africa and other emerging markets experienced a slight decline. As economies in Asia Pacific benefited from recovery in global demand, we saw growth in automotive and a broad base of general industries. Higher sales volume, including strong finishing systems growth, and expense leverage drove a 1 percentage point increase in operating margin rate. Increased spending on product and regional growth initiatives in the fourth quarter partially offset strong operating margins earned in the first three quarters.

In this segment, sales in each geographic region are significant and management looks at economic and financial indicators in each region, including gross domestic product, industrial production, capital investment rates, automobile production, building construction and the level of the U.S. dollar versus the euro, the Swiss franc, the Canadian dollar, the Australian dollar and various Asian currencies.

Process Segment

The following table presents net sales and operating earnings as a percentage of sales for the Process segment (dollars in millions):

	2018	2017	2016
Sales			
Americas	\$ 215.9	\$ 187.6	\$ 170.4
EMEA	58.5	56.0	52.4
Asia Pacific	63.6	51.0	43.8
Total	<u>\$ 338.0</u>	<u>\$ 294.6</u>	<u>\$ 266.6</u>
Operating Earnings as a Percentage of Sales	20%	18%	13%

The following table presents the components of net sales change by geographic region for the Process segment:

	2018				2017			
	Volume and Price	Acquisitions	Currency	Total	Volume and Price	Acquisitions	Currency	Total
Americas	14%	1%	0%	15%	10%	0%	0%	10%
EMEA	1%	0%	3%	4%	9%	0%	(2)%	7%
Asia Pacific	23%	1%	1%	25%	17%	0%	(1)%	16%
Segment Total	13%	1%	1%	15%	11%	0%	0%	11%

The Process segment had strong sales growth in all product applications in 2018, reflecting favorable conditions in many end markets, such as vehicle services, industrial lubrication, environmental, semi-conductors, mining and some recovery in oil and natural gas. New product introductions also contributed to sales growth. Operating margin rates for this segment improved by 2 percentage points, driven by higher sales volume and expense leverage.

In 2017, legacy product applications of the Process segment had double-digit percentage growth for the year. In the Americas and in EMEA, the Process segment saw growth in 2017 in technology, sanitary and vehicle service applications and stable markets for industrial lubrication and environmental applications. Sales directly into oil and natural gas applications were flat for the year, though offshore activity remained weak. In Asia Pacific, process applications continued to be favorable, although sales into mining applications remained low in 2017. Operating margin rates for this segment increased 5 percentage points, driven by higher sales volume, favorable expense leverage and a decrease in intangible amortization related to the impairment recorded in the fourth quarter of 2016.

Although the Americas represent the substantial majority of sales for the Process segment, and indicators in that region are the most significant, management monitors indicators such as levels of gross domestic product, capital investment, industrial production, oil and natural gas markets and mining activity worldwide.

Contractor Segment

The following table presents net sales and operating earnings as a percentage of sales for the Contractor segment (dollars in millions):

	2018	2017	2016
Sales			
Americas	\$ 395.6	\$ 363.4	\$ 325.3
EMEA	100.4	88.1	74.3
Asia Pacific	38.3	36.6	33.5
Total	<u>\$ 534.3</u>	<u>\$ 488.1</u>	<u>\$ 433.1</u>
Operating Earnings as a Percentage of Sales	23%	23%	21%

The following table presents the components of net sales change by geographic region for the Contractor segment:

	2018				2017			
	Volume and Price	Acquisitions	Currency	Total	Volume and Price	Acquisitions	Currency	Total
Americas	8%	1%	0%	9%	12%	0%	0%	12%
EMEA	10%	0%	4%	14%	17%	0%	2%	19%
Asia Pacific	4%	0%	1%	5%	9%	0%	0%	9%
Segment Total	8%	1%	0%	9%	12%	0%	1%	13%

In 2018, growth in Contractor segment sales continued in all channels and regions, with new product introductions and strong underlying construction activity in North America and Western Europe. Contractor segment operating margin rates for 2018 were flat compared to last year. Favorable effects of currency translation offset the effects of lower gross margin rate and increases in product development costs. Operating margins in the second half of the year faced pressure from higher factory spending, tariffs and material costs.

In 2017, the Contractor segment had strong sales growth in all channels and regions. New product sales, expanded distribution and improved economic environment drove strong growth in EMEA from both developed and emerging markets. The Contractor segment benefited from the ongoing strength in both residential and commercial construction in North America, Western Europe, and Central East Europe. Ongoing emphasis on development of commercial resources and distribution in Asia Pacific resulted in growth in many areas of the region. Economic conditions and equipment adoption rates remain challenging in emerging markets in EMEA, Asia Pacific and South America. Contractor segment operating margin rate for the year increased 2 percentage points compared to 2016 due to higher sales volume, improved gross margin rate and favorable expense leverage.

In this segment, sales in all regions are significant and management reviews economic and financial indicators in each region, including levels of residential, commercial and institutional construction, remodeling rates and interest rates. Management also reviews gross domestic product for the regions and the level of the U.S. dollar versus the euro and other currencies.

Financial Condition and Cash Flow

Working Capital. The following table highlights several key measures of asset performance (dollars in millions):

	2018	2017
Working capital	\$ 423.4	\$ 397.5
Current ratio	2.4	2.6
Days of sales in receivables outstanding	60	66
Inventory turnover (LIFO)	2.9	3.1

Increases in accounts receivable were consistent with higher sales levels, and inventories increased to meet higher demand and service levels.

Capital Structure. At December 28, 2018, the Company's capital structure included current notes payable of \$11 million, long-term debt of \$266 million and shareholders' equity of \$752 million. At December 29, 2017, the Company's capital structure included current notes payable of \$7 million, long-term debt of \$226 million and shareholders' equity of \$723 million.

Shareholders' equity increased by \$29 million in 2018. The increase from current year earnings of \$341 million was offset by dividends of \$93 million and share repurchases of \$247 million. Increases related to shares issued and stock compensation totaled \$30 million.

Liquidity and Capital Resources. The Company had cash held in deposit accounts totaling \$132 million at December 28, 2018, and \$104 million as of December 29, 2017. The Company asserted that it will indefinitely reinvest earnings of foreign subsidiaries to support expansion of its international business. As of December 28, 2018, the amount of cash held outside the U.S. was not significant to the Company's liquidity and was available to fund investments abroad.

On December 15, 2016, the Company executed an amendment to its revolving credit agreement, extending the expiration date to December 15, 2021 and decreasing certain interest rates and fees. The amended agreement with a syndicate of lenders provides up to \$500 million of committed credit, available for general corporate purposes, working capital needs, share repurchases and acquisitions. The Company may borrow up to \$50 million under the swingline portion of the facility for daily working capital needs.

Under terms of the amended revolving credit agreement, borrowings may be denominated in U.S. dollars or certain other currencies. Loans denominated in U.S. dollars bear interest, at the Company's option, at either a base rate or a LIBOR-based rate. Loans denominated in currencies other than U.S. dollars bear interest at a LIBOR-based rate. The base rate is an annual rate equal to a margin ranging from zero percent to 0.75 percent, depending on the Company's cash flow leverage ratio (debt to earnings before interest, taxes, depreciation, amortization and extraordinary non-operating or non-cash charges and expenses) plus the highest of (i) the bank's prime rate, (ii) the federal funds rate plus 0.5 percent, or (iii) one-month LIBOR plus 1.5 percent. In general, LIBOR-based loans bear interest at LIBOR plus 1 percent to 1.75 percent, depending on the Company's cash flow leverage ratio. In addition to paying interest on the outstanding loans, the Company is required to pay a fee on the unused amount of the loan commitments at an annual rate ranging from 0.125 percent to 0.25 percent, depending on the Company's cash flow leverage ratio.

On September 24, 2018, the Company entered into a revolving credit agreement with a sole lender that expires in September 2020. The new credit agreement provides up to \$50 million of committed credit, available for general corporate purposes, working capital needs, share repurchases and acquisitions. Under the terms of the revolving credit agreement, loans may be denominated in U.S. dollars or Chinese renminbi (offshore). Loans denominated in U.S. dollars bear interest, at the Company's option, at either a base rate or a LIBOR-based rate. Loans denominated in Chinese renminbi (offshore) bear interest at a LIBOR-based rate based on the Chinese offshore rate. Other terms of the new revolving credit agreement are substantially similar to those of the Company's other revolving credit agreement that expires in December 2021.

On December 28, 2018, the Company had \$594 million in lines of credit, including the \$550 million in committed credit facilities described above and \$44 million with foreign banks. The unused portion of committed credit lines was \$518 million as of December 28, 2018.

Various debt agreements require the Company to maintain certain financial ratios as to cash flow leverage and interest coverage. The Company is in compliance with all financial covenants of its debt agreements as of December 28, 2018.

Internally generated funds and unused financing sources are expected to provide the Company with the flexibility to meet its liquidity needs in 2019, including its capital expenditure plan of approximately \$140 million to \$150 million (including several building projects to expand production and distribution capacity), planned dividends estimated at \$106 million, share repurchases, acquisitions and potential early retirement of \$75 million of fixed rate notes due in January 2020. If acquisition opportunities increase, the Company believes that reasonable financing alternatives are available for the Company to execute on those opportunities.

In December 2018, the Company's Board of Directors increased the Company's regular quarterly dividend to \$0.1600 from \$0.1325 per share, an increase of 21 percent.

Cash Flow. A summary of cash flow follows (in millions):

	2018	2017	2016
Operating activities	\$ 368.0	\$ 337.9	\$ 276.0
Investing activities	(66.3)	(68.5)	(91.2)
Financing activities	(282.7)	(217.1)	(185.2)
Effect of exchange rates on cash	0.2	(1.0)	0.2
Net cash provided	<u>19.2</u>	<u>51.3</u>	<u>(0.2)</u>
Cash and cash equivalents at end of year	<u>\$ 132.1</u>	<u>\$ 112.9</u>	<u>\$ 61.6</u>

Cash Flows From Operating Activities. Net cash provided by operating activities was \$368 million in 2018, up \$30 million compared to 2017. The impact of the increase in net earnings was partially offset by a \$40 million voluntary contribution in 2018 to one of the Company's U.S. qualified defined benefit retirement plans. Net cash provided by operating activities was \$338 million in 2017, up \$62 million compared to 2016, driven by an increase in net earnings.

Cash Flows Used in Investing Activities. Cash flows used in investing activities totaled \$66 million in 2018, including \$54 million for capital additions and \$11 million for business acquisitions. Cash outflows from investing activities totaled \$68 million in 2017 including \$40 million for capital additions and \$28 million for business acquisitions. Cash outflows from investing activities totaled \$91 million in 2016. The Company used proceeds from its revolving line of credit to acquire two related businesses for a total cash price of \$49 million and made capital additions of \$42 million.

Cash Flows Used in Financing Activities. Cash flows used in financing activities totaled \$283 million in 2018 and included dividends of \$89 million, share repurchases of \$245 million (partially offset by net proceeds from share issuances of \$25 million) and taxes paid related to net share settlement of equity awards of \$16 million. Inflows from net borrowings totaled \$42 million. Cash flows used in financing activities totaled \$217 million in 2017 and included dividends of \$80 million, net payments of \$83 million on long-term debt and outstanding lines of credit (including a \$75 million prepayment of private placement debt that was due in 2018) and share repurchases of \$90 million (partially offset by net proceeds from share issuances of \$61 million). Cash flows used in financing activities totaled \$185 million in 2016. Cash outflows in 2016 included dividend payments of \$73 million, share repurchases of \$50 million (partially offset by proceeds from share issuances of \$36 million) and net payments on outstanding lines of credit of \$93 million.

On April 24, 2015, the Board of Directors authorized the purchase of up to 18 million shares of common stock, primarily through open market transactions. There were approximately 3.3 million shares remaining under the authorization on December 7, 2018, when the Board of Directors authorized the purchase of up to an additional 18 million shares. The authorizations are for an indefinite period of time or until terminated by the Board. As of December 28, 2018, approximately 21 million shares remain available for purchase under the authorizations.

The Company repurchased and retired 5.7 million shares in 2018, compared to 2.6 million shares in 2017 and 2.3 million shares in 2016. The Company may continue to make opportunistic share repurchases in 2019 via open market transactions or short-dated accelerated share repurchase (“ASR”) programs.

Off-Balance Sheet Arrangements and Contractual Obligations. The Company has no significant off-balance sheet debt or other unrecorded obligations other than the items noted in the following table. In addition, the Company could be obligated to perform under standby letters of credit totaling \$3 million at December 28, 2018. The Company has also guaranteed the debt of its subsidiaries for up to \$13 million. All debt of subsidiaries is reflected in the consolidated balance sheets.

As of December 28, 2018, the Company is obligated to make cash payments in connection with obligations as follows (in millions):

	Payments due by period				
	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
Long-term debt	\$ 266.4	\$ —	\$ 116.4	\$ 75.0	\$ 75.0
Interest on long-term debt	54.6	13.4	17.5	12.7	11.0
Other non-current liabilities ⁽¹⁾	4.7	3.7	0.4	0.4	0.2
Operating leases	38.3	11.6	15.5	8.8	2.4
Service contracts	9.0	5.1	2.9	1.0	—
Purchase obligations ⁽²⁾	161.0	161.0	—	—	—
Unfunded pension and postretirement medical benefits ⁽³⁾	38.7	3.0	6.8	7.7	21.2
Total	\$ 572.7	\$ 197.8	\$ 159.5	\$ 105.6	\$ 109.8

- (1) Other non-current liabilities include estimated obligations for additional purchase consideration based on future revenues of an acquired business in excess of specified thresholds, and amounts related to certain capitalized leasehold improvements.
- (2) The Company is committed to pay suppliers under the terms of open purchase orders issued in the normal course of business. The Company also has commitments with certain suppliers to purchase minimum quantities, and under the terms of certain agreements, the Company is committed for certain portions of the supplier's inventory. The Company does not purchase, or commit to purchase, quantities in excess of normal usage or amounts that cannot be used within one year.
- (3) The amounts and timing of future Company contributions to the funded qualified defined benefit pension plans are unknown because they are dependent on pension fund asset performance and pension obligation valuation assumptions.

Critical Accounting Estimates

The Company prepares its consolidated financial statements in conformity with generally accepted accounting principles in the United States of America (“U.S. GAAP”). The Company’s most significant accounting policies are disclosed in Note A (Summary of Significant Accounting Policies) to the consolidated financial statements. The preparation of the consolidated financial statements, in conformity with U.S. GAAP, requires management to make estimates and judgments that affect the amounts reported in the consolidated financial statements and accompanying notes. Actual amounts will differ from those estimates. The Company considers the following policies to involve the most judgment in the preparation of the Company’s consolidated financial statements.

Goodwill and Other Intangible Assets. The Company performs impairment testing for goodwill annually in the fourth quarter or more frequently if events or changes in circumstances indicate that the asset might be impaired. The Company estimates the fair value of the reporting units using a present value of future cash flows calculation cross-checked by an allocation of market capitalization approach. The impairment test is performed using a two-step process. In the first step, the fair value of each reporting unit is compared with the carrying amount of the reporting unit. If the estimated fair value exceeds its carrying value, step two of the impairment analysis is not required. If the estimated fair value is less than its carrying amount, impairment is indicated and the second step must be completed in order to determine the amount, if any, of the impairment. In the second step, an impairment loss is recognized for the difference between the implied value of goodwill and the carrying value.

The Company’s primary identifiable intangible assets include customer relationships, trademarks, trade names, proprietary technology and patents. Finite lived intangibles are amortized and are evaluated for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. Indefinite lived intangibles are reviewed for impairment annually in the fourth quarter, or more frequently if events or changes in circumstances indicate the asset might be impaired.

A considerable amount of management judgment and assumptions are required in performing the impairment tests. Management makes several assumptions, including earnings and cash flow projections, discount rate, product offerings and market strategies, customer attrition, and royalty rates, each of which have a significant impact on the estimated fair values. Though management considers its judgments and assumptions to be reasonable, changes in these assumptions could impact the estimated fair value.

In 2016, operating results of our Oil and Natural Gas reporting unit (“ONG”) within the Process segment fell short of expectations due to weakness in oil and natural gas markets. We concluded that the depth and length of industry weakness, and its continuing impact on ONG results, were greater than previously expected, so we completed an impairment analysis and recorded adjustments to reduce goodwill by \$147 million and other intangible assets by \$45 million. The impairment charges reduced 2016 operating earnings by \$192 million, created a \$31 million deferred tax benefit, and decreased net earnings by \$161 million.

In 2018, we completed our annual impairment testing of goodwill and other intangible assets in the fourth quarter. No impairment charges were recorded as a result of that review.

Income Taxes. In the preparation of the Company’s consolidated financial statements, management calculates income taxes. This includes estimating current tax liability as well as assessing temporary differences resulting from different treatment of items for tax and financial statement purposes. These differences result in deferred tax assets and liabilities, which are recorded on the balance sheet using statutory rates in effect for the year in which the differences are expected to reverse. These assets and liabilities are analyzed regularly and management assesses the likelihood that deferred tax assets will be recoverable from future taxable income. A valuation allowance is established to the extent that management believes that recovery is not likely. Liabilities for uncertain tax positions are also established for potential and ongoing audits of federal, state and international issues. The Company routinely monitors the potential impact of such situations and believes that liabilities are properly stated. Valuations related to amounts owed and tax rates could be impacted by changes to tax codes and the Company’s interpretation thereof, changes in statutory rates, the Company’s future taxable income levels and the results of tax audits.

Retirement Benefits. The measurements of the Company’s pension and postretirement medical obligations are dependent on a number of assumptions including estimates of the present value of projected future payments, taking into consideration future events such as salary increase and demographic experience. These assumptions may have an impact on the expense and timing of future contributions.

The assumptions used in developing the required estimates for pension obligations include discount rate, inflation, salary increases, retirement rates, expected return on plan assets and mortality rates. The assumptions used in developing the required estimates for postretirement medical obligations include discount rates, rate of future increase in medical costs and participation rates.

For U.S. plans, the Company establishes its discount rate assumption by reference to a yield curve published by an actuary and projected plan cash flows. For plans outside the U.S., the Company establishes a rate by country by reference to highly rated corporate

bonds. These reference points have been determined to adequately match expected plan cash flows. The Company bases its inflation assumption on an evaluation of external market indicators. The salary assumptions are based on actual historical experience, the near-term outlook and assumed inflation. Retirement rates are based on experience. The investment return assumption is based on the expected long-term performance of plan assets. In setting this number, the Company considers the input of actuaries and investment advisors, its long-term historical returns, the allocation of plan assets and projected returns on plan assets. For 2019, the Company will use investment return assumptions of 7.25 percent for the larger of its two funded U.S. plans and 6.25 percent for the smaller plan, unchanged from the rates assumed for 2018. Mortality rates are based on current common group mortality tables for males and females.

In March 2017, the FASB issued a final standard that changes the presentation of net periodic benefit cost related to defined benefit plans. The Company adopted the standard effective for the first quarter of 2018, and the Company has applied the change retrospectively to all periods presented. Under the new standard, net periodic benefit costs are disaggregated between service costs presented as operating expenses and other components of pension costs presented as non-operating expenses. The Company previously charged service costs to segment operations and included other components of pension cost in unallocated corporate operating expenses. Under the new standard, unallocated corporate operating expenses decreased, operating earnings increased and other expense increased by the amount of non-service components of pension cost, including the amount of changes in cash surrender value of insurance contracts used to fund certain non-qualified pension and deferred compensation arrangements. There was no impact on reported net earnings or earnings per share. The retrospective application of the new standard increased previously reported operating earnings and other non-operating expense by \$18 million in 2017 and \$7 million in 2016.

At December 28, 2018, a one-half percentage point decrease in the indicated assumptions would have the following effects (in millions):

Assumption	Funded Status	Expense
Discount rate	\$ (27.7)	\$ 2.7
Expected return on assets	—	1.3

Recent Accounting Pronouncements

Refer to Note A (Summary of Significant Accounting Policies) to the Consolidated Financial Statements of this Form 10-K for disclosures related to recent accounting pronouncements.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

The Company sells and purchases products and services in currencies other than the U.S. dollar and pays variable interest rates on borrowings under certain credit facilities. Consequently, the Company is subject to profitability risk arising from exchange and interest rate movements. The Company may use a variety of financial and derivative instruments to manage foreign currency and interest rate risks. The Company does not enter into any of these instruments for trading purposes to generate revenue. Rather, the Company's objective in managing these risks is to reduce fluctuations in earnings and cash flows associated with changes in foreign currency exchange and interest rates.

The Company may use forward exchange contracts, options and other hedging activities to hedge the U.S. dollar value resulting from anticipated currency transactions and net monetary asset and liability positions. At December 28, 2018, the currencies to which the Company had the most significant balance sheet exchange rate exposure were the euro, Swiss franc, Canadian dollar, British pound, Japanese yen, Australian dollar, Chinese yuan renminbi and South Korean won. It is not possible to determine the true impact of currency rate changes; however, the direct translation effect on net sales and net earnings can be estimated. In 2018, changes in currency translation rates increased sales and net earnings by approximately \$15 million and \$7 million, respectively. In 2017, changes in currency translation rates increased sales and net earnings by approximately \$2 million and \$1 million, respectively. In 2016, changes in currency translation rates reduced sales and net earnings by approximately \$12 million and \$2 million, respectively.

2019 Outlook

Demand levels heading into the new year remained solid worldwide, and provide a foundation for our full-year 2019 outlook of mid single-digit sales growth on an organic, constant currency basis, with growth expected in every region and reportable segment.

At January 2019 exchange rates, assuming the same volumes, mix of products and mix of business by currency as in 2018, the movement in foreign currencies would reduce sales by approximately 1 percent and net earnings by 3 percent in 2019, with the greatest impact in the first two quarters.

The Company's backlog is not large enough to be a good indicator of future business levels. In addition to economic growth, the successful launch of new products and expanded distribution coverage, the sales outlook is dependent on many factors, including realization of price increases and stable foreign currency exchange rates.

Forward-Looking Statements

The Company desires to take advantage of the "safe harbor" provisions regarding forward-looking statements of the Private Securities Litigation Reform Act of 1995 and is filing this Cautionary Statement in order to do so. From time to time various forms filed by our Company with the Securities and Exchange Commission, including this Form 10-K and our Form 10-Qs and Form 8-Ks, and other disclosures, including our 2018 Overview report, press releases, earnings releases, analyst briefings, conference calls and other written documents or oral statements released by our Company, may contain forward-looking statements. Forward-looking statements generally use words such as "expect," "foresee," "anticipate," "believe," "project," "should," "estimate," "will," and similar expressions, and reflect our Company's expectations concerning the future. All forecasts and projections are forward-looking statements. Forward-looking statements are based upon currently available information, but various risks and uncertainties may cause our Company's actual results to differ materially from those expressed in these statements. The Company undertakes no obligation to update these statements in light of new information or future events.

Future results could differ materially from those expressed, due to the impact of changes in various factors. These risk factors include, but are not limited to, the factors discussed in Item 1A of this Annual Report on Form 10-K. Shareholders, potential investors and other readers are urged to consider these factors in evaluating forward-looking statements and are cautioned not to place undue reliance on such forward-looking statements.

Investors should realize that factors other than those identified in Item 1A might prove important to the Company's future results. It is not possible for management to identify each and every factor that may have an impact on the Company's operations in the future as new factors can develop from time to time.

Item 8. Financial Statements and Supplementary Data

Management's Report on Internal Control Over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting. The internal control system was designed to provide reasonable assurance to management and the board of directors regarding the reliability of financial reporting and preparation of financial statements in accordance with generally accepted accounting principles.

Management assessed the effectiveness of the Company's internal control over financial reporting as of December 28, 2018. In making this assessment, management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in *Internal Control-Integrated Framework* (2013).

Based on our assessment and those criteria, management believes the Company's internal control over financial reporting is effective as of December 28, 2018.

The Company's independent auditors have issued an attestation report on the Company's internal control over financial reporting. That report appears in this Form 10-K.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the shareholders and the Board of Directors of Graco Inc.

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of Graco Inc. and subsidiaries (the “Company”) as of December 28, 2018, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 28, 2018, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements as of and for the year ended December 28, 2018 of the Company and our report dated February 19, 2019 expressed an unqualified opinion on those financial statements.

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/ DELOITTE & TOUCHE LLP

Minneapolis, Minnesota
February 19, 2019

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the shareholders and the Board of Directors of Graco Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Graco Inc. and subsidiaries (the “Company”) as of December 28, 2018 and December 29, 2017, the related consolidated statements of earnings, comprehensive income, shareholders’ equity, and cash flows, for each of the three years in the period ended December 28, 2018, and the related notes and the financial statement schedule listed in the Index at Item 15 (collectively referred to as the “financial statements”). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 28, 2018 and December 29, 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 28, 2018, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company’s internal control over financial reporting as of December 28, 2018, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 19, 2019 expressed an unqualified opinion on the Company’s internal control over financial reporting.

Basis for Opinion

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

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

/s/ DELOITTE & TOUCHE LLP

Minneapolis, Minnesota
February 19, 2019

We have served as the Company’s auditor since at least 1969, however, an earlier year could not be readily determined.

GRACO INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF EARNINGS

(In thousands, except per share amounts)

	Years Ended		
	December 28, 2018	December 29, 2017	December 30, 2016
Net Sales	\$ 1,653,292	\$ 1,474,744	\$ 1,329,293
Cost of products sold	770,753	679,542	618,424
Gross Profit	882,539	795,202	710,869
Product development	63,124	59,217	59,566
Selling, marketing and distribution	245,473	231,364	212,893
General and administrative	137,515	125,876	125,246
Impairment	—	—	192,020
Operating Earnings	436,427	378,745	121,144
Interest expense	14,385	16,202	17,590
Other expense, net	11,276	15,449	6,899
Earnings Before Income Taxes	410,766	347,094	96,655
Income taxes	69,712	94,682	55,981
Net Earnings	\$ 341,054	\$ 252,412	\$ 40,674
Basic Net Earnings per Common Share	\$ 2.04	\$ 1.50	\$ 0.24
Diluted Net Earnings per Common Share	\$ 1.97	\$ 1.45	\$ 0.24

See notes to consolidated financial statements.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(In thousands)

	Years Ended		
	December 28, 2018	December 29, 2017	December 30, 2016
Net Earnings	\$ 341,054	\$ 252,412	\$ 40,674
Components of other comprehensive income (loss)			
Cumulative translation adjustment	(8,609)	16,443	(31,227)
Pension and postretirement medical liability adjustment	8,793	(3,321)	(10,715)
Income taxes - pension and postretirement medical liability	(1,799)	1,317	4,211
Other comprehensive income (loss)	(1,615)	14,439	(37,731)
Comprehensive Income	\$ 339,439	\$ 266,851	\$ 2,943

See notes to consolidated financial statements.

GRACO INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS

(In thousands, except share and per share amounts)

	December 28, 2018	December 29, 2017
ASSETS		
Current Assets		
Cash and cash equivalents	\$ 132,118	\$ 103,662
Accounts receivable, less allowances of \$5,300 and \$4,300	274,608	266,080
Inventories	283,982	239,349
Other current assets	32,508	34,247
Total current assets	723,216	643,338
Property, Plant and Equipment, net	229,295	204,298
Goodwill	293,846	278,789
Other Intangible Assets, net	166,310	183,056
Deferred Income Taxes	32,055	50,916
Other Assets	28,019	30,220
Total Assets	\$ 1,472,741	\$ 1,390,617
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current Liabilities		
Notes payable to banks	\$ 11,083	\$ 6,578
Trade accounts payable	56,902	48,748
Salaries and incentives	62,297	55,884
Dividends payable	26,480	22,260
Other current liabilities	143,041	112,368
Total current liabilities	299,803	245,838
Long-term Debt	266,391	226,035
Retirement Benefits and Deferred Compensation	133,388	172,411
Deferred Income Taxes	16,586	17,253
Other Non-current Liabilities	4,700	6,017
Commitments and Contingencies (Note K)		
Shareholders' Equity		
Common stock, \$1 par value; 291,000,000 shares authorized; 165,170,888 and 169,318,926 shares outstanding in 2018 and 2017	165,171	169,319
Additional paid-in-capital	510,825	499,934
Retained earnings	220,734	181,599
Accumulated other comprehensive income (loss)	(144,857)	(127,789)
Total shareholders' equity	751,873	723,063
Total Liabilities and Shareholders' Equity	\$ 1,472,741	\$ 1,390,617

See notes to consolidated financial statements.

GRACO INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS

(In thousands)

	Years Ended		
	December 28, 2018	December 29, 2017	December 30, 2016
Cash Flows From Operating Activities			
Net Earnings	\$ 341,054	\$ 252,412	\$ 40,674
Adjustments to reconcile net earnings to net cash provided by operating activities			
Impairment	—	—	192,020
Depreciation and amortization	47,754	45,583	48,290
Deferred income taxes	15,405	34,446	(35,561)
Share-based compensation	25,565	23,652	21,134
Change in			
Accounts receivable	(12,402)	(37,669)	4,506
Inventories	(30,719)	(32,011)	(693)
Trade accounts payable	(1,976)	4,588	553
Salaries and incentives	2,336	11,431	(6,809)
Retirement benefits and deferred compensation	(27,237)	6,920	10,995
Other accrued liabilities	7,517	35,321	3,298
Other	688	(6,809)	(2,401)
Net cash provided by operating activities	<u>367,985</u>	<u>337,864</u>	<u>276,006</u>
Cash Flows From Investing Activities			
Property, plant and equipment additions	(53,854)	(40,194)	(42,113)
Acquisition of businesses, net of cash acquired	(10,769)	(27,905)	(48,946)
Other	(1,624)	(348)	(164)
Net cash provided by (used in) investing activities	<u>(66,247)</u>	<u>(68,447)</u>	<u>(91,223)</u>
Cash Flows From Financing Activities			
Borrowings (payments) on short-term lines of credit, net	4,931	(3,026)	(5,995)
Borrowings on long-term lines of credit	620,746	315,920	648,134
Payments on long-term debt and lines of credit	(583,212)	(395,570)	(735,144)
Payments of debt issuance costs	—	—	(860)
Common stock issued	24,634	60,685	35,796
Common stock repurchased	(244,814)	(90,160)	(50,497)
Taxes paid related to net share settlement of equity awards	(16,151)	(24,448)	(3,165)
Cash dividends paid	(88,845)	(80,477)	(73,434)
Net cash provided by (used in) financing activities	<u>(282,711)</u>	<u>(217,076)</u>	<u>(185,165)</u>
Effect of exchange rate changes on cash	187	(1,032)	164
Net increase (decrease) in cash and cash equivalents	19,214	51,309	(218)
Cash, Cash Equivalents and Restricted Cash			
Beginning of year	112,904	61,595	61,813
End of year	<u>\$ 132,118</u>	<u>\$ 112,904</u>	<u>\$ 61,595</u>
Reconciliation to Consolidated Balance Sheets			
Cash and cash equivalents	\$ 132,118	\$ 103,662	\$ 52,365
Restricted cash included in other current assets	—	9,242	9,230
Cash, cash equivalents and restricted cash	<u>\$ 132,118</u>	<u>\$ 112,904</u>	<u>\$ 61,595</u>

See notes to consolidated financial statements.

GRACO INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY

(In thousands)

	Common Stock	Additional Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Total
Balance December 25, 2015	\$ 55,766	\$ 398,774	\$ 285,508	\$ (104,497)	\$ 635,551
Shares issued	830	31,947	—	—	32,777
Shares repurchased	(762)	(5,449)	(44,286)	—	(50,497)
Stock compensation cost	—	21,355	—	—	21,355
Tax benefit related to stock options exercised	—	6,913	—	—	6,913
Restricted stock canceled (issued)	—	(146)	—	—	(146)
Net earnings	—	—	40,674	—	40,674
Dividends declared (\$0.4500 per share)	—	—	(75,076)	—	(75,076)
Other comprehensive income (loss)	—	—	—	(37,731)	(37,731)
Balance December 30, 2016	55,834	453,394	206,820	(142,228)	573,820
Stock Split	112,879	—	(112,879)	—	—
Shares issued	1,489	35,164	—	—	36,653
Shares repurchased	(883)	(7,172)	(82,105)	—	(90,160)
Stock compensation cost	—	18,963	—	—	18,963
Restricted stock canceled (issued)	—	(415)	—	—	(415)
Net earnings	—	—	252,412	—	252,412
Dividends declared (\$0.4925 per share)	—	—	(82,649)	—	(82,649)
Other comprehensive income (loss)	—	—	—	14,439	14,439
Balance December 29, 2017	169,319	499,934	181,599	(127,789)	723,063
Shares issued	1,657	7,598	—	—	9,255
Shares repurchased	(5,805)	(17,140)	(224,307)	—	(247,252)
Stock compensation cost	—	21,205	—	—	21,205
Restricted stock canceled (issued)	—	(772)	—	—	(772)
Net earnings	—	—	341,054	—	341,054
Dividends declared (\$0.5575 per share)	—	—	(93,065)	—	(93,065)
Reclassified to retained earnings from AOCI	—	—	15,453	(15,453)	—
Other comprehensive income (loss)	—	—	—	(1,615)	(1,615)
Balance December 28, 2018	\$ 165,171	\$ 510,825	\$ 220,734	\$ (144,857)	\$ 751,873

See notes to consolidated financial statements.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Graco Inc. and Subsidiaries

Years Ended December 28, 2018, December 29, 2017 and December 30, 2016

A. Summary of Significant Accounting Policies

Fiscal Year. The fiscal year of Graco Inc. and Subsidiaries (the “Company”) is 52 or 53 weeks, ending on the last Friday in December. The years ended December 28, 2018 and December 29, 2017 were 52-week years. The year ended December 30, 2016 was a 53-week year.

Basis of Statement Presentation. The consolidated financial statements include the accounts of the parent company and its subsidiaries after elimination of intercompany balances and transactions. As of December 28, 2018, all subsidiaries are 100 percent controlled by the Company. Certain prior year disclosures have been revised to conform with current year reporting.

Foreign Currency Translation. The functional currency of certain subsidiaries is the local currency. Accordingly, adjustments resulting from the translation of those subsidiaries’ financial statements into U.S. dollars are charged or credited to accumulated other comprehensive income (loss). The U.S. dollar is the functional currency for all other foreign subsidiaries. Accordingly, gains and losses from the translation of foreign currency balances and transactions of those subsidiaries are included in other expense, net.

Accounting Estimates. The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements. Such estimates and assumptions also affect the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Fair Value Measurements. The three levels of inputs in the fair value measurement hierarchy are as follows:

Level 1 – based on quoted prices in active markets for identical assets

Level 2 – based on significant observable inputs

Level 3 – based on significant unobservable inputs

Assets and liabilities measured at fair value on a recurring basis and fair value measurement level were as follows (in thousands):

	Level	2018	2017
Assets			
Cash surrender value of life insurance	2	\$ 14,320	\$ 16,128
Forward exchange contracts	2	82	—
Total assets at fair value		<u>\$ 14,402</u>	<u>\$ 16,128</u>
Liabilities			
Contingent consideration	3	\$ 7,200	\$ 4,081
Deferred compensation	2	4,203	3,836
Forward exchange contracts	2	—	517
Total liabilities at fair value		<u>\$ 11,403</u>	<u>\$ 8,434</u>

Contracts insuring the lives of certain employees who are eligible to participate in certain non-qualified pension and deferred compensation plans are held in trust. Cash surrender value of the contracts is based on performance measurement funds that shadow the deferral investment allocations made by participants in certain deferred compensation plans. The deferred compensation liability balances are valued based on amounts allocated by participants to the underlying performance measurement funds.

The Company’s policy and accounting for forward exchange contracts are described below, in Derivative Instruments and Hedging Activities.

Contingent consideration liability represents the estimated value (using a probability-weighted expected return approach) of future payments to be made to previous owners of an acquired business based on its future revenues.

Disclosures related to other fair value measurements are included below in Impairment of Long-Lived Assets, in Note F (Debt) and in Note J (Retirement Benefits).

Cash Equivalents. All highly liquid investments with a maturity of three months or less at the date of purchase are considered to be cash equivalents.

Accounts Receivable. Accounts receivable includes trade receivables of \$262 million in 2018 and \$254 million in 2017. Other receivables totaled \$13 million in 2018 and \$12 million in 2017.

Inventory Valuation. Inventories are stated at the lower of cost or net realizable value. The last-in, first-out (LIFO) cost method is used for valuing most U.S. inventories. Inventories of foreign subsidiaries are valued using the first-in, first-out (FIFO) cost method.

Other Current Assets. Amounts included in other current assets were (in thousands):

	2018	2017
Prepaid income taxes	\$ 14,762	\$ 8,934
Restricted cash	—	9,242
Prepaid expenses and other	17,746	16,071
Total	<u>\$ 32,508</u>	<u>\$ 34,247</u>

The Company previously managed certain self-insured loss exposures through a wholly-owned captive insurance subsidiary. Cash balances of \$9.2 million as of December 29, 2017 were restricted for funding the captive's loss reserves and included within other current assets on the Company's Consolidated Balance Sheets. The Company dissolved the captive insurance subsidiary in the third quarter of 2018 and there were no restricted cash balances as of December 28, 2018.

Impairment of Long-Lived Assets. The Company evaluates long-lived assets (including property and equipment, goodwill and other intangible assets) for impairment annually in the fourth quarter, or whenever events or changes in circumstances indicate that the carrying amount may not be recoverable.

We completed our annual impairment review of all long-lived assets in the fourth quarter of 2018. No impairment charges were recorded as a result of that review. There were no impairment charges in 2017. In 2016, we recorded an impairment charge of \$192 million for our Oil and Natural Gas reporting unit within the Process segment.

Property, Plant and Equipment. For financial reporting purposes, plant and equipment are depreciated over their estimated useful lives, primarily by using the straight-line method as follows:

Buildings and improvements	10 to 30 years
Leasehold improvements	lesser of 5 to 10 years or life of lease
Manufacturing equipment	lesser of 5 to 10 years or life of equipment
Office, warehouse and automotive equipment	3 to 10 years

Goodwill and Other Intangible Assets. Goodwill has been assigned to reporting units. Changes in the carrying amounts of goodwill for each reportable segment were (in thousands):

	Industrial	Process	Contractor	Total
Balance, December 30, 2016	\$ 150,556	\$ 96,561	\$ 12,732	\$ 259,849
Additions, adjustments from business acquisitions	7,152	(62)	6,413	13,503
Foreign currency translation	3,965	1,472	—	5,437
Balance, December 29, 2017	<u>161,673</u>	<u>97,971</u>	<u>19,145</u>	<u>278,789</u>
Additions, adjustments from business acquisitions	17,544	170	409	18,123
Foreign currency translation	(2,093)	(973)	—	(3,066)
Balance, December 28, 2018	<u>\$ 177,124</u>	<u>\$ 97,168</u>	<u>\$ 19,554</u>	<u>\$ 293,846</u>

Components of other intangible assets were (dollars in thousands):

	Finite Life			Indefinite Life		Total
	Customer Relationships	Patents and Proprietary Technology	Trademarks, Trade Names and Other	Trade Names		
As of December 28, 2018						
Cost	\$ 179,449	\$ 18,571	\$ 1,020	\$ 59,537	\$	258,577
Accumulated amortization	(67,322)	(8,647)	(439)	—		(76,408)
Foreign currency translation	(10,817)	(895)	(73)	(4,074)		(15,859)
Book value	\$ 101,310	\$ 9,029	\$ 508	\$ 55,463	\$	166,310
Weighted average life in years	13	10	4	N/A		
As of December 29, 2017						
Cost	\$ 179,826	\$ 18,479	\$ 1,071	\$ 59,553	\$	258,929
Accumulated amortization	(54,076)	(7,795)	(542)	—		(62,413)
Foreign currency translation	(9,186)	(727)	(61)	(3,486)		(13,460)
Book value	\$ 116,564	\$ 9,957	\$ 468	\$ 56,067	\$	183,056
Weighted average life in years	13	10	4	N/A		

Amortization of intangibles was \$15.6 million in 2018, \$14.8 million in 2017 and \$17.8 million in 2016. Estimated future annual amortization expense based on the current carrying amount of other intangible assets is as follows (in thousands):

	2019	2020	2021	2022	2023	Thereafter
Estimated Amortization Expense	\$ 15,058	\$ 14,844	\$ 14,646	\$ 14,549	\$ 13,661	\$ 38,089

Other Assets. Components of other assets were (in thousands):

	2018	2017
Cash surrender value of life insurance	\$ 14,320	\$ 16,128
Capitalized software	2,742	1,784
Equity method investment	7,252	6,755
Prepaid pension	—	2,538
Deposits and other	3,705	3,015
Total	\$ 28,019	\$ 30,220

The Company has entered into contracts insuring the lives of certain employees who are eligible to participate in certain non-qualified pension and deferred compensation plans. These insurance contracts are used to fund the non-qualified pension and deferred compensation arrangements. The insurance contracts are held in a trust and are available to general creditors in the event of the Company's insolvency. Changes in cash surrender value are recorded in operating expense. Decreases in cash surrender value totaled \$1.8 million in 2018 and increases totaled \$2.3 million in 2017. Changes in cash surrender value were not significant in 2016.

Capitalized software is amortized over its estimated useful life (generally 2 to 5 years) beginning at date of implementation.

Other Current Liabilities. Components of other current liabilities were (in thousands):

	2018	2017
Accrued self-insurance retentions	\$ 7,870	\$ 7,956
Accrued warranty and service liabilities	11,056	10,535
Accrued trade promotions	11,449	10,588
Payable for employee stock purchases	11,916	10,053
Customer advances and deferred revenue	39,995	22,632
Income taxes payable	8,515	7,564
Right of return refund liability	12,705	11,412
Other	39,535	31,628
Total	<u>\$ 143,041</u>	<u>\$ 112,368</u>

Self-Insurance. The Company is self-insured for certain losses and costs relating to product liability, workers' compensation, and employee medical benefit claims. The Company has stop-loss coverage in order to limit its exposure to significant claims. Accrued self-insurance retentions are based on claims filed, estimates of claims incurred but not reported, and other actuarial assumptions. Self-insured reserves totaled \$7.9 million as of December 28, 2018, and \$8.5 million as of December 29, 2017, including \$0.5 million, classified as other long-term liabilities as of December 29, 2017.

Product Warranties. A liability is established for estimated future warranty and service claims that relate to current and prior period sales. The Company estimates warranty costs based on historical claim experience and other factors including evaluating specific product warranty issues. Following is a summary of activity in accrued warranty and service liabilities (in thousands):

	2018	2017
Balance, beginning of year	\$ 10,535	\$ 8,934
Charged to expense	8,963	7,930
Margin on parts sales reversed	1,193	2,826
Reductions for claims settled	(9,635)	(9,155)
Balance, end of year	<u>\$ 11,056</u>	<u>\$ 10,535</u>

Revenue Recognition.

Adoption of New Accounting Standard

In May 2014, the Financial Accounting Standards Board (FASB) issued a final standard on revenue from contracts with customers, contained in Accounting Standards Codification Topic 606 ("ASC 606"). The new standard sets forth a single comprehensive model for recognizing and reporting revenue. ASC 606 was effective for the Company as of December 30, 2017, the beginning of our fiscal year 2018. The Company adopted the new accounting standard using the modified retrospective transition approach. Application of the transition requirements had no material impact on operations or beginning retained earnings.

We record revenue under ASC 606 at a single point in time, when control is transferred to the customer, which is consistent with past practice. Under ASC 606, rights of return are recorded as a refund liability and a recovery asset is established for the value of product expected to be returned. We previously classified rights of return, net of amounts expected to be recovered, as an allowance reducing accounts receivable. We reclassified prior period balance sheet amounts to conform to ASC 606 requirements. This resulted in an increase in accounts receivable of \$9.7 million, a recovery asset of \$1.7 million included in other current assets and \$11.4 million of refund liability included in other current liabilities as of December 29, 2017.

Accounting Policy

Revenue is recognized upon the satisfaction of performance obligations, which occurs when control of the good or service transfers to the customer. This is generally on the date of shipment; however certain sales have terms requiring recognition when received by the customer. In cases where there are specific customer acceptance provisions, revenue is recognized at the later of customer acceptance or shipment (subject to shipping terms). Payment terms are established based on the type of product, distributor capabilities and competitive market conditions. We generally determine standalone selling prices based on the prices charged to customers for all material performance obligations.

Variable consideration is accounted for as a price adjustment (sales adjustment). Following are examples of variable consideration that affect the Company's reported revenue. Early payment discounts are provided to certain customers and within certain regions. Rights of return are typically contractually limited, amounts are estimable, and the Company records provisions for anticipated returns at the time revenue is recognized. This includes promotions when, from time to time, the Company may promote the sale of new products by agreeing to accept returns of superseded products. Historically, sales returns have been less than 3 percent of sales. Provisions for sales returns are recorded as a reduction of net sales, and provisions for warranty claims are recorded in selling, marketing and distribution expenses. Trade promotions are offered to distributors and end users through various programs, generally with terms of one year or less. Such promotions include rebates based on annual purchases and sales growth, coupons and reimbursement for competitive products. Payment of incentives may take the form of cash, trade credit, promotional merchandise or free product. Rebates are accrued based on the program rates and progress toward the probability weighted estimate of annual sales amount and sales growth.

Additional promotions include cooperative advertising arrangements. Under cooperative advertising arrangements, the Company reimburses the distributor for a portion of its advertising costs related to the Company's products; estimated costs are accrued at the time of sale and classified as selling, marketing and distribution expense. The estimated costs related to coupon programs are accrued at the time of sale and classified as selling, marketing and distribution expense or cost of products sold, depending on the type of incentive offered. The considerations payable to customers are deemed as broad based and are not recorded against net sales.

Shipping and handling costs incurred for the delivery of goods to customers are included in cost of goods sold. Amounts billed to customers for shipping and handling are included in net sales.

Deferred Revenues

We defer revenue when cash payments are received or due in advance of our performance, including amounts which are refundable. This is also the case for services associated with certain product sales. The balance in the deferred revenue and customer advances was \$40.0 million as of December 28, 2018 and \$22.6 million as of December 29, 2017. The increase from year-end 2017 includes \$23.1 million related to a business acquired in 2018. Net sales for the year included \$21.9 million that was in deferred revenue and customer advances as of December 29, 2017.

Our payment terms vary by the type and location of our customer and the products or services offered. The term between invoicing and when payment is due is not significant. For certain products or services and customer types, we require payment before the products or services are delivered to the customer.

Practical Expedients and Exemptions

We have made an accounting policy election to account for shipping and handling activities that occur after control of the related good transfers as fulfillment activities instead of assessing such activities as performance obligations.

We have made an accounting policy election to exclude from the transaction price all sales taxes related to revenue producing transactions collected from the customer for a governmental authority.

We apply the new revenue standard requirements to a portfolio of contracts (or performance obligations) with similar characteristics for transactions where it is expected that the effects on the financial statements of applying the revenue recognition guidance to the portfolio would not differ materially from applying this guidance to the individual contracts (or performance obligations) within that portfolio.

We have made an accounting policy election to not assess whether promised goods or services are performance obligations if they are immaterial in the context of the contract with the customer. If the revenue related to a performance obligation that includes goods or services that are immaterial in the context of the contract is recognized before those immaterial goods or services are transferred to the customer, then the related costs to transfer those goods or services are accrued.

We generally expense incremental costs of obtaining a contract when incurred because the amortization period would be less than one year. These costs primarily relate to sales commissions and are recorded in selling, marketing and distribution expense.

We disclose disaggregated revenues by reporting segment and geography in accordance with the revenue standard. See [Note B](#) Segment Information.

Earnings Per Common Share. Basic net earnings per share is computed by dividing earnings available to common shareholders by the weighted average number of shares outstanding during the year. Diluted net earnings per share is computed after giving effect to the exercise of all dilutive outstanding option grants.

Comprehensive Income. Comprehensive income is a measure of all changes in shareholders' equity except those resulting from investments by and distributions to owners, and includes such items as net earnings, certain foreign currency translation items, changes in the value of qualifying hedges and pension liability adjustments.

Derivative Instruments and Hedging Activities. The Company accounts for all derivatives, including those embedded in other contracts, as either assets or liabilities and measures those financial instruments at fair value. The accounting for changes in the fair value of derivatives depends on their intended use and designation.

As part of its risk management program, the Company may periodically use forward exchange contracts to manage known market exposures. Terms of derivative instruments are structured to match the terms of the risk being managed and are generally held to maturity. The Company does not hold or issue derivative financial instruments for trading purposes. All other contracts that contain provisions meeting the definition of a derivative also meet the requirements of, and have been designated as, normal purchases or sales. The Company's policy is to not enter into contracts with terms that cannot be designated as normal purchases or sales.

The Company periodically evaluates its monetary asset and liability positions denominated in foreign currencies. The Company enters into forward contracts or options, or borrows in various currencies, in order to hedge its net monetary positions. These instruments are recorded at fair value and the gains and losses are included in other expense, net. The notional amounts of contracts outstanding as of December 28, 2018, totaled \$32 million. The Company believes it uses strong financial counterparties in these transactions and that the resulting credit risk under these hedging strategies is not significant.

The Company uses significant other observable inputs (level 2 in the fair value hierarchy) to value the derivative instruments used to hedge net monetary positions, including reference to market prices and financial models that incorporate relevant market assumptions. Net derivative assets are reported on the balance sheet in accounts receivable and net derivative liabilities are reported as other current liabilities. The fair market value of such instruments follows (in thousands):

	2018	2017
Foreign Currency Contracts		
Assets	\$ 322	\$ —
Liabilities	(240)	(517)
Net Assets (Liabilities)	<u>\$ 82</u>	<u>\$ (517)</u>

Recent Accounting Pronouncements.

Leases

In February 2016, FASB issued a final standard on leases contained in Accounting Standards Codification Topic 842 ("ASC 842"). The new standard is effective for the Company in the first quarter of 2019 and requires leases to be recorded on the balance sheet. The Company will adopt the new accounting standard using the modified retrospective transition approach as of the beginning of fiscal year 2019. The modified retrospective transition approach recognizes any changes from the beginning of the year of initial application through retained earnings with no restatement of comparative periods. The Company will elect to use the package of practical expedients as well as the practical expedients related to hindsight. We will make an accounting policy election related to short term leases applicable to all asset classes.

Based on the results of the implementation process, we expect that the adoption of the new standard will not have a material impact on our earnings or shareholders' equity. The recorded right-of-use assets and associated lease liabilities are expected to be approximately \$35 million at the time of implementation. Adjustments will only be made based on new information that would impact the asset and liability balances as of the beginning of the fiscal year. We do not believe the new standard will have a notable impact on our liquidity. The standard will have no impact on our debt-covenant compliance under our current agreements.

We are implementing changes to our business processes, systems and controls needed to support recognition and disclosure under the new standard. We are continuing to assess any incremental disclosures that will be required in our consolidated financial statements.

Credit Losses

In June 2016, the FASB issued a final standard on accounting for credit losses. The new standard is effective for the Company in fiscal 2020 and requires a change in credit loss calculations using the expected loss method. The Company is evaluating the effect of the new standard on its consolidated financial statements and related disclosures and accounting systems.

B. Segment Information

The Company has six operating segments which are aggregated into three reportable segments: Industrial, Process and Contractor.

The Industrial segment includes our Industrial Products and Applied Fluid Technologies divisions. The Industrial segment markets equipment and solutions for moving and applying paints, coatings, sealants, adhesives and other fluids. Markets served include automotive and vehicle assembly and components production, wood and metal products, rail, marine, aerospace, farm, construction, bus, recreational vehicles and various other industries.

The Process segment includes our Process, Oil and Natural Gas, and Lubrication divisions. The Process segment markets pumps, valves, meters and accessories to move and dispense chemicals, oil and natural gas, water, wastewater, petroleum, food, lubricants and other fluids. Markets served include food and beverage, dairy, oil and natural gas, pharmaceutical, cosmetics, electronics, wastewater, mining, fast oil change facilities, service garages, fleet service centers, automobile dealerships and industrial lubrication applications.

The Contractor segment markets sprayers for architectural coatings for painting, corrosion control, texture and line striping.

The accounting policies of the segments are the same as those described in the summary of significant accounting policies. The cost of manufacturing for each segment is based on product cost, and expenses are based on actual costs incurred along with cost allocations of shared and centralized functions based on activities performed, sales or space utilization. Depreciation expense is charged to the manufacturing or operating cost center that utilizes the asset, and is then allocated to segments on the same basis as other expenses within that cost center. Reportable segments are defined by product. Segments are responsible for development, manufacturing, marketing and sales of their products. This allows for focused marketing and efficient product development. The segments share common purchasing, certain manufacturing, distribution and administration functions.

Segments information follows (in thousands):

	2018	2017	2016
Net Sales			
Industrial	\$ 781,029	\$ 691,978	\$ 629,581
Process	337,953	294,652	266,630
Contractor	534,310	488,114	433,082
Total	<u>\$ 1,653,292</u>	<u>\$ 1,474,744</u>	<u>\$ 1,329,293</u>
Operating Earnings			
Industrial	\$ 271,307	\$ 237,700	\$ 207,183
Process	68,514	52,216	35,749
Contractor	120,905	113,898	91,837
Unallocated corporate (expense)	(24,299)	(25,069)	(21,605)
Impairment	—	—	(192,020)
Total	<u>\$ 436,427</u>	<u>\$ 378,745</u>	<u>\$ 121,144</u>
Assets			
Industrial	\$ 640,683	\$ 572,436	
Process	350,306	345,572	
Contractor	283,727	255,615	
Unallocated corporate	198,025	216,994	
Total	<u>\$ 1,472,741</u>	<u>\$ 1,390,617</u>	

Management assesses performance of segments by reference to operating earnings excluding unallocated corporate expenses and asset impairments. Unallocated corporate (expense) includes such items as stock compensation, certain acquisition transaction costs, bad debt expense, charitable contributions and certain facility expenses. Unallocated assets include cash, allowances and valuation reserves, deferred income taxes, certain capital and other assets.

Geographic information follows (in thousands):

	2018	2017	2016
Net Sales (based on customer location)			
United States	\$ 806,127	\$ 743,344	\$ 685,981
Other countries	847,165	731,400	643,312
Total	<u>\$ 1,653,292</u>	<u>\$ 1,474,744</u>	<u>\$ 1,329,293</u>
Long-lived Assets			
United States	\$ 178,331	\$ 163,416	
Other countries	50,964	40,882	
Total	<u>\$ 229,295</u>	<u>\$ 204,298</u>	

Sales to Major Customers. Worldwide sales to one customer in the Contractor and Industrial segments individually represented over 10 percent of the Company's consolidated sales in 2018, 2017 and 2016.

C. Inventories

Major components of inventories were as follows (in thousands):

	2018	2017
Finished products and components	\$ 142,535	\$ 124,327
Products and components in various stages of completion	83,768	61,274
Raw materials and purchased components	115,705	103,407
Subtotal	<u>342,008</u>	<u>289,008</u>
Reduction to LIFO cost	(58,026)	(49,659)
Total	<u>\$ 283,982</u>	<u>\$ 239,349</u>

Inventories valued under the LIFO method were \$154.4 million in 2018 and \$135.9 million in 2017. All other inventory was valued on the FIFO method.

In 2018, there were no reductions in inventory quantities resulting in liquidation of LIFO inventory quantities carried at lower costs from prior years.

D. Property, Plant and Equipment

Property, plant and equipment were as follows (in thousands):

	2018	2017
Land and improvements	\$ 26,252	\$ 24,469
Buildings and improvements	157,385	145,009
Manufacturing equipment	317,011	298,719
Office, warehouse and automotive equipment	44,901	41,747
Additions in progress	24,484	18,170
Total property, plant and equipment	<u>570,033</u>	<u>528,114</u>
Accumulated depreciation	(340,738)	(323,816)
Net property, plant and equipment	<u>\$ 229,295</u>	<u>\$ 204,298</u>

Depreciation expense was \$31.1 million in 2018, \$29.5 million in 2017 and \$28.8 million in 2016.

E. Income Taxes

The effective tax rate for 2018 was 17 percent. The passage of the 2017 Tax Cuts and Jobs Act (the “Tax Act”) reduced the 2018 U.S. federal statutory rate to 21 percent from 35 percent, added new calculations for Global Intangible Low-tax Income (“GILTI”) and Foreign Derived Intangible Income (“FDII”) and broadened the taxable income base. The Company has made an accounting policy election to treat GILTI as a current year tax expense in the period in which it is incurred.

The Company continues its assertion that it will indefinitely reinvest earnings of foreign subsidiaries to support expansion of its international business. No additional income or withholding taxes have been provided for any remaining undistributed foreign earnings not subject to the transition tax or GILTI inclusion, as these amounts continue to be indefinitely reinvested in foreign operations. As of December 28, 2018, the amount of cash held outside the U.S. was not significant to the Company’s liquidity and was available to fund investments abroad.

Earnings before income tax expense (income) consist of (in thousands):

	2018	2017	2016
Domestic	\$ 310,999	\$ 269,258	\$ 107,440
Foreign	99,767	77,836	(10,785)
Total	<u>\$ 410,766</u>	<u>\$ 347,094</u>	<u>\$ 96,655</u>

Income tax expense (income) consists of (in thousands):

	2018	2017	2016
Current			
Federal	\$ 27,760	\$ 41,996	\$ 67,126
State and local	3,398	3,088	4,868
Foreign	23,118	19,486	18,195
Current income tax expense	<u>54,276</u>	<u>64,570</u>	<u>90,189</u>
Deferred			
Domestic	17,058	35,782	(27,509)
Foreign	(1,622)	(5,670)	(6,699)
Deferred income tax expense (benefit)	<u>15,436</u>	<u>30,112</u>	<u>(34,208)</u>
Total	<u>\$ 69,712</u>	<u>\$ 94,682</u>	<u>\$ 55,981</u>

Income taxes paid were \$58.1 million in 2018, \$61.0 million in 2017 and \$78.6 million in 2016.

A reconciliation between the U.S. federal statutory tax rate and the effective tax rate follows:

	2018	2017	2016
Statutory tax rate	21%	35%	35%
Tax effect of international operations	—	(6)	4
State taxes, net of federal effect	1	1	1
U.S. general business tax credits	(1)	(1)	(3)
Domestic production deduction	—	(2)	(7)
Stock compensation excess tax benefit	(2)	(10)	—
Impact of 2017 Tax Cuts and Jobs Act	—	10	—
Impairment	—	—	28
Global Intangible Low-taxed Income	1	—	—
Foreign Derived Intangible Income	(2)	—	—
Pension contribution	(1)	—	—
Effective tax rate	<u>17%</u>	<u>27%</u>	<u>58%</u>

Deferred income taxes are provided for temporary differences between the financial reporting and the tax basis of assets and liabilities. The deferred tax assets (liabilities) resulting from these differences were as follows (in thousands):

	2018	2017
Inventory valuations	\$ (1,012)	\$ (1,686)
Self-insurance retention accruals	1,284	1,264
Warranty reserves	1,778	1,658
Vacation accruals	2,259	1,942
Bad debt reserves	2,785	2,620
Excess of tax over book depreciation and amortization	(37,208)	(30,381)
Pension liability	22,884	31,220
Postretirement medical	4,491	4,313
Acquisition costs	601	680
Stock compensation	13,763	14,185
Deferred compensation	1,994	1,801
Foreign Tax Credit Carryforward	—	5,000
Other	1,850	1,047
Net deferred tax assets	<u>\$ 15,469</u>	<u>\$ 33,663</u>

Total deferred tax assets were \$56.1 million and \$68.8 million, and total deferred tax liabilities were \$40.6 million and \$35.1 million on December 28, 2018 and December 29, 2017. The difference between the deferred income tax provision and the change in net deferred income taxes is due to the change in other comprehensive income (loss) items.

The Company files income tax returns in the U.S. federal jurisdiction, and various states and foreign jurisdictions. With few exceptions, the Company is no longer subject to U.S. federal, state and local, or non-U.S. income tax examinations by tax authorities for years before 2012.

The Company records penalties and accrued interest related to uncertain tax positions in income tax expense. Total reserves for uncertain tax positions were not material.

F. Debt

A summary of debt follows (dollars in thousands):

	Average Interest Rate		2018	2017
	December 28, 2018	Maturity		
Private placement unsecured fixed-rate notes				
Series B	5.01%	March 2023	75,000	75,000
Series C	4.88%	January 2020	75,000	75,000
Series D	5.35%	July 2026	75,000	75,000
Unsecured revolving credit facility	N/A	December 2021	—	1,035
Unsecured revolving credit facility - CNH	4.82%	September 2020	41,391	—
Notes payable to banks	0.75%	2019	11,083	6,578
Total debt			<u>\$ 277,474</u>	<u>\$ 232,613</u>

The estimated fair value of the fixed interest rate private placement debt was \$235 million on December 28, 2018 and \$245 million on December 29, 2017. The fair value of variable rate borrowings approximates carrying value. The Company uses significant other observable inputs to estimate fair value (level 2 of the fair value hierarchy) based on the present value of future cash flows and rates that would be available for issuance of debt with similar terms and remaining maturities.

On December 15, 2016, the Company executed an amendment to its revolving credit agreement, extending the expiration date to December 15, 2021 and decreasing certain interest rates and fees. The amended agreement with a syndicate of lenders provides up to

\$500 million of committed credit, available for general corporate purposes, working capital needs, share repurchases and acquisitions. The Company may borrow up to \$50 million under the swingline portion of the facility for daily working capital needs.

Under terms of the amended revolving credit agreement, borrowings may be denominated in U.S. dollars or certain other currencies. Loans denominated in U.S. dollars bear interest, at the Company's option, at either a base rate or a LIBOR-based rate. Loans denominated in currencies other than U.S. dollars bear interest at a LIBOR-based rate. The base rate is an annual rate equal to a margin ranging from zero percent to 0.75 percent, depending on the Company's cash flow leverage ratio (debt to earnings before interest, taxes, depreciation, amortization and extraordinary non-operating or non-cash charges and expenses) plus the highest of (i) the bank's prime rate, (ii) the federal funds rate plus 0.5 percent, or (iii) one-month LIBOR plus 1.5 percent. In general, LIBOR-based loans bear interest at LIBOR plus 1 percent to 1.75 percent, depending on the Company's cash flow leverage ratio. In addition to paying interest on the outstanding loans, the Company is required to pay a fee on the unused amount of the loan commitments at an annual rate ranging from 0.125 percent to 0.25 percent, depending on the Company's cash flow leverage ratio.

On September 24, 2018, the Company entered into a revolving credit agreement with a sole lender that expires in September 2020. The credit agreement provides up to \$50 million of committed credit, available for general corporate purposes, working capital needs, share repurchases and acquisitions. Under the terms of the agreement, loans may be denominated in U.S. dollars or Chinese renminbi (offshore). Loans denominated in U.S. dollars bear interest, at the Company's option, at either a base rate or a LIBOR-based rate. Loans denominated in Chinese renminbi (offshore) bear interest at a LIBOR-based rate based on the Chinese offshore rate. Other terms of the new revolving credit agreement are substantially similar to those of the Company's revolving credit agreement that expires in December 2021.

On December 28, 2018, the Company had \$594 million in lines of credit, including the \$550 million in committed credit facilities described above and \$44 million with foreign banks. The unused portion of committed credit lines was \$518 million as of December 28, 2018. In addition, the Company has unused, uncommitted lines of credit with foreign banks totaling \$25 million. Borrowing rates under these credit lines vary with the prime rate, rates on domestic certificates of deposit and the London Interbank market. The Company pays facility fees at an annual rate of up to 0.15 percent on certain of these lines. No compensating balances are required.

Various debt agreements require the Company to maintain certain financial ratios as to cash flow leverage and interest coverage. The Company is in compliance with all financial covenants of its debt agreements as of December 28, 2018.

Annual maturities of debt are as follows (in thousands):

	2019	2020	2021	2022	2023	Thereafter
Maturities of debt	\$ 11,083	\$ 116,391	\$ —	\$ —	\$ 75,000	\$ 75,000

Interest paid on debt was \$14.0 million in 2018, \$16.5 million in 2017 and \$17.6 million in 2016.

G. Shareholders' Equity

At December 28, 2018, the Company had 22,549 authorized, but not issued, cumulative preferred shares, \$100 par value. The Company also has authorized, but not issued, a separate class of 3 million shares of preferred stock, \$1 par value.

Changes in components of accumulated other comprehensive income (loss), net of tax were (in thousands):

	Pension and Postretirement Medical	Cumulative Translation Adjustment	Total
Balance, December 25, 2015	\$ (69,922)	\$ (34,575)	\$ (104,497)
Other comprehensive income (loss) before reclassifications	(12,169)	(31,227)	(43,396)
Amounts reclassified from accumulated other comprehensive income	5,665	—	5,665
Balance, December 30, 2016	(76,426)	(65,802)	(142,228)
Other comprehensive income (loss) before reclassifications	(14,791)	16,443	1,652
Amounts reclassified from accumulated other comprehensive income	12,787	—	12,787
Balance, December 29, 2017	(78,430)	(49,359)	(127,789)
Other comprehensive income (loss) before reclassifications	(196)	(8,609)	(8,805)
Amounts reclassified from accumulated other comprehensive income	7,190	—	7,190
Balance, Reclassified to retained earnings	\$ (15,453)	\$ —	\$ (15,453)
Balance, December 28, 2018	\$ (86,889)	\$ (57,968)	\$ (144,857)

Amounts related to pension and postretirement medical adjustments are reclassified to non-service components of pension cost that are included within other non-operating expenses. Included in the 2017 reclassification is \$12 million related to a pension settlement loss (Note J).

In February 2018, FASB issued a new standard related to reclassification of certain tax effects from accumulated other comprehensive income (AOCI). We early-adopted the new standard in the first quarter of 2018. We elected to reclassify \$15.5 million from accumulated other comprehensive income to retained earnings, representing the amount of “stranded” tax effects resulting from the change in the U.S. federal tax rate and the consequent revaluation of deferred tax assets related to pension and postretirement medical expense.

On April 30, 2018, the Company repurchased 0.7 million shares of its common stock for \$28.2 million from the President and Chief Executive Officer of the Company. The \$43.33 per share purchase price represented a discount of 3 percent from the closing price of the Company’s stock immediately prior to the date of the transaction. The repurchase is expected to be accretive to earnings per share and yield a rate of return to remaining shareholders that will exceed the Company’s equity cost of capital. The Company used available cash balances and borrowings under its revolving line of credit to fund the repurchase.

H. Share-Based Awards, Purchase Plans and Compensation Cost

Stock Option and Award Plan. The Company has a stock incentive plan under which it grants stock options and share awards to directors, officers and other employees. Option price is the market price on the date of grant. Options become exercisable at such time, generally over three or four years, and in such installments as set by the Company, and expire ten years from the date of grant.

Restricted share awards have been made to certain key employees under the plan. The market value of restricted stock at the date of grant is charged to operations over the vesting period. Compensation cost related to restricted shares is not significant.

The Company has a stock appreciation plan that provides for payments of cash to eligible foreign employees based on the change in the market price of the Company’s common stock over a period of time. Compensation cost related to the stock appreciation plan was \$4.4 million in 2018, \$4.5 million in 2017 and was not significant in 2016.

Individual nonemployee directors of the Company may elect to receive, either currently or deferred, all or part of their retainer in the form of shares of the Company’s common stock instead of cash. Under this arrangement, the Company issued 14,595 shares in 2018, 17,925 shares in 2017 and 20,646 shares in 2016. The expense related to this arrangement is not significant.

Options on common shares granted and outstanding, as well as the weighted average exercise price, are shown below (in thousands, except exercise prices):

	Option Shares	Weighted Average Exercise Price	Options Exercisable	Weighted Average Exercise Price
Outstanding, December 25, 2015	15,495	\$ 16.05	10,749	\$ 12.83
Granted	3,483	25.53		
Exercised	(2,286)	13.00		
Canceled	(87)	23.36		
Outstanding, December 30, 2016	16,605	18.42	11,016	15.13
Granted	1,725	30.71		
Exercised	(4,903)	12.86		
Canceled	(137)	26.63		
Outstanding, December 29, 2017	13,290	21.99	7,729	18.33
Granted	1,163	44.05		
Exercised	(2,081)	18.17		
Canceled	(102)	28.59		
Outstanding, December 28, 2018	12,270	\$ 24.67	7,312	\$ 20.17

The following table summarizes information for options outstanding and exercisable at December 28, 2018 (in thousands, except exercise prices and contractual term amounts):

Range of Prices	Options Outstanding			Options Exercisable	
	Options Outstanding	Weighted Average Contractual Term Remaining in Years	Weighted Average Exercise Price	Options Exercisable	Weighted Average Exercise Price
\$5 - \$20	3,612	2.6	\$ 10.88	3,612	\$ 14.79
\$20 - \$25	4,045	6.3	24.41	2,771	24.55
\$25 - \$30	1,790	7.3	27.12	513	25.79
\$30 - \$47	2,823	8.6	36.14	416	30.85
\$5 - \$47	12,270	5.9	\$ 24.67	7,312	\$ 20.17

The aggregate intrinsic value of exercisable option shares was \$154.5 million as of December 28, 2018, with a weighted average contractual term of 4.4 years. There were approximately 12.3 million vested share options and share options expected to vest as of December 28, 2018, with an aggregate intrinsic value of \$207.3 million, a weighted average exercise price of \$24.67 and a weighted average contractual term of 5.9 years.

Information related to options exercised follows (in thousands):

	2018	2017	2016
Cash received	\$ 11,158	\$ 48,833	\$ 21,142
Aggregate intrinsic value	57,979	119,442	30,247
Tax benefit realized	12,000	42,000	9,900

Employee Stock Purchase Plan. Under the Company's Employee Stock Purchase Plan, the purchase price of the shares is the lesser of 85 percent of the fair market value on the first day or the last day of the plan year. Under this plan, the Company issued 480,461 shares in 2018, 499,956 shares in 2017 and 510,432 shares in 2016.

Authorized Shares. Shares authorized for issuance under the stock option and purchase plans are shown below (in thousands):

	Total Shares Authorized	Available for Future Issuance as of December 28, 2018
Stock Incentive Plan (2015)	10,500	4,040
Employee Stock Purchase Plan (2006)	21,000	13,294
Total	31,500	17,334

Amounts available for future issuance exclude outstanding options. Options outstanding as of December 28, 2018, include options granted under two plans that were replaced by subsequent plans. No shares are available for future grants under those plans.

Share-based Compensation. The Company recognized share-based compensation cost as follows (in thousands):

	2018	2017	2016
Share-based compensation	\$ 25,565	\$ 23,652	\$ 21,134
Tax benefit	3,500	5,100	6,100
Share-based compensation, net of tax	\$ 22,065	\$ 18,552	\$ 15,034

As of December 28, 2018, there was \$8.6 million of unrecognized compensation cost related to unvested options, expected to be recognized over a weighted average period of approximately 2.0 years.

The fair value of each option grant is estimated on the date of grant using the Black-Scholes option-pricing model with the following weighted average assumptions and results:

	2018	2017	2016
Expected life in years	7.5	7.0	6.2
Interest rate	2.8%	2.2%	1.6%
Volatility	25.5%	26.7%	27.5%
Dividend yield	1.2%	1.6%	1.7%
Weighted average fair value per share	\$ 12.84	\$ 8.08	\$ 5.96

Expected life is estimated based on vesting terms and exercise and termination history. Interest rate is based on the U.S. Treasury rate on zero-coupon issues with a remaining term equal to the expected life of the option. Expected volatility is based on historical volatility over a period commensurate with the expected life of options.

The fair value of employees' purchase rights under the Employee Stock Purchase Plan was estimated on the date of grant. The benefit of the 15 percent discount from the lesser of the fair market value per common share on the first day and the last day of the plan year was added to the fair value of the employees' purchase rights determined using the Black-Scholes option-pricing model with the following assumptions and results:

	2018	2017	2016
Expected life in years	1.0	1.0	1.0
Interest rate	2.1%	0.9%	0.7%
Volatility	21.3%	22.3%	24.6%
Dividend yield	1.2%	1.5%	1.7%
Weighted average fair value per share	\$ 10.28	\$ 7.32	\$ 6.38

I. Earnings per Share

The following table sets forth the computation of basic and diluted earnings per share (in thousands, except per share amounts):

	2018	2017	2016
Net earnings available to common shareholders	\$ 341,054	\$ 252,412	\$ 40,674
Weighted average shares outstanding for basic earnings per share	167,364	167,925	166,851
Dilutive effect of stock options computed based on the treasury stock method using the average market price	5,849	6,393	4,025
Weighted average shares outstanding for diluted earnings per share	173,213	174,318	170,876
Basic earnings per share	\$ 2.04	\$ 1.50	\$ 0.24
Diluted earnings per share	\$ 1.97	\$ 1.45	\$ 0.24

Stock options to purchase 1.1 million and 2.9 million shares were not included in the 2018 and 2016 computations of diluted earnings per share, respectively, because they would have been anti-dilutive. The number of anti-dilutive options excluded from the 2017 computation of diluted earnings per share was not significant.

J. Retirement Benefits

The Company has a defined contribution plan, under Section 401(k) of the Internal Revenue Code, which provides retirement benefits to most U.S. employees. For all employees who choose to participate, the Company matches employee contributions at a 100 percent rate, up to 3 percent of the employee's compensation. For employees not covered by a defined benefit plan, the Company contributes an amount equal to 1.5 percent of the employee's compensation. Employer contributions totaled \$8.0 million in 2018, \$7.8 million in 2017 and \$6.7 million in 2016.

The Company's postretirement medical plan provides certain medical benefits for retired U.S. employees. Employees hired before January 1, 2005, are eligible for these benefits upon retirement and fulfillment of other eligibility requirements as specified by the plan.

The Company has both funded and unfunded noncontributory defined benefit pension plans that together cover most U.S. employees hired before January 1, 2006, certain directors and some of the employees of the Company's non-U.S. subsidiaries. The Company restructured its U.S. qualified defined benefit plan in 2017. Under the restructuring, the plan transferred \$42 million of liabilities and assets associated with certain plan participants to an insurance company via the purchase of a group annuity contract, and the Company recognized a \$12 million settlement loss, included in 2017 other non-operating expense. Remaining pension plan participants and related liabilities and assets were transferred into one of two new, legally separate qualified defined benefit plans, and the former plan was terminated. The benefits offered to the plans' participants were unchanged.

For U.S. plans, benefits are based on years of service and the highest 5 consecutive years' earnings in the 10 years preceding retirement. The Company funds annually in amounts consistent with minimum funding levels and maximum tax deduction limits.

Investment policies and strategies of the U.S. funded pension plans are based on participant demographics of each plan. For the larger of the two plans (the "Blue plan") covering active participants and retirees with higher benefit amounts, investments are based on a long-term view of economic growth and weighted toward equity securities. The primary goal of the plan's investments is to ensure that the plan's liabilities are met over time. In developing strategic asset allocation guidelines, an emphasis is placed on the long-term characteristics of individual asset classes, and the benefits of diversification among multiple asset classes. The plan invests primarily in domestic and international equities, fixed income securities, which include treasuries, highly-rated corporate bonds and high-yield bonds and real estate. Strategic target allocations for Blue plan assets are 50 percent equity securities, 40 percent fixed income securities and 10 percent real estate and alternative investments. For the smaller of the two plans (the "Gray plan") covering retirees with lower benefit amounts, investments are based on a shorter-term, more conservative outlook. The midpoints of the ranges of strategic target allocations for the Gray plan assets are 30 percent equity securities, 60 percent fixed income securities and 10 percent real estate and alternative investments.

Plan assets are held in trusts for the benefit of plan participants and are invested in various commingled funds, most of which are sponsored by the trustee. The fair values for commingled equity, fixed-income and real estate investments are measured using net asset values, which take into consideration the value of underlying fund investments, as well as the other accrued assets and liabilities of a fund, in order to determine a per share market value. Certain trustee-sponsored funds allow redemptions monthly or quarterly, with 10

or 60 days advance notice, while most of the funds allow redemptions daily. The plans had unfunded commitments to make additional investments in certain funds totaling \$3 million as of December 28, 2018 and \$3 million as of December 29, 2017.

The Company maintains a defined contribution plan covering employees of a Swiss subsidiary, funded by Company and employee contributions. Responsibility for pension coverage under Swiss law has been transferred to a Swiss insurance company. Plan assets are invested in an insurance contract that guarantees a federally mandated annual rate of return. The value of the plan assets is effectively the value of the insurance contract. The performance of the underlying assets held by the insurance company has no direct impact on the surrender value of the insurance contract. The insurance backed assets have no active market and are classified as level 3 in the fair value hierarchy.

Assets of all plans by category and fair value measurement level were as follows (in thousands):

	Level	2018	2017
Cash and cash equivalents	1	\$ 927	\$ 3,254
Insurance contract	3	26,364	26,411
Investments categorized in fair value hierarchy		<u>27,291</u>	<u>29,665</u>
Equity			
U.S. Large Cap	N/A	53,597	55,488
U.S. Small/Mid Cap	N/A	7,602	12,077
International	N/A	31,586	45,958
Total Equity		<u>92,785</u>	<u>113,523</u>
Fixed income	N/A	76,213	81,358
Real estate and other	N/A	72,964	29,640
Investments measured at net asset value		<u>241,962</u>	<u>224,521</u>
Total		<u>\$ 269,253</u>	<u>\$ 254,186</u>

The following table is a reconciliation of pension assets measured at fair value using level 3 inputs (in thousands):

	2018	2017
Balance, beginning of year	\$ 26,411	\$ 24,287
Purchases	2,074	1,934
Redemptions	(2,086)	(2,150)
Unrealized gains (losses)	(35)	2,340
Balance, end of year	<u>\$ 26,364</u>	<u>\$ 26,411</u>

The following provides a reconciliation of the changes in the plans' benefit obligations and fair value of assets over the periods ending December 28, 2018, and December 29, 2017, and a statement of the funded status as of the same dates (in thousands):

	Pension Benefits		Postretirement Medical Benefits	
	2018	2017	2018	2017
Change in benefit obligation				
Obligation, beginning of year	\$ 393,559	\$ 386,373	\$ 27,771	\$ 26,576
Service cost	8,487	7,675	636	601
Interest cost	13,424	15,044	1,084	1,093
Actuarial loss (gain)	(30,452)	37,994	(397)	577
Benefit payments	(11,265)	(13,299)	(1,316)	(1,076)
Settlements	(1,561)	(43,539)	—	—
Exchange rate changes	(910)	3,311	—	—
Obligation, end of year	\$ 371,282	\$ 393,559	\$ 27,778	\$ 27,771
Change in plan assets				
Fair value, beginning of year	\$ 254,186	\$ 255,905	\$ —	\$ —
Actual return on assets	(13,875)	32,132	—	—
Employer contributions	42,023	21,885	1,316	1,076
Benefit payments	(11,265)	(13,299)	(1,316)	(1,076)
Settlements	(1,561)	(43,539)	—	—
Exchange rate changes	(255)	1,102	—	—
Fair value, end of year	\$ 269,253	\$ 254,186	\$ —	\$ —
Funded status	\$ (102,029)	\$ (139,373)	\$ (27,778)	\$ (27,771)
Amounts recognized in consolidated balance sheets				
Non-current assets	\$ —	\$ 2,538	\$ —	\$ —
Current liabilities	1,453	1,416	1,573	1,330
Non-current liabilities	100,576	140,495	26,205	26,441
Net	\$ 102,029	\$ 139,373	\$ 27,778	\$ 27,771

In the third quarter of 2018, the Company made a \$40 million voluntary contribution to one of its U.S. qualified defined benefit plans.

The accumulated benefit obligation as of year-end for all defined benefit pension plans was \$344 million for 2018 and \$361 million for 2017. Information for plans with an accumulated benefit obligation in excess of plan assets follows (in thousands):

	2018	2017
Projected benefit obligation	\$ 371,282	\$ 344,733
Accumulated benefit obligation	343,705	311,876
Fair value of plan assets	269,253	202,822

The components of net periodic benefit cost for the plans for 2018, 2017 and 2016 were as follows (in thousands):

	Pension Benefits			Postretirement Medical Benefits		
	2018	2017	2016	2018	2017	2016
Service cost-benefits earned during the period	\$ 8,487	\$ 7,675	\$ 7,834	\$ 636	\$ 601	\$ 543
Interest cost on projected benefit obligation	13,424	15,044	15,684	1,084	1,093	1,084
Expected return on assets	(17,447)	(17,186)	(18,009)	—	—	—
Amortization of prior service cost (credit)	279	255	269	—	(344)	(766)
Amortization of net loss (gain)	7,931	8,634	7,980	646	334	285
Settlement loss (gain)	184	12,313	1,565	—	—	—
Cost of pension plans which are not significant and have not adopted ASC 715	106	122	85	N/A	N/A	N/A
Net periodic benefit cost	<u>\$ 12,964</u>	<u>\$ 26,857</u>	<u>\$ 15,408</u>	<u>\$ 2,366</u>	<u>\$ 1,684</u>	<u>\$ 1,146</u>

In March 2017, the FASB issued a final standard that changes the presentation of net periodic benefit cost related to defined benefit plans. The Company adopted the standard effective for the first quarter of 2018, and the Company has applied the change retrospectively to all periods presented. Under the new standard, net periodic benefit costs are disaggregated between service costs presented as operating expenses and other components of pension costs presented as non-operating expenses. The Company previously charged service costs to segment operations and included other components of pension cost in unallocated corporate operating expenses. Under the new standard, unallocated corporate operating expenses decreased, operating earnings increased and other expense increased by the amount of non-service components of pension cost, including the amount of changes in cash surrender value of insurance contracts used to fund certain non-qualified pension and deferred compensation arrangements. There was no impact on reported net earnings or earnings per share. The retrospective application of the new standard increased previously reported operating earnings and other non-operating expense by \$18 million in 2017 and \$7 million in 2016. Other components of pension cost included in non-operating expenses totaled \$8 million in 2018.

Amounts recognized in other comprehensive (income) loss in 2018 and 2017 were as follows (in thousands):

	Pension Benefits		Postretirement Medical Benefits	
	2018	2017	2018	2017
Net loss (gain) arising during the period	\$ 644	\$ 23,936	\$ (397)	\$ 577
Amortization of net gain (loss)	(7,931)	(8,634)	(646)	(334)
Settlement gain (loss)	(184)	(12,313)	—	—
Amortization of prior service credit (cost)	(279)	(255)	—	344
Total	<u>\$ (7,750)</u>	<u>\$ 2,734</u>	<u>\$ (1,043)</u>	<u>\$ 587</u>

Amounts included in accumulated other comprehensive (income) loss as of December 28, 2018 and December 29, 2017, that had not yet been recognized as components of net periodic benefit cost, were as follows (in thousands):

	Pension Benefits		Postretirement Medical Benefits	
	2018	2017	2018	2017
Prior service cost (credit)	\$ 1,465	\$ 1,746	\$ —	\$ —
Net loss	104,127	111,598	5,793	6,836
Net before income taxes	105,592	113,344	5,793	6,836
Income taxes	(23,221)	(39,289)	(1,275)	(2,461)
Net	<u>\$ 82,371</u>	<u>\$ 74,055</u>	<u>\$ 4,518</u>	<u>\$ 4,375</u>

Amounts included in accumulated other comprehensive (income) loss that are expected to be recognized as components of net periodic benefit cost in 2019 were as follows (in thousands):

	Pension Benefits	Postretirement Medical Benefits
Prior service cost (credit)	\$ 280	\$ —
Net loss (gain)	7,468	431
Net before income taxes	7,748	431
Income taxes	(1,705)	(95)
Net	<u>\$ 6,043</u>	<u>\$ 336</u>

Assumptions used to determine the Company's benefit obligations are shown below:

Weighted average assumptions	Pension Benefits		Postretirement Medical Benefits	
	2018	2017	2018	2017
U.S. Plans				
Discount rate	4.5%	3.9%	4.5%	3.9%
Rate of compensation increase	2.8%	2.8%	N/A	N/A
Non-U.S. Plans				
Discount rate	1.3%	1.0%	N/A	N/A
Rate of compensation increase	1.4%	0.9%	N/A	N/A

Assumptions used to determine the Company's net periodic benefit cost are shown below:

Weighted average assumptions	Pension Benefits			Postretirement Medical Benefits		
	2018	2017	2016	2018	2017	2016
U.S. Plans						
Discount rate	3.9%	4.5%	4.7%	3.9%	4.5%	4.7%
Rate of compensation increase	2.8%	2.8%	3.0%	N/A	N/A	N/A
Expected return on assets	7.1%	7.0%	7.5%	N/A	N/A	N/A
Non-U.S. Plans						
Discount rate	1.0%	0.9%	1.1%	N/A	N/A	N/A
Rate of compensation increase	0.9%	1.0%	1.3%	N/A	N/A	N/A
Expected return on assets	2.0%	2.0%	2.0%	N/A	N/A	N/A

Several sources of information are considered in determining the expected rate of return assumption, including the allocation of plan assets, the input of actuaries and professional investment advisors, and historical long-term returns. In setting the return assumption, the Company recognizes that historical returns are not always indicative of future returns and also considers the long-term nature of its pension obligations.

The Company's U.S. retirement medical plan limits the annual cost increase that will be paid by the Company to 3 percent. In measuring the accumulated postretirement benefit obligation (APBO), the annual trend rate for health care costs was assumed to be 6.2 percent for 2019, decreasing each year to a constant rate of 4.5 percent for 2038 and thereafter, subject to the plan's annual increase limitation.

At December 28, 2018, a one percent change in assumed health care cost trend rates would not have a significant impact on the service and interest cost components of net periodic postretirement health care benefit cost or the APBO for health care benefits.

The Company expects to contribute \$1.5 million to its unfunded pension plans and \$1.6 million to the postretirement medical plan in 2019. The Company expects to utilize available credits to satisfy any required contributions to the funded pension plans under minimum funding requirements for 2019. Estimated future benefit payments are as follows (in thousands):

	Pension Benefits	Postretirement Medical Benefits
2019	\$ 13,835	\$ 1,573
2020	15,384	1,700
2021	16,582	1,771
2022	17,914	1,846
2023	18,779	1,888
Years 2024-2028	106,541	9,592

K. Commitments and Contingencies

Lease Commitments. Aggregate annual rental commitments under operating leases with noncancelable terms of more than one year were as follows at December 28, 2018 (in thousands):

	Buildings	Vehicles & Equipment	Total
2019	\$ 6,569	\$ 5,044	\$ 11,613
2020	4,963	3,796	8,759
2021	3,984	2,761	6,745
2022	3,736	1,366	5,102
2023	3,229	492	3,721
Thereafter	1,768	572	2,340
Total	<u>\$ 24,249</u>	<u>\$ 14,031</u>	<u>\$ 38,280</u>

Total rental expense was \$9.1 million in 2018, \$7.6 million in 2017 and \$7.8 million in 2016.

Other Commitments. The Company is committed to pay suppliers under the terms of open purchase orders issued in the normal course of business totaling approximately \$111 million at December 28, 2018. The Company also has commitments with certain suppliers to purchase minimum quantities, and under the terms of certain agreements, the Company is committed for certain portions of the supplier's inventory. The Company does not purchase, or commit to purchase, quantities in excess of normal usage or amounts that cannot be used within one year. The Company estimates that the maximum commitment amount under such agreements does not exceed \$50 million.

The Company enters into contracts with vendors to receive services. Commitments under these service contracts with noncancelable terms of more than one year include \$5 million in 2019, \$2 million in 2020, \$1 million in 2021 and \$1 million thereafter.

In addition, the Company could be obligated to perform under standby letters of credit totaling \$3 million at December 28, 2018. The Company has also guaranteed the debt of its subsidiaries for up to \$13 million. All debt of subsidiaries is reflected in the consolidated balance sheets.

Contingencies. The Company is party to various legal proceedings arising in the normal course of business. The Company is actively pursuing and defending these matters and has recorded an estimate of the probable costs where appropriate. Management does not expect that resolution of these matters will have a material adverse effect on the Company, although the ultimate outcome cannot be determined based on available information.

L. Acquisitions

The Company completed business acquisitions in 2018, 2017 and 2016 that were not material to the consolidated financial statements.

In January 2016, the Company paid \$48 million cash to acquire two related companies that manufacture and sell portable and fixed gas analyzers for landfill, biogas and medical applications and landfill gas wellhead equipment. The acquisitions enhance and complement the Company's position in environmental monitoring and remediation markets served by its Process segment. The purchase price was allocated based on estimated fair values, including \$28 million of goodwill, \$24 million of other identifiable intangible assets and \$4 million of other net liabilities.

M. Quarterly Financial Information (Unaudited)

Unaudited quarterly financial data is summarized below (in thousands, except per share amounts):

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
2018				
Net Sales	\$ 406,348	\$ 424,570	\$ 415,936	\$ 406,438
Gross Profit	222,421	229,903	221,459	208,756
Net Earnings	85,510	89,140	92,681	73,723
Basic Net Earnings per Common Share	\$ 0.51	\$ 0.53	\$ 0.55	\$ 0.44
Diluted Net Earnings per Common Share	0.49	0.51	0.54	0.43
Cash Dividends Declared per Common Share	0.13	0.13	0.13	0.16
2017				
Net Sales	\$ 340,590	\$ 379,483	\$ 379,812	\$ 374,859
Gross Profit	185,845	204,510	204,080	200,767
Net Earnings (Loss)	60,732	79,828	75,460	36,392 ⁽¹⁾
Basic Net Earnings (Loss) per Common Share	\$ 0.36	\$ 0.48	\$ 0.45	\$ 0.22 ⁽¹⁾
Diluted Net Earnings (Loss) per Common Share	0.35	0.46	0.43	0.21 ⁽¹⁾
Cash Dividends Declared per Common Share	0.12	0.12	0.12	0.13

(1) Net earnings in the fourth quarter of 2017 included income tax charges totaling \$36 million to recognize the effects of U.S. federal income tax reform.

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

None.

Item 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

As of the end of the fiscal year covered by this report, the Company carried out an evaluation of the effectiveness of the design and operation of its disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) of the Securities Exchange Act of 1934, as amended (the Exchange Act)). This evaluation was done under the supervision and with the participation of the Company's President and Chief Executive Officer, the Chief Financial Officer and Treasurer, the Executive Vice President, Corporate Controller and Information Systems, and the Executive Vice President, General Counsel and Corporate Secretary. Based upon that evaluation, they concluded that the Company's disclosure controls and procedures are effective.

Management's Annual Report on Internal Control Over Financial Reporting

The information under the heading "Management's Report on Internal Control Over Financial Reporting" in Part II, Item 8, of this 2018 Annual Report on Form 10-K is incorporated herein by reference.

Reports of Independent Registered Public Accounting Firm

The information under the headings "Reports of Independent Registered Public Accounting Firm" and "Opinion on Internal Control Over Financial Reporting" in Part II, Item 8, of this 2018 Annual Report on Form 10-K is incorporated herein by reference.

Changes in Internal Control Over Financial Reporting

During the fourth quarter, there was no change in the Company's internal control over financial reporting that has materially affected or is reasonably likely to materially affect the Company's internal control over financial reporting.

Item 9B. Other Information

Not applicable.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

The information under the heading “Executive Officers of Our Company” in Part I of this 2018 Annual Report on Form 10-K and the information under the heading “Board of Directors” in our Company’s Proxy Statement for its 2019 Annual Meeting of Shareholders to be held on April 26, 2019 (the “Proxy Statement”), is incorporated herein by reference.

Audit Committee Members and Audit Committee Financial Expert

The information under the heading “Committees of the Board of Directors” in our Company’s Proxy Statement is incorporated herein by reference.

Corporate Governance Guidelines, Committee Charters and Code of Ethics

Our Company has adopted Corporate Governance Guidelines and Charters for each of the Audit, Governance, and Management Organization and Compensation Committees of the Board of Directors. We have also issued a Code of Ethics and Business Conduct (“Code of Ethics”) that applies to our principal executive officer, principal financial officer, principal accounting officer, all officers, directors, and employees of Graco Inc. and all of its subsidiaries, representative offices and branches worldwide. The Corporate Governance Guidelines, Committee Charters, and Code of Ethics, with any amendments or waivers thereto, may be accessed free of charge by visiting the Graco website at www.graco.com.

Our Company intends to post on the Graco website any amendment to, or waiver from, a provision of the Code of Ethics that applies to our principal executive officer, principal financial officer, principal accounting officer, controller and other persons performing similar functions within four business days following the date of such amendment or waiver.

Section 16(a) Reporting Compliance

The information under the heading “Section 16(a) Beneficial Ownership Reporting Compliance” in the Company’s Proxy Statement is incorporated herein by reference.

Item 11. Executive Compensation

The information contained under the headings “Director Compensation,” “Executive Compensation,” “Compensation Committee Interlocks and Insider Participation” and “Report of the Management Organization and Compensation Committee” in the Proxy Statement is incorporated herein by reference.

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

The information contained under the headings “Equity Compensation Plan Information” and “Beneficial Ownership of Shares” in the Proxy Statement is incorporated herein by reference.

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

The information under the headings “Related Person Transaction Approval Policy” and “Director Independence” in the Proxy Statement is incorporated herein by reference.

Item 14. Principal Accountant Fees and Services

The information under the headings “Independent Registered Public Accounting Firm Fees and Services” and “Pre-Approval Policies” in the Proxy Statement is incorporated herein by reference.

PART IV

Item 15. Exhibits, Financial Statement Schedules

(a) The following documents are filed as part of this report:

	<u>Page</u>
(1) Financial Statements	32
(2) Financial Statement Schedule Schedule II – Valuation and Qualifying Accounts	60
All other schedules are omitted because they are not applicable, or are not required, or because the required information is included in the Consolidated Financial Statements or Notes thereto.	
(3) Management Contract, Compensatory Plan or Arrangement. (See Exhibit Index) Those entries marked by an asterisk are Management Contracts, Compensatory Plans or Arrangements.	61

Schedule II - Valuation and Qualifying Accounts

Graco Inc. and Subsidiaries
(in thousands)

	Allowance for Doubtful Accounts
Balance, December 25, 2015	\$ 3,000
Additions charged to costs and expenses	1,200
Deductions from reserves ⁽¹⁾	(100)
Other additions (deductions) ⁽²⁾	(200)
Balance, December 30, 2016	3,900
Additions charged to costs and expenses	1,600
Deductions from reserves ⁽¹⁾	(1,700)
Other additions (deductions) ⁽²⁾	200
Balance, December 29, 2017	4,000
Additions charged to costs and expenses	1,400
Deductions from reserves ⁽¹⁾	(900)
Other additions (deductions) ⁽²⁾	300
Balance, December 28, 2018	\$ 4,800

- (1) Represents amounts determined to be uncollectible and charged against reserves, net of collections on accounts previously charged against reserves.
- (2) Includes amounts assumed or established in connection with acquisitions and effects of foreign currency translation.

Exhibit Index

<u>Exhibit Number</u>	<u>Description</u>
3.1	Restated Articles of Incorporation as amended December 8, 2017. (Incorporated by reference to Exhibit 3.1 to the Company's Report on Form 8-K filed December 8, 2017.)
3.2	Restated Bylaws as amended February 14, 2014. (Incorporated by reference to Exhibit 3.2 to the Company's 2013 Annual Report on Form 10-K.)
*10.1	Graco Inc. Incentive Bonus Plan. (Incorporated by reference to Appendix A to the Company's Definitive Proxy Statement on Schedule 14A filed March 15, 2017.)
*10.2	Graco Inc. Amended and Restated Stock Incentive Plan (2006). (Incorporated by reference to Appendix A to the Company's Definitive Proxy Statement on Schedule 14A filed March 14, 2006.)
*10.3	Graco Inc. 2010 Stock Incentive Plan. (Incorporated by reference to Appendix A to the Company's Definitive Proxy Statement on Schedule 14A filed March 11, 2010.)
*10.4	Graco Inc. 2015 Stock Incentive Plan. (Incorporated by reference to Appendix A to the Company's Definitive Proxy Statement on Schedule 14A filed on March 11, 2015.)
*10.5	Deferred Compensation Plan (2005 Statement) as amended and restated on April 4, 2005. (Incorporated by reference to Exhibit 10.1 of the Company's Report on Form 10-Q for the thirteen weeks ended July 1, 2005.) Second Amendment dated November 1, 2005. (Incorporated by reference to Exhibit 10.8 to the Company's 2005 Annual Report on Form 10-K.) Third Amendment adopted on December 29, 2008. (Incorporated by reference to Exhibit 10.8 to the Company's 2008 Annual Report on Form 10-K.) Second Amendment dated October 25, 2012. (Incorporated by reference to Exhibit 10.9 to the Company's 2012 Annual Report on Form 10-K.)
*10.6	Graco Restoration Plan (2005 Statement). (Incorporated by reference to Exhibit 10.1 to the Company's Report on Form 10-Q for the thirteen weeks ended September 29, 2006.) First Amendment adopted December 8, 2006. (Incorporated by reference to Exhibit 10.12 to the Company's 2006 Annual Report on Form 10-K.) Second Amendment adopted August 15, 2007. (Incorporated by reference to Exhibit 10.1 to the Company's Report on Form 10-Q for the thirteen weeks ended September 28, 2007.) Third Amendment adopted March 27, 2008. (Incorporated by reference to Exhibit 10.1 to the Company's Report on Form 10-Q for the thirteen weeks ended March 28, 2008.) Fourth Amendment adopted December 29, 2008. (Incorporated by reference to Exhibit 10.11 to the Company's 2008 Annual Report on Form 10-K.) Fifth Amendment adopted September 16, 2010. (Incorporated by reference to Exhibit 10.1 to the Company's Report on Form 10-Q for the thirteen weeks ended September 24, 2010.) Sixth Amendment adopted February 15, 2018 (Incorporated by reference to Exhibit 10.7 to the Company's 2017 Annual Report on Form 10-K.) Seventh Amendment adopted December 6, 2018.
*10.7	Graco Inc. Retirement Plan for Non-Employee Directors. (Initially filed by the Company in paper form as Attachment C to Item 5 to the Company's Report on Form 10-Q for the thirteen weeks ended March 29, 1991.) First Amendment adopted on December 29, 2008. (Incorporated by reference to Exhibit 10.10 to the Company's 2008 Annual Report on Form 10-K.)
*10.8	Form of Amendment to Executive Officer and Non-Employee Director Stock Options to Permit Net Exercises, as adopted by the Board of Directors February 17, 2012. (Incorporated by reference to Exhibit 10.1 of the Company's Report on Form 10-Q for the thirteen weeks ended March 30, 2012.)
*10.9	Stock Option Agreement. Form of agreement used for award of nonstatutory stock options to nonemployee directors under the Graco Inc. Amended and Restated Stock Incentive Plan (2006). (Incorporated by reference to Exhibit 10.3 to the Company's Report on Form 10-Q for the thirteen weeks ended June 29, 2007.) Amended form of agreement for awards made to nonemployee directors in 2008. (Incorporated by reference to Exhibit 10.2 to the Company's Report on Form 10-Q for the thirteen weeks ended June 27, 2008.) Amended and restated form of agreement for awards made to nonemployee directors in 2009. (Incorporated by reference to Exhibit 10.14 to the Company's 2009 Annual Report on Form 10-K/A.)
*10.10	Stock Option Agreement. Form of agreement used for award of nonstatutory stock options to nonemployee directors under the Graco Inc. 2010 Stock Incentive Plan in 2011. (Incorporated by reference to Exhibit 10.16 to the Company's 2010 Annual Report on Form 10-K.) Amended form of agreement for awards made to nonemployee directors commencing in 2012 (and subsequently used for awards made to nonemployee directors under the Graco Inc. 2015 Stock Incentive Plan in 2015). (Incorporated by reference to Exhibit 10.4 of the Company's Report on Form 10-Q for the thirteen weeks ended March 30, 2012.)

- *10.11 Stock Option Agreement. Form of agreement used for award of non-incentive stock options to executive officers under the Graco Inc. Amended and Restated Stock Incentive Plan (2006) in 2007. (Incorporated by reference to Exhibit 10.1 to the Company's Report on Form 10-Q for the thirteen weeks ended March 30, 2007.) Amended form of agreement for awards made to executive officers in 2008, 2009 and 2010. (Incorporated by reference to Exhibit 10.2 to the Company's Report on Form 10-Q for the thirteen weeks ended March 28, 2008.)
- *10.12 Stock Option Agreement. Form of agreement used for award of non-incentive stock options to Chief Executive Officer under the Graco Inc. Amended and Restated Stock Incentive Plan (2006) in 2007. (Incorporated by reference to Exhibit 10.1 to the Company's Report on Form 10-Q for the thirteen weeks ended March 30, 2007.) Amended form of agreement for awards made to Chief Executive Officer in 2008, 2009 and 2010. (Incorporated by reference to Exhibit 10.2 to the Company's Report on Form 10-Q for the thirteen weeks ended March 28, 2008.)
- *10.13 Stock Option Agreement. Form of agreement used for award of non-incentive stock options to executive officers under the Graco Inc. 2010 Stock Incentive Plan in 2011. (Incorporated by reference to Exhibit 10.4 to the Company's Report on Form 10-Q for the thirteen weeks ended April 1, 2011.) Amended form of agreement for awards made to executive officers commencing in 2012. (Incorporated by reference to Exhibit 10.3 of the Company's Report on Form 10-Q for the thirteen weeks ended March 30, 2012.)
- *10.14 Stock Option Agreement. Form of agreement used for award of non-incentive stock options to Chief Executive Officer under the Graco Inc. 2010 Stock Incentive Plan in 2011. (Incorporated by reference to Exhibit 10.3 to the Company's Report on Form 10-Q for the thirteen weeks ended April 1, 2011.) Amended form of agreement for awards made to Chief Executive Officer commencing in 2012. (Incorporated by reference to Exhibit 10.2 of the Company's Report on Form 10-Q for the thirteen weeks ended March 30, 2012.)
- *10.15 Stock Option Agreement. Form of agreement used for award of non-incentive stock options to Chief Executive Officer under the Graco Inc. 2015 Stock Incentive Plan in 2016. (Incorporated by reference to Exhibit 10.1 to the Company's Report on Form 10-Q for the thirteen weeks ended March 25, 2016.)
- *10.16 Stock Option Agreement. Form of agreement used for award of non-incentive stock options to executive officers under the Graco Inc. 2015 Stock Incentive Plan in 2016. (Incorporated by reference to Exhibit 10.2 to the Company's Report on Form 10-Q for the thirteen weeks ended March 25, 2016.)
- *10.17 Stock Option Agreement. Form of agreement used for award of non-incentive stock options to nonemployee directors under the Graco Inc. 2015 Stock Incentive Plan in 2016. (Incorporated by reference to Exhibit 10.1 to the Company's Report on Form 10-Q for the thirteen weeks ended June 24, 2016.)
- *10.18 Nonemployee Director Stock and Deferred Stock Program. (Incorporated by reference to Exhibit 10.22 to the Company's 2009 Annual Report on Form 10-K/A.)
- *10.19 Key Employee Agreement. Form of agreement used with Chief Executive Officer. (Incorporated by reference to Exhibit 10.24 to the Company's 2007 Annual Report on Form 10-K.)
- *10.20 Key Employee Agreement. Form of agreement used with executive officers other than the Chief Executive Officer. (Incorporated by reference to Exhibit 10.25 to the Company's 2007 Annual Report on Form 10-K.)
- 10.21 Executive Group Long-Term Disability Policy as revised in 1995. (Incorporated by reference to Exhibit 10.23 to the Company's 2004 Annual Report on Form 10-K.) Enhanced by Supplemental Income Protection Plan in 2004. (Incorporated by reference to Exhibit 10.28 to the Company's 2007 Annual Report on Form 10-K.)
- 10.22 Omnibus Amendment, dated June 26, 2014, amending and restating the Credit Agreement among Graco Inc., the borrowing subsidiaries from time to time party thereto, the banks from time to time party thereto and U.S. Bank National Association, as administrative agent. (Incorporated by reference to Exhibit 10.1 to the Company's Report on Form 8-K filed July 1, 2014.) Third Amendment to Credit Agreement, dated December 15, 2016, amending the Credit Agreement among Graco Inc., the borrowing subsidiaries from time to time party thereto, the banks from time to time party thereto and U.S. Bank National Association, as administrative agent. (Incorporated by reference to Exhibit 10.1 to the Company's Report 8-K filed December 20, 2016.) Fourth amendment to Credit Agreement, dated May 23, 2017, amending the Credit Agreement among Graco Inc., the borrowing subsidiaries from time to time party thereto, the banks from time to time party thereto and U.S. Bank National Association, as administrative agent. (Incorporated by reference to Exhibit 10.2 to the Company's 10-Q filed for the thirteen weeks ended June 30, 2017.)

- 10.23 Note Agreement, dated March 11, 2011, between Graco Inc. and the Purchasers listed on the Purchaser Schedule attached thereto, which includes as exhibits the form of Senior Notes. (Incorporated by reference to Exhibit 10.1 to the Company's Report on Form 8-K filed March 16, 2011.) Amendment No. 1 dated May 23, 2011. (Incorporated by reference to Exhibit 10.2 to the Company's Report on Form 10-Q for the thirteen weeks ended July 1, 2011.) Amendment and Restatement No. 1 to Note Agreement dated as of March 27, 2012. (Incorporated by reference to Exhibit 10.2 to the Company's Report on Form 8-K filed April 2, 2012.) Amendment No. 2 dated as of June 26, 2014 to Note Agreement dated as of March 11, 2011. (Incorporated by reference to Exhibit 10.1 to the Company's Report on Form 10-Q filed for the thirteen weeks ended June 27, 2014.) Amendment No. 3 dated as of December 15, 2016 to Note Agreement dated as of March 11, 2011. (Incorporated by reference to Exhibit 10.28 to the Company's 2016 Annual Report on Form 10-K .) Amendment No. 4 dated May 23, 2017 to Note Agreement dated as of March 11, 2011. (Incorporated by reference to Exhibit 10.1 to the Company's 10-Q filed for the thirteen weeks ended June 30, 2017.)
- 10.24 Stock Repurchase Agreement, dated April 30, 2018, by and between Graco Inc. and Patrick J. McHale.(Incorporated by reference to Exhibit 10.1 to the Company's Report on Form 8-K filed May 1, 2018.)
- 11 Statement of Computation of Earnings per share included in Note I on page 50
 - 21 Subsidiaries of the Company
 - 23 Independent Registered Public Accounting Firm's Consent
 - 24 Power of Attorney
 - 31.1 Certification of President and Chief Executive Officer pursuant to Rule 13a-14(a)
 - 31.2 Certification of Chief Financial Officer pursuant to Rule 13a-14(a)
 - 32 Certification of President and Chief Executive Officer and Chief Financial Officer pursuant to Section 1350 of Title 18, U.S.C.
 - 101 Interactive Data File

* Management Contracts, Compensatory Plans or Arrangements.

Pursuant to Item 601(b)(4)(iii) of Regulation S-K, copies of certain instruments defining the rights of holders of certain long-term debt of the Company and its subsidiaries are not filed as exhibits because the amount of debt authorized under any such instrument does not exceed 10 percent of the total assets of the Company and its subsidiaries. The Company agrees to furnish copies thereof to the Securities and Exchange Commission 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.

Graco Inc.

/s/ PATRICK J. MCHALE

February 19, 2019

Patrick J. McHale
President and Chief Executive Officer

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

/s/ PATRICK J. MCHALE

February 19, 2019

Patrick J. McHale
President and Chief Executive Officer
(Principal Executive Officer)

/s/ MARK W. SHEAHAN

February 19, 2019

Mark W. Sheahan
Chief Financial Officer and Treasurer
(Principal Financial Officer)

/s/ CAROLINE M. CHAMBERS

February 19, 2019

Caroline M. Chambers
Executive Vice President, Corporate Controller and Information Systems
(Principal Accounting Officer)

Lee R. Mitau	Director, Chairman of the Board
William J. Carroll	Director
Eric P. Etchart	Director
Jack W. Eugster	Director
Jody H. Feragen	Director
J. Kevin Gilligan	Director
Patrick J. McHale	Director
Martha A. Morfitt	Director
R. William Van Sant	Director
Emily C. White	Director

Patrick J. McHale, by signing his name hereto, does hereby sign this document on behalf of himself and each of the above named directors of the Registrant pursuant to powers of attorney duly executed by such persons.

/s/ PATRICK J. MCHALE

February 19, 2019

Patrick J. McHale
(For himself and as attorney-in-fact)

Exhibit 21

Subsidiaries of Graco Inc.

The following are subsidiaries of the Company as of December 28, 2018

Subsidiary	Jurisdiction of Organization	Ownership Type ¹	Percent Owned
AdvanJet	California, USA	Direct	100%
Alco Components Limited	England and Wales, UK	Indirect	100%
Alco Valves Group Limited	England and Wales, UK	Indirect	100%
Alco Valves Singapore PTE Limited	England and Wales, UK	Indirect	100%
Alco Valves (US), Inc.	Texas, USA	Indirect	100%
Gema Europe s.r.l.	Italy	Indirect	100%
Gema México Powder Finishing, S. de R.L. de C.V.	Mexico	Direct & Indirect	100%
Gema (Shanghai) Co., Ltd.	P.R. China	Indirect	100%
Gema Switzerland GmbH	Switzerland	Indirect	100%
Gema USA Inc.	Minnesota, USA	Direct	100%
GFEC Free Zone Uruguay S.A.	Uruguay	Indirect	100%
GFEC Uruguay S.A.	Uruguay	Indirect	100%
GG Manufacturing s.r.l.	Romania	Indirect	100%
Graco Australia Pty Ltd	Australia	Indirect	100%
Graco BVBA	Belgium	Indirect	100%
Graco Canada Inc.	Canada	Indirect	100%
Graco Chile SpA	Chile	Direct	100%
Graco Colombia S.A.S.	Colombia	Direct	100%
Graco Distribution BVBA	Belgium	Indirect	100%
Graco do Brasil Ltda.	Brazil	Indirect	100%
Graco Fluid Equipment (Shanghai) Co., Ltd.	P.R. China	Direct	100%
Graco Fluid Equipment (Suzhou) Co., Ltd.	P.R. China	Indirect	100%
Graco Fluid Handling (D) Inc.	Minnesota, USA	Direct	100%
Graco Global Holdings S.à r.l.	Luxembourg	Indirect	100%
Graco GmbH	Germany	Indirect	100%
Graco High Pressure Equipment Inc.	Minnesota, USA	Direct	100%
Graco Hong Kong Limited	Hong Kong, P.R. China	Indirect	100%
Graco India Private Limited	India	Indirect	100%
Graco International Holdings S.à r.l.	Luxembourg	Indirect	100%
Graco Korea Inc.	South Korea	Indirect	100%
Graco K.K.	Japan	Indirect	100%
Graco Limited	England and Wales, UK	Indirect	100%
Graco Luxembourg III Holdings S.à r.l.	Luxembourg	Direct	100%
Graco Malaysia Sdn. Bhd.	Malaysia	Direct	100%
Graco Minnesota Inc.	Minnesota, USA	Direct	100%
Graco Ohio Inc.	Ohio, USA	Direct	100%
Graco S.A.S.	France	Indirect	100%
Graco Trading (Shanghai) Co., Ltd.	P.R. China	Indirect	100%
Landtec Europe Limited	England and Wales, UK	Indirect	100%
Landtec North America, Inc.	California, USA	Indirect	100%
MULTIMAQ – Pistolas e Equipamentos para Pintura Ltda	Brazil	Indirect	100%
Q.E.D. Environmental Systems Limited	England and Wales, UK	Indirect	100%
Q.E.D. Environmental Systems, Inc.	Michigan, USA	Direct	100%

SAT (Surface Aluminium Technologies) S.r.l.	Italy	Indirect	100%
Smith Surface Preparation Systems Inc.	Minnesota, USA	Direct	100%
Staffordshire Hydraulic Services Limited	England and Wales, UK	Indirect	100%
White Knight Fluid Handling Inc.	Minnesota, USA	Direct	100%

¹ Ownership type indicates whether each subsidiary is directly owned by Graco Inc., indirectly owned by Graco Inc. through direct ownership by one or more of its subsidiaries, or a combination thereof.

Exhibit 23

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in Registration Statements No. 333-123813, No. 333-134162, No. 333-140848, No. 333-167602, No. 333-180970 and No. 333-204028 on Form S-8 of our reports dated February 19, 2019, relating to the consolidated financial statements and financial statement schedule of Graco Inc. and Subsidiaries (the “Company”), and the effectiveness of the Company’s internal control over financial reporting, appearing in this Annual Report on Form 10-K of Graco Inc. for the year ended December 28, 2018.

/s/ DELOITTE & TOUCHE LLP

Minneapolis, Minnesota

February 19, 2019

Exhibit 24

Power of Attorney

Know all by these presents, that each person whose signature appears below hereby constitutes and appoints Patrick J. McHale or Mark W. Sheahan, that person's true and lawful attorney-in-fact and agent, with full power of substitution and re-substitution for that person and in that person's name, place and stead, in any and all capacities, to sign the Report on Form 10-K for the year ended December 28, 2018, of Graco Inc. (and any and all amendments thereto) and to file the same 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 or necessary to be done in and about the premises, as fully to all intents and purposes as that person might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent, or his substitutes, may lawfully do or cause to be done by virtue hereof.

In witness whereof, the following persons have signed this Power of Attorney on the date indicated.

	<u>Date</u>
<u>/s/ WILLIAM J. CARROLL</u> William J. Carroll	<u>February 15, 2019</u>
<u>/s/ ERIC P. ETCHART</u> Eric P. Etchart	<u>February 15, 2019</u>
<u>/s/ JACK W. EUGSTER</u> Jack W. Eugster	<u>February 15, 2019</u>
<u>/s/ JODY H. FERAGEN</u> Jody H. Feragen	<u>February 15, 2019</u>
<u>/s/ J. KEVIN GILLIGAN</u> J. Kevin Gilligan	<u>February 15, 2019</u>
<u>/s/ PATRICK J. MCHALE</u> Patrick J. McHale	<u>February 15, 2019</u>
<u>/s/ LEE R. MITAU</u> Lee R. Mitau	<u>February 15, 2019</u>
<u>/s/ MARTHA A. MORFITT</u> Martha A. Morfitt	<u>February 15, 2019</u>
<u>/s/ R. WILLIAM VAN SANT</u> R. William Van Sant	<u>February 15, 2019</u>
<u>/s/ EMILY C. WHITE</u> Emily C. White	<u>February 15, 2019</u>

Exhibit 31.1

Certification

I, Patrick J. McHale, certify that:

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

Date: February 19, 2019

/s/ PATRICK J. MCHALE

Patrick J. McHale

President and Chief Executive Officer

Exhibit 31.2

Certification

I, Mark W. Sheahan, certify that:

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

Date: February 19, 2019

/s/ MARK W. SHEAHAN

Mark W. Sheahan
Chief Financial Officer and Treasurer

Exhibit 32

Certification Under Section 1350

Pursuant to Section 1350 of Title 18 of the United States Code, each of the undersigned certifies that this periodic report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that information contained in this periodic report fairly presents, in all material respects, the financial condition and results of operations of Graco Inc.

Date: February 19, 2019

/s/ PATRICK J. MCHALE
Patrick J. McHale
President and Chief Executive Officer

Date: February 19, 2019

/s/ MARK W. SHEAHAN
Mark W. Sheahan
Chief Financial Officer and Treasurer

Board of Directors

Lee R. Mitau

Chairman of the Board,
Graco Inc.
Retired Executive Vice President
and General Counsel,
U.S. Bancorp

William J. Carroll

Business Consultant
Former Chief Executive Officer,
Limo-Reid, Inc. d/b/a
NRG Dynamix

Eric P. Etchart

Retired Senior Vice President,
The Manitowoc Company, Inc.

Jack W. Eugster

Retired Chairman, President
and Chief Executive Officer,
Musicland Stores Corporation

Jody H. Feragen

Retired Executive Vice President
and Chief Financial Officer,
Hormel Foods Corporation

J. Kevin Gilligan

Retired Chairman and Chief Executive Officer,
Capella Education Company

Patrick J. McHale

President and
Chief Executive Officer,
Graco Inc.

Martha A. Morfitt

President and
Chief Executive Officer,
River Rock Partners, Inc.

R. William Van Sant

Operating Partner,
TJM Capital Partners
Senior Advisor,
Yukon Partners II, LLC

Emily C. White

President,
Anthos Capital

Executive Officers

Patrick J. McHale

President and
Chief Executive Officer

David M. Ahlers

Executive Vice President,
Human Resources and
Corporate Communications

Caroline M. Chambers

Executive Vice President,
Corporate Controller and
Information Systems

Mark D. Eberlein

President, Worldwide Process
and Oil & Natural Gas Divisions

Karen Park Gallivan

Executive Vice President, General
Counsel and Corporate Secretary

Dale D. Johnson

President, Worldwide
Contractor Equipment Division

Jeffrey P. Johnson

President, New Ventures

David M. Lowe

President, Worldwide
Industrial Products Division

Bernard J. Moreau

President, South
and Central America

Peter J. O'Shea

President, Worldwide
Lubrication Equipment Division

Christian E. Rothe

President, Worldwide Applied
Fluid Technologies Division

Mark W. Sheahan

Chief Financial Officer and Treasurer

Timothy R. White

President, EMEA

Angela F. Wordell

Executive Vice President, Operations

Brian J. Zumbolo

President, Asia Pacific

Annual Meeting

This year's Annual Meeting of Shareholders will be a virtual meeting. The meeting will commence at 1 p.m. Central Time on April 26, 2019. Shareholders can vote their shares electronically and submit questions for management during the meeting by visiting www.virtualshareholdermeeting.com/GGG2019. Please use the 16-digit control number printed on your Notice Regarding the Availability of Proxy Materials to join the annual meeting.

Corporate Inquiries

Investors may obtain the Graco Inc. 2018 Annual Report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and other reports and amendments to the reports by visiting the Graco website at www.graco.com. Requests for financial publications can also be addressed to:

Graco Inc.

Attention: Investor Relations
P.O. Box 1441
Minneapolis, Minnesota 55440-1441
USA
Or call: 612-623-6678

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