LYDALL INC /DE/
Form 10-Q
November 06, 2018

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-Q

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

For the quarterly period ended September 30, 2018

OR

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

For the transition period from to

Commission File Number: 1-7665

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

Delaware	06-0865505
(State or Other Jurisdiction of Incorporation or Organization)	(I.R.S. Employer Identification No.)
One Colonial Road, Manchester, Connecticut	06042
(Address of principal executive offices)	(zip code)

(860) 646-1233
(Registrant’s telephone number, including area code)
None
(Former name, former address and former fiscal year, if changed since last report)

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 a 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 ýNo ¨

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ýNo ¨

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 ýAccelerated filer ¨Non-accelerated filer ¨Smaller reporting company ¨Emerging growth company¨

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

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

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date.

Common Stock $ .01 par value per share.
Total Shares outstanding October 17, 2018 17,407,427

LYDALL, INC.
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Lydall, Inc. and its subsidiaries are hereafter collectively referred to as “Lydall,” the “Company” or the “Registrant.” Lydall and its subsidiaries’ names, abbreviations thereof, logos, and product and service designators are all either the registered or unregistered trademarks or trade names of Lydall and its subsidiaries.

CAUTIONARY NOTE CONCERNING FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q contains “forward-looking statements” within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). Any statements contained in this Quarterly Report on Form 10-Q that are not statements of historical fact may be deemed to be forward-looking statements. All such forward-looking statements are intended to provide management’s current expectations for the future operating and financial performance of the Company based on current assumptions relating to the Company’s business, the economy and future conditions. Forward-looking statements generally can be identified through the use of words such as “believes,” “anticipates,” “may,” “should,” “will,” “plans,” “projects,” “expects,” “expectations,” “estimates,” “forecasts,” “pre “prospects,” “strategy,” “signs” and other words of similar meaning in connection with the discussion of future operating or financial performance. Forward-looking statements may include, among other things, statements relating to future sales, earnings, cash flow, results of operations, uses of cash and other measures of financial performance. Because forward-looking statements relate to the future, they are subject to inherent risks, uncertainties and changes in circumstances that are difficult to predict. Accordingly, the Company’s actual results may differ materially from those contemplated by the forward-looking statements. Investors, therefore, are cautioned against relying on any of these forward-looking statements. They are neither statements of historical fact nor guarantees or assurances of future performance. Forward-looking statements in this Quarterly Report on Form 10-Q include, among others, statements relating to:

- Overall economic and business conditions and the effects on the Company’s markets;
- Outlook for the fourth quarter of 2018, including the Company's ability to improve operational effectiveness in the Thermal Acoustical Solutions segment;
- Expected vehicle production in the North American, European or Asian markets;
- Growth opportunities in markets served by the Company;
- Ability to integrate the Interface Performance Materials business, which was acquired in the third quarter of 2018;
- Expected future financial and operating performance of Interface Performance Materials;
- Expected costs and future savings associated with restructuring programs;
- Expected gross margin, operating margin and working capital improvements from the application of Lean Six Sigma;
- Product development and new business opportunities;
- Future strategic transactions, including but not limited to: acquisitions, joint ventures, alliances, licensing agreements and divestitures;
- Pension plan funding;
- Future cash flow and uses of cash;
- Future amounts of stock-based compensation expense;
- Future earnings and other measurements of financial performance;
- Ability to meet cash operating requirements;
- Future levels of indebtedness and capital spending;
- Ability to meet financial covenants in the Company's amended revolving credit facility, which was further revised and outstanding borrowings increased in the third quarter of 2018;
- Future impact of the variability of interest rates and foreign currency exchange rates;
- Expected future impact of recently issued accounting pronouncements upon adoption;
- Future effective income tax rates, including the impact of the U.S. Tax Cuts and Jobs Act, and realization of deferred tax assets;

- Estimates of fair values of reporting units and long-lived assets used in assessing goodwill and long-lived assets for possible impairment; and
- The expected outcomes of legal proceedings and other contingencies, including environmental matters.

All forward-looking statements are inherently subject to a number of risks and uncertainties that could cause the actual results of the Company to differ materially from those reflected in forward-looking statements made in this Quarterly Report on Form 10-Q, as well as in press releases and other statements made from time to time by the Company's authorized officers. Such risks and uncertainties include, among others, worldwide economic cycles and political changes and uncertainties that affect the markets which the Company's businesses serve, which could have an effect on demand for the Company's products and impact the Company's profitability; challenges encountered by the Company in the execution of restructuring programs; challenges encountered in the integration of the acquired Interface Performance Materials business; disruptions in the global credit and financial markets, including diminished liquidity and credit availability; changes in international trade agreements and policies, including tariff regulation and trade restrictions; swings in consumer confidence and spending; unstable economic growth; volatility in foreign currency exchange rates; raw material pricing and supply issues; fluctuations in unemployment rates; retention of key employees; increases in fuel prices; and outcomes of legal proceedings, claims and investigations, as well as other risks and uncertainties identified in Part II, Item 1A - Risk Factors of this Quarterly Report on Form 10-Q, and Part I, Item 1A - Risk Factors of Lydall's Annual Report on Form 10-K for the year ended December 31, 2017. The Company does not assume any obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise.

PART I. FINANCIAL INFORMATION

Item 1. Financial Statements

LYDALL, INC.
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(In Thousands Except Per Share Data)

	Quarter Ended September 30,	
	2018	2017
	(Unaudited)	
Net sales	$197,886	$180,041
Cost of sales	162,747	139,987
Gross profit	35,139	40,054
Selling, product development and administrative expenses	25,406	24,700
Operating income	9,733	15,354
Interest expense	1,505	705
Other (income) expense, net	(40)	601
Income before income taxes	8,268	14,048
Income tax expense	2,076	3,404
Income from equity method investment	(64)	(31)
Net income	$6,256	$10,675
Earnings per share:		
Basic	$0.36	$0.63
Diluted	$0.36	$0.62
Weighted average number of common shares outstanding:		
Basic	17,216	17,055
Diluted	17,349	17,267

See accompanying Notes to Condensed Consolidated Financial Statements.

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LYDALL, INC.
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(In Thousands Except Per Share Data)

	Nine Months Ended September 30,	
	2018	2017
	(Unaudited)	
Net sales	$575,959	$520,407
Cost of sales	465,186	396,528
Gross profit	110,773	123,879
Selling, product development and administrative expenses	74,755	73,339
Operating income	36,018	50,540
Interest expense	2,617	2,106
Other (income) expense, net	(93)	1,727
Income before income taxes	33,494	46,707
Income tax expense	5,854	11,201
(Income) loss from equity method investment	(120)	37
Net income	$27,760	$35,469
Earnings per share:		
Basic	$1.61	$2.08
Diluted	$1.60	$2.05
Weighted average number of common shares outstanding:		
Basic	17,189	17,028
Diluted	17,339	17,270

See accompanying Notes to Condensed Consolidated Financial Statements.

LYDALL, INC.
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(In Thousands)

	Quarter Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
	(Unaudited)		(Unaudited)	
Net income	$6,256	$10,675	$27,760	$35,469
Other comprehensive income (loss):				
Foreign currency translation adjustments	(658)	9,438	(9,262)	23,951
Pension liability adjustment, net of tax	198	172	595	516
Unrealized gain (loss) on hedging activities, net of tax	14	37	89	(7)
Comprehensive income	$5,810	$20,322	$19,182	$59,929

See accompanying Notes to Condensed Consolidated Financial Statements.

LYDALL, INC.
CONDENSED CONSOLIDATED BALANCE SHEETS
(In Thousands)

	September 30, 2018 (Unaudited)	December 31, 2017
ASSETS		
Current assets:		
Cash and cash equivalents	$44,074	$ 59,875
Accounts receivable, less allowances (2018 - $1,505; 2017 - $1,507)	163,984	116,712
Contract assets	24,756	—
Inventories	91,879	80,339
Taxes receivable	4,177	5,525
Prepaid expenses	5,846	4,858
Other current assets	7,490	6,186
Total current assets	342,206	273,495
Property, plant and equipment, at cost	452,060	397,152
Accumulated depreciation	(240,129)	(226,820)
Net, property, plant and equipment	211,931	170,332
Goodwill	198,233	68,969
Other intangible assets, net	142,670	40,543
Other assets, net	8,199	7,532
Total assets	$903,239	$ 560,871
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Current portion of long-term debt	$10,182	$ 277
Accounts payable	88,195	71,931
Accrued payroll and other compensation	15,317	15,978
Accrued taxes	3,555	2,230
Other accrued liabilities	14,507	11,690
Total current liabilities	131,756	102,106
Long-term debt	327,674	76,913
Deferred tax liabilities	41,064	14,714
Benefit plan liabilities	20,394	9,743
Other long-term liabilities	5,302	3,999
Commitments and Contingencies (Note 15)		
Stockholders' equity:		
Preferred stock	—	—
Common stock	251	250
Capital in excess of par value	91,834	88,006
Retained earnings	404,141	374,783
Accumulated other comprehensive loss	(28,726)	(20,148)
Treasury stock, at cost	(90,451)	(89,495)
Total stockholders' equity	377,049	353,396
Total liabilities and stockholders' equity	$903,239	$ 560,871

See accompanying Notes to Condensed Consolidated Financial Statements.

LYDALL, INC.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(In Thousands)

	Nine Months Ended September 30,	
	2018	2017
	(Unaudited)	
Cash flows from operating activities:		
Net income	$27,760	$35,469
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	22,442	19,386
Long-lived asset impairment charge	—	772
Inventory step-up amortization	1,390	1,108
Deferred income taxes	340	(466)
Stock-based compensation	3,187	3,240
(Income) loss from equity method investment	(120)	37
Loss on disposition of property, plant and equipment	100	—
Changes in operating assets and liabilities:		
Accounts receivable	(25,407)	(12,138)
Contract assets	(5,443)	—
Inventories	(12,160)	(11,795)
Accounts payable	8,296	18,071
Accrued payroll and other compensation	(1,406)	2,044
Accrued taxes	981	(2,826)
Benefit plan liabilities	(7,635)	(3,797)
Other, net	2,173	(2,913)
Net cash provided by operating activities	14,498	46,192
Cash flows from investing activities:		
Business acquisitions, net of cash acquired	(269,972)	(335)
Capital expenditures	(20,091)	(19,918)
Proceeds from the sale of property, plant and equipment	282	—
Net cash used for investing activities	(289,781)	(20,253)
Cash flows from financing activities:		
Proceeds from borrowings	338,000	—
Debt repayments	(76,794)	(35,674)
Debt issuance cost payments	(538)	—
Common stock issued	846	409
Common stock repurchased	(956)	(2,592)
Net cash provided by (used for) financing activities	260,558	(37,857)
Effect of exchange rate changes on cash	(1,076)	4,690
Decrease in cash and cash equivalents	(15,801)	(7,228)
Cash and cash equivalents at beginning of period	59,875	71,934
Cash and cash equivalents at end of period	$44,074	$64,706

Non-cash capital expenditures of $6.1 million and $3.6 million were included in accounts payable at September 30, 2018 and 2017, respectively.

See accompanying Notes to Condensed Consolidated Financial Statements.

LYDALL, INC.
CONDENSED CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS’ EQUITY
(Unaudited)

In thousands of dollars and shares	Common Stock Shares	Common Stock Amount	Capital in Excess of Par Value	Retained Earnings	Accumulated Other Comprehensive Loss	Treasury Stock	Total Stockholders' Equity
Balance at December 31, 2017	25,018	$ 250	$88,006	$374,783	$ (20,148)	$(89,495)	$ 353,396
Net Income				27,760			27,760
Other comprehensive income, net of tax					(8,578)		(8,578)
Stock repurchased						(956)	(956)
Stock issued under employee plans	83	1	847				848
Stock-based compensation expense			2,847				2,847
Stock issued to directors	3		134				134
Adoption of ASC 606				1,598			1,598
Balance at September 30, 2018	25,104	251	91,834	404,141	(28,726)	(90,451)	377,049

See accompanying Notes to Condensed Consolidated Financial Statements.

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LYDALL, INC.
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

1. Basis of Financial Statement Presentation

Description of Business

Lydall, Inc. and its subsidiaries (the “Company” or “Lydall”) design and manufacture specialty engineered nonwoven filtration media, industrial thermal insulating solutions, and thermal and acoustical barriers for filtration/separation and heat abatement and sound dampening applications.

On July 12, 2018, the Company acquired certain assets and assumed certain liabilities of the Precision Filtration division of Precision Custom Coatings ("PCC") based in Totowa, NJ for $1.6 million in cash with additional cash payments of up to $2.0 million to be made based on the achievement of certain future financial targets through 2022. Precision Filtration is a producer of high-quality, air filtration media principally serving the commercial and residential HVAC markets with products in the efficiency range of MERV 7-11. The acquired business is included in the Company’s Performance Materials operating segment.

On August 31, 2018, the Company acquired an engineered sealing materials business operating under Interface Performance Materials ("Interface"), based in Lancaster, Pennsylvania for $268.4 million, net of cash acquired of $5.2 million. A globally-recognized leader in the delivery of engineered sealing solutions, the Interface operations manufacture wet-laid gasket and specialty materials primarily serving OEM and Tier I manufacturers in the agriculture, construction, earthmoving, industrial, and automotive segments. The acquired business is included in the Company's Performance Materials operating segment.

Basis of Presentation

The accompanying Condensed Consolidated Financial Statements include the accounts of Lydall, Inc. and its subsidiaries. All financial information is unaudited for the interim periods reported. All significant intercompany transactions have been eliminated in the Condensed Consolidated Financial Statements. The Condensed Consolidated Financial Statements have been prepared in accordance with accounting principles generally accepted in the United States of America (“U.S. GAAP”). The year-end Condensed Consolidated Balance Sheet was derived from the December 31, 2017 audited financial statements, but does not include all disclosures required by U.S. GAAP. Management believes that all adjustments, which include only normal recurring adjustments necessary for a fair statement of the Company’s condensed consolidated financial position, results of operations and cash flows for the periods reported, have been included. For further information, refer to the audited consolidated financial statements and accompanying notes included in the Company’s Annual Report on Form 10-K for the year ended December 31, 2017.

Effective January 1, 2018 the Company adopted the requirements of Accounting Standards Update ("ASU") No. 2014-09 (“ASC 606”) using the modified retrospective method. Therefore, the comparative information has not been adjusted and continues to be reported under the prior guidance of ASC 605. The details of the significant changes and quantitative impact of the changes are disclosed in Note 2 “Revenue from Contracts with Customers.”

Effective January 1, 2018, the Company combined the Thermal/Acoustical Metals and Thermal/Acoustical Fibers operating segments into a single operating segment named Thermal Acoustical Solutions. Combining these automotive segments into one segment is expected to allow the Company to better serve its customers, leverage operating disciplines and drive efficiencies across the global automotive operations. Refer to Note 14 "Segment Information" for further information. Prior period segment amounts throughout the Notes to the Condensed Consolidated Financial Statements have been recast to reflect the new segment structure. The recast of historical business segment information had no impact on the Company’s consolidated financial results.

Effective September 30, 2018, as a result of the Interface acquisition, the Performance Materials segment changed the disaggregation of revenue at the product level to be categorized as "Filtration" and "Sealing and Advanced Solutions".

Prior period segment amounts throughout the Notes to the Condensed Consolidated Financial Statements have been recast to reflect the results of the new segment structure. The recast of historical business segment information had no impact on the consolidated financial results.

Recent Accounting Pronouncements

In May 2014, the Financial Accounting Standards Board ("FASB") issued ASU No. 2014-09, “Revenue from Contracts with Customers (Topic 606)”. The amended guidance establishes a single comprehensive model for companies to use in accounting for revenue arising from contracts with customers and will supersede most of the existing revenue recognition guidance, including industry-specific guidance.

The amended guidance clarifies that an entity recognizes revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. In applying the amended guidance, an entity will (1) identify the contract(s) with a customer; (2) identify the performance obligations in the contract; (3) determine the transaction price; (4) allocate the transaction price to the contract's performance obligations; and (5) recognize revenue when (or as) the entity satisfies a performance obligation. ASC 606 is effective for the Company's interim and annual reporting periods beginning January 1, 2018, and is to be adopted using either a full retrospective or modified retrospective transition method.

The Company adopted the amended guidance and all related amendments using the modified retrospective approach on January 1, 2018, at which time it became effective for the Company. The Company recognized the cumulative effect of initially applying the new revenue standard to all contracts that were not completed on the date of adoption as an adjustment to the opening balance of retained earnings. (See Note 2. "Revenue from Contracts with Customers"). At the adoption date, the cumulative impact of revenue that would have been recognized over time, was $19.6 million. The impact was primarily driven by tooling net sales of $16.3 million from customer contracts within the Thermal Acoustical Solutions ("TAS") segment. The related adoption impact to retained earnings was $1.6 million, net of tax. Refer to Note 2.

In January 2016, the FASB issued ASU No. 2016-01, "Financial Instruments - Overall" (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities". This ASU revises an entity's accounting related to (1) the classification and measurement of investments in equity securities and (2) the presentation of certain fair value changes for financial liabilities measured at fair value. It also amends certain disclosure requirements associated with the fair value of financial instruments. This ASU is effective for fiscal years beginning after December 15, 2017. In February 2018, the FASB issued ASU 2018-03, "Technical Corrections and Improvements to Financial Instruments - Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities", which clarifies various aspects of the guidance issued in ASU 2016-01. The adoption of these amendments is not required for public business entities with fiscal years beginning between December 15, 2017 and June 15, 2018 until the interim period beginning after June 15, 2018, however early adoption is permitted. The Company adopted both ASUs effective January 1, 2018. The adoption of these ASUs did not have any impact on the Company's consolidated financial statements and disclosures.

In August 2016, the FASB issued ASU No. 2016-15, "Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments", which provides guidance on eight specific cash flow classification issues. Prior to this ASU, GAAP did not include specific guidance on these eight cash flow classification issues. This ASU is effective for fiscal years beginning after December 15, 2017, with early adoption permitted. The adoption of this ASU did not have any impact on the Company's consolidated financial statements and disclosures.

In October 2016, the FASB issued ASU 2016-16, "Income Taxes (Topic 740): Intra-Entity Transfers of Assets Other Than Inventory" as part of the Board's initiative to reduce complexity in accounting standards. This ASU eliminates an exception in ASC 740, which prohibits the immediate recognition of income tax consequences of intra-entity asset transfers other than inventory. This ASU requires entities to recognize the immediate current and deferred income tax effects of intra-entity asset transfers. This ASU is effective for fiscal years beginning after December 15, 2017, with early adoption permitted. The adoption of this ASU did not have any impact on the Company's consolidated financial statements and disclosures.

In November 2016, the FASB issued ASU No. 2016-18, "Statement of Cash Flows (Topic 230): Restricted Cash", which clarifies guidance and presentation related to restricted cash in the statement of cash flows, including stating that restricted cash should be included within cash and cash equivalents on the statement of cash flows. The ASU was effective for fiscal years beginning after December 15, 2017, with early adoption permitted. The Company adopted this ASU effective January 1, 2018. The adoption of this ASU did not have any impact on the Company's consolidated financial statements and disclosures.

In January 2017, the FASB issued ASU No. 2017-01, "Business Combinations (Topic 805): Clarifying the Definition of a Business", which adds guidance to assist entities with evaluating whether transactions should be accounted for as acquisitions (or disposals) of assets or businesses. The definition of a business affects many areas of accounting including acquisitions, disposals, goodwill, and consolidation. The amendments of this ASU provide a screen to determine when an integrated set of assets and activities is not a business. This ASU was effective for fiscal years beginning after December 15, 2017. The Company evaluated this ASU in connection with its third quarter 2018 transactions and determined both to meet the definition of a business.

In March 2017, the FASB issued ASU No. 2017-07, "Compensation - Retirement Benefits (Topic 715): Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost". This ASU requires an entity to report the service cost component of net benefit costs in the same line item(s) as other compensation costs arising from services rendered by the pertinent employees during the period. This ASU also requires the other components of net benefit cost, which includes interest costs and actual return on plan assets to be presented in the income statement separately from the service cost component and outside a subtotal of income from operations. This ASU was effective for fiscal year beginning after December 15, 2017. As required for retrospective adoption, the Company reclassified net benefit costs of $0.1 million from cost of sales and $0.1 million from the selling, product development and administrative expenses to other expense, net, in the Consolidated Statement of Operations for the quarter ended September 30, 2017. The Company reclassified net benefit costs of $0.2 million from cost of sales and $0.4 million from the selling, product development and administrative expenses to other expense, net, in the Consolidated Statement of Operations for the nine months ended September 30, 2017. The adoption of this ASU had minimal impact on the Company's consolidated financial statements and disclosures for the quarter and nine months ended September 30, 2018.

In May 2017, the FASB issued ASU No. 2017-09, "Compensation - Stock Compensation (Topic 718): Scope of Modification Accounting". This ASU requires an entity to apply modification accounting in Topic 718 when there are changes to the terms or conditions of a share-based payment award, unless the fair value, vesting conditions, and classification of the modified award are the same as the original award immediately before the original award is modified. This ASU was effective for fiscal years beginning after December 15, 2017. The adoption of this ASU did not have any impact on the Company’s consolidated financial statements and disclosures.

In February 2016, the FASB issued ASU No. 2016-02, "Leases (Topic 842)". This ASU requires entities that lease assets with lease terms of more than 12 months to recognize right-of-use assets and lease liabilities created by those leases on their balance sheets. This ASU will also require new qualitative and quantitative disclosures to help investors and other financial statement users better understand the amount, timing, and uncertainty of cash flows arising from leases. This ASU is effective for fiscal years beginning after December 15, 2018, with early adoption permitted. In July 2018, the FASB amended the leasing guidance to add a transition option. The Company plans to elect the transition option to continue to apply the legacy guidance ASC 840, Leases, including disclosure requirements, in the comparative periods presented in the year of adoption. With this election, a cumulative-effect adjustment will be recorded to retained earnings in the period of adoption. Based on the effective date, this amended guidance will apply to the Company beginning on January 1, 2019. Significant implementation matters being addressed by the Company include implementing an integrated third-party lease accounting application, assessing the impact to its internal control over financial reporting and documenting the new lease accounting process. The Company is still in the process of evaluating the effect of adoption on its consolidated financial statements and currently assessing the accounting treatment of the leases under the new standard, the Company anticipates the ASU will have a material impact on its assets and liabilities due to the addition of right-of-use assets and lease liabilities to the balance sheet; however, it does not expect the ASU to have a material impact on the Company's consolidated cash flows or results of operations.

In June 2018, the FASB issued ASU No. 2018-07, Compensation - Stock Compensation (Topic 718) (“ASU 2018-07”). ASU 2018-07 was issued in order to expand the guidance for stock-based compensation, to include share-based payment transactions for acquiring goods and services from nonemployees. The pronouncement is effective for fiscal years, and for interim periods within those fiscal years, beginning after December 15, 2018, with early adoption permitted. The Company does not expect the adoption of the new accounting standard to have a material impact on its consolidated financial statements.

In August 2018, the FASB issued ASU 2018-13, Fair Value Measurement (Topic 820): Disclosure Framework-Changes to the Disclosure Requirements for Fair Value Measurement (“ASU 2018-13”), which adds, amends and removes certain disclosure requirements related to fair value measurements. Among other changes, this standard requires certain additional disclosure surrounding Level 3 assets, including changes in unrealized gains or losses in other comprehensive income and certain inputs in those measurements. ASU 2018-13 is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2019. Certain amended or eliminated disclosures in this standard may be adopted early, while certain additional disclosure requirements in this standard can be adopted on its effective date. In addition, certain changes in the standard require retrospective adoption, while other changes must be adopted prospectively. The Company is currently evaluating the impact of this update on its consolidated financial statements and related disclosures.

In August 2018, the FASB issued ASU No. 2018-14, "Compensation - Retirement Benefits - Defined Benefit Plans - General (Subtopic 715-20): Disclosure Framework - Changes to the Disclosure Requirements for Defined Benefit Plans." This ASU requires entities to disclose the weighted-average interest crediting rates for cash balance plans and other plans with promised interest crediting rates. This ASU also requires entities to disclose an explanation for significant gains and losses related to changes in the benefit obligation for the period. This ASU is effective for fiscal years beginning after December 15, 2020 with early adoption permitted. The Company is currently evaluating the method and impact the adoption of ASU 2018-14 will have on the Company's consolidated financial statements and disclosures.

In August 2018, the FASB issued ASU 2018-15, Intangibles - Goodwill and Other - Internal-Use Software (Subtopic 350-40); Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract. The amendments in this update require implementation costs incurred by customers in cloud computing arrangements (i.e., hosting arrangements) to be capitalized under the same premises of authoritative guidance for internal-use software, and deferred over the noncancellable term of the cloud computing arrangement plus any option renewal periods that are reasonably certain to be exercised by the customer or for which the exercise is controlled by the service provider. The Company is required to adopt this new guidance in the first quarter of 2020. Early adoption is permitted. The Company is currently evaluating the impact of this update on its consolidated financial statements and related disclosures.

Significant Accounting Policies

The Company’s significant accounting policies are detailed in Note 1 “Significant Accounting Policies” within Part IV Item 15 of the Company’s Annual Report on Form 10-K for the year ended December 31, 2017. Significant changes to these accounting policies as a result of adopting ASC 606 “Revenue from Contracts with Customers” are discussed within Note 2, “Revenue from Contracts with Customers.”

2. Revenue from Contracts with Customers

The Company accounts for revenue in accordance with ASC 606, Revenue from Contracts from Customers. These revenues are generated from the design and manufacture of specialty engineered filtration media, industrial thermal insulating solutions, automotive thermal and acoustical barriers for filtration/separation and thermal/acoustical applications. The Company’s revenue recognition policies require the Company to make significant judgments and estimates. In applying the Company’s revenue recognition policy, determinations must be made as to when control of products passes to the Company’s customers which can be either at a point in time or over time. Revenue is generally recognized at a point in time when control passes to customers upon shipment of the Company’s products and revenue is generally recognized over time when control of the Company’s products transfers to customers during the manufacturing process (see description below). The Company analyzes several factors, including but not limited to, the nature of the products being sold and contractual terms and conditions in contracts with customers to help the Company make such judgments about revenue recognition.

The Company accounts for revenue from contracts with customers when there is approval and commitment from both parties, the rights of the parties are identified, payment terms are identified, the contract has commercial substance and collectability of consideration is probable. Revenue is primarily derived from customer purchase orders, master sales agreements, and negotiated contracts, all of which represent contracts with customers.

The Company next identifies the performance obligations in the contract. A performance obligation is a promise to provide distinct goods or services. Performance obligations are the unit of account for purposes of applying the revenue standard and therefore determines when and how revenue is recognized. The Company determines the performance obligations at contract inception based on the goods that are promised in a contract with a customer. Typical performance obligations include automotive parts, automotive tooling, rolled good media and filter bags.

The transaction price in the contract is determined based on the consideration to which the Company will be entitled in exchange for transferring products to the customer, excluding amounts collected on behalf of third parties (for example, sales taxes). The transaction price is typically stated on the purchase order or in a negotiated agreement. Certain contracts may include variable consideration in the transaction price, such as rebates, pricing discounts, price concessions, sales incentives, index pricing or other provisions that can decrease the transaction price. Estimates of variable consideration and determination of whether to include estimated amounts in the transaction price are based on reasonably available information (customer historical, current and forecasted data). In certain circumstances where a particular outcome is probable, the Company utilizes the most likely amount to which the Company expects to be entitled. The Company accounts for consideration payable to a customer as a reduction of the transaction price thereby reducing the amount of revenue recognized. Consideration payable to a customer includes cash amounts that the Company pays, or expects to pay, to a customer based on certain contract requirements.

The Company recognizes revenue as performance obligations are satisfied, which can be either over time or at a point in time, depending on when control of the Company’s products transfers to its customers.

In circumstances when control transfers over time, revenue is recognized based on the extent of progress towards completion of the performance obligation. Due to the nature of the work required to be performed on many of the Company’s performance obligations, the estimation of total revenue and cost at completion is complex, subject to many variables and requires significant judgment.

The selection of the method to measure progress towards completion requires judgment and is based on the nature of the products to be provided. The Company generally uses the cost-to-cost measure of progress for contracts because it best depicts the transfer of control to the customer which occurs as costs are incurred on contracts. Under the cost-to-cost measure of progress, the extent of progress towards completion is measured based on the ratio of costs incurred to date to the total estimated costs at completion of the performance obligation. Revenues are recorded proportionally as costs are incurred.

For tooling revenue recognized over time, the Company makes significant judgments which includes, but not limited to, estimated costs to completion, costs incurred to date, and assesses risks related to changes in estimates of revenues and costs. In doing so, management must make assumptions regarding the work required to fulfill the performance obligations, which is dependent upon the execution by the Company's subcontractors, among other variables and contract requirements.

Changes in estimates for revenue recognized over time are recorded by the Company in the period they become known. Changes are recognized on a cumulative catch-up basis in net sales, costs of sales, and operating income. The cumulative catch up adjustment recognizes in the current period the cumulative effect of changes in estimates on current and prior periods.

Performance Obligations

The following is a description of products and performance obligations, separated by reportable segments, from which the Company generates its revenue. For more detailed information about reportable segments, see Note 14 “Segment Information.”

Segment	Performance Materials
Products	Products for this segment include filtration media solutions primarily for air, fluid power, life science and industrial applications, gasket and sealing solutions, thermal insulation, energy storage, and other engineered products.
Performance Obligations	These contracts typically have distinct performance obligations, which is the promise to transfer the media solutions to the Company’s customers. The Company recognizes revenue at a point in time or over time, based upon when control of the underlying product transfers to the customer. If revenue is recognized at a point in time, the performance obligation is typically satisfied upon shipment and in accordance with shipping terms. In circumstances when control transfers over time, revenue is recognized based on the extent of progress towards completion of the performance obligation. Customer payment terms are negotiated on a contract-by-contract basis and typically range from 30 to 90 days.
Segment	Technical Nonwovens
Products	This segment produces needle punch nonwoven solutions including industrial filtration and advanced materials products. Industrial Filtration products include nonwoven rolled-good felt media and filter bags used primarily in industrial air and liquid filtration applications. Advanced materials products include nonwoven rolled good media used in commercial applications and predominantly serves the geosynthetic, automotive, industrial, medical, and safety apparel markets. The automotive media is provided to tier-one suppliers as well as the Company’s Thermal Acoustical Solutions segment.

Performance Obligations	These contracts typically have distinct performance obligations, which is the promise to transfer the industrial filtration or advanced materials products to the Company’s customers. The Company recognizes revenue at a point in time or over time, based upon when control transfers to the customer. If revenue is recognized at a point in time, the performance obligation is typically satisfied upon shipment and in accordance with shipping terms. In circumstances when control transfers over time, revenue is recognized based on the extent of progress towards completion of the performance obligation. Customer payment terms are negotiated on a contract-by-contract basis and typically range from 30 to 90 days. For filter bag sales, the Company may enter into warranty agreements that are implied or sold with the product to provide assurance that a product will function as expected and in accordance with certain specifications. Therefore, this type of warranty is not a separate performance obligation.
Segment	Thermal Acoustical Solutions
Products	Parts - The segment produces a full range of innovative engineered products tailored for the transportation sector to thermally shield sensitive components from high heat, improve exhaust gas treatment and lower harmful emissions as well as assist in the reduction of noise vibration and harshness. The majority of products are sold to original equipment manufacturers and tier-one suppliers. Tooling - The Company enters into contractual agreements with certain customers within the automotive industry, to design and develop molds, dies and tools (collectively, “tooling”).
Performance Obligations	Parts - Customer contracts typically have distinct performance obligations, which is the promise to transfer manufactured parts to these customers. The Company recognizes parts revenue at a point in time or over time, based upon when control transfers to the customer. If revenue is recognized at a point in time, the performance obligation is typically satisfied upon shipment and in accordance with shipping terms. In circumstances when control transfers over time, revenue is recognized based on the extent of progress towards completion of the performance obligation. Customer payment terms are negotiated on a contract-by-contract basis and typically range from 30 to 90 days. Tooling - Customer contracts typically have distinct performance obligations and are generally completed within one year. The Company periodically enters into multiple contracts with a customer at or near the same time which may be combined for purposes of determining the appropriate transaction price. The Company allocates the transaction price to each performance obligation in the contract based on a relative stand-alone selling price using costs incurred plus expected margin. The corresponding revenues are recognized over time as the related performance obligations are satisfied. Tooling customer payment terms typically range from 30 to 90 days after title transfers to the customer. Occasionally customers make progress payments as the tool is constructed.

Practical Expedients and Exemptions

The Company has elected to adopt the contract cost practical expedient. This expedient allows the Company to recognize its incremental costs of obtaining contracts, such as sales commissions, as an expense when incurred if the related contract revenue is expected to be recognized in one year or less. These costs are included in selling, product development and administrative expenses.

The Company has made an accounting policy election to record shipping and handling activities occurring after control has passed to the customer to be treated as a fulfillment cost rather than as a distinct performance obligation. Shipping and handling expenses consist primarily of costs incurred to deliver products to customers and internal costs related to preparing products for shipment and are recorded as a cost of sales. Amounts billed to customers as shipping and handling are classified as revenue when services are performed.

ASC 606 requires the disclosure of unsatisfied performance obligations related to contracts from customers at the end of each reporting period. The Company has elected the practical expedient because the Company’s contracts generally have a duration of one year or less, therefore no disclosure is required.

The Company has elected to adopt the practical expedient to disregard the need to adjust the promised amount of consideration for the effects of a significant financing component as the Company expects that the period of time between when the products are transferred to the customer and when the Company is paid for those products will be one year or less.

Contract Assets and Liabilities

The Company’s contract assets primarily include unbilled amounts typically resulting from sales under contracts when the over time method of revenue recognition is utilized and revenue recognized exceeds the amount billed to the customer. These unbilled accounts receivable in contract assets are transferred to accounts receivable upon invoicing, typically when the right to payment becomes unconditional in which case payment is due based only upon the passage of time.

The Company’s contract liabilities primarily relate to billings and advance payments received from customers, and deferred revenue. These contract liabilities represent the Company’s obligation to transfer its products to its customers for which the Company has received, or is owed consideration from its customers. Contract liabilities are included in other accrued liabilities on the Company’s Condensed Consolidated Balance Sheets.

Contract assets and liabilities consisted of the following (in thousands):

	September 30, 2018	January 1, 2018	Dollar Change
Contract assets	$ 24,756	$ 19,125	$ 5,631
Contract liabilities	$ 3,188	$ 2,820	$ 368

The $5.6 million increase in contract assets from January 1, 2018 to September 30, 2018 was primarily due to timing of billings to customers and contract assets increased $0.2 million relating to the acquisition of Interface. See Note 3 “Acquisitions."

The $0.4 million increase in contract liabilities from January 1, 2018 to September 30, 2018 was primarily due to an increase in customer deposits partially offset by revenue recognized of $2.5 million in the first nine months of 2018 related to contract liabilities at January 1, 2018.

Impacts on Financial Statements

The cumulative effect of the changes made to the Company's Condensed Consolidated January 1, 2018 Balance Sheet for the adoption of ASC 606 was as follows:

In thousands	December 31, 2017	Adjustments for Adoption of ASC606	January 1, 2018
Assets:			
Contract assets	$—	$ 19,125	$19,125
Inventories	$80,339	$ (15,184)	$65,155
Liabilities:			
Accounts payable	$71,931	$ 663	$72,594
Other accrued liabilities	$11,690	$ 1,209	$12,899
Deferred tax liabilities	$14,714	$ 471	$15,185
Stockholders' equity:			
Retained earnings	$374,783	$ 1,598	$376,381

The cumulative effect of the changes made to the Company's Condensed Consolidated Balance Sheet for the adoption of ASC 606 was as follows:

	September 30, 2018		
In thousands	Balances Without Adoption of ASC 606	ASC 606 Adjustments	As Reported
Assets:			
Contract assets	$—	$ 24,756	$24,756
Inventories	$113,718	$ (21,839)	$91,879
Liabilities:			
Accounts payable	$86,502	$ 1,693	$88,195
Other accrued liabilities	$16,655	$ (2,148)	$14,507
Deferred tax liabilities	$40,306	$ 758	$41,064
Stockholders' equity:			
Retained earnings	$401,489	$ 2,652	$404,141
Accumulated other comprehensive loss	$(28,688)	$ (38)	$(28,726)

The cumulative effect of the changes made to the Company’s Condensed Consolidated Statement of Operations for the adoption of ASC 606 for the quarter and nine months ended September 30, 2018 were as follows:

	Quarter Ended September 30, 2018		
In thousands	Results Without Adoption of ASC606	Effect of Change Higher (Lower)	As Reported
Net sales	$198,949	$(1,063)	$197,886
Cost of sales	164,793	(2,046)	162,747
Gross profit	34,156	983	35,139
Selling, product development and administrative expenses	25,406	—	25,406
Operating income	8,750	983	9,733
Interest expense	1,505	—	1,505
Other income, net	(40)	—	(40)
Income before income taxes	7,285	983	8,268
Income tax expense	1,846	230	2,076
Income from equity method investment	(64)	—	(64)
Net income	$5,503	$753	$6,256
Earnings per share:			
Basic	$0.32	$0.04	$0.36
Diluted	$0.32	$0.04	$0.36
Weighted average number of common shares outstanding:			
Basic	17,216	—	17,216
Diluted	17,349	—	17,349

In the third quarter of 2018, ASC 606 had a negative impact to net sales of $1.1 million primarily due to tooling sales. However, ASC 606 had a positive impact to gross profit of $1.0 million as tooling sales had a minimal effect on gross profit. ASC 606 resulted in lower tooling net sales and cost of sales of approximately $5.0 million as tooling projects, with minimal gross profit and over time revenue recognition under ASC 606, were closed and invoiced to customers. The gross profit effect of $1.0 million was due to over time non-tooling sales recognized in the third quarter under ASC 606 of approximately $3.9 million at a gross profit of approximately $1.0 million.

In thousands	Nine Months Ended September 30, 2018 Results Without Adoption of ASC606	Effect of Change Higher (Lower)	As Reported
Net sales	$569,160	$ 6,799	$575,959
Cost of sales	459,728	5,458	465,186
Gross profit	109,432	1,341	110,773
Selling, product development and administrative expenses	74,755	—	74,755
Operating income	34,677	1,341	36,018
Interest expense	2,617	—	2,617
Other income, net	(93)	—	(93)
Income before income taxes	32,153	1,341	33,494
Income tax expense	5,567	287	5,854
Income from equity method investment	(120)	—	(120)
Net income	$26,706	$ 1,054	$27,760
Earnings per share:			
Basic	$1.55	$ 0.06	$1.61
Diluted	$1.54	$ 0.06	$1.60
Weighted average number of common shares outstanding:			
Basic	17,189	—	17,189
Diluted	17,339	—	17,339

Disaggregated Revenue

The Company disaggregates revenue from customers by geographic region, as it believes this disclosure best depicts how the nature, amount, timing and uncertainty of the Company's revenue and cash flows are affected by economic factors. Disaggregated revenue by geographical region for the quarter and nine months ended September 30, 2018 were as follows:

In thousands	Quarter Ended September 30, 2018 Performance Materials	Technical Nonwovens	Thermal Acoustical Solutions	Eliminations and Other	Consolidated Net Sales
North America	$29,048	$ 44,092	$ 58,484	$ (4,891)	$ 126,733
Europe	12,120	18,757	24,183	(225)	54,835
Asia	552	10,222	5,544	—	16,318
Total Net Sales	$41,720	$ 73,071	$ 88,211	$ (5,116)	$ 197,886

In thousands	Nine Months Ended September 30, 2018 Performance Materials	Technical Nonwovens	Thermal Acoustical Solutions	Eliminations and Other	Consolidated Net Sales

North America	$69,088	$ 128,788	$ 190,385	$ (19,249)	$ 369,012
Europe	34,007	56,197	76,753	(580)	166,377
Asia	552	27,339	12,679	—	40,570
Total Net Sales	$103,647	$ 212,324	$ 279,817	$ (19,829)	$ 575,959

3. Acquisitions

On August 31, 2018, the Company completed the previously announced acquisition of Interface Performance Materials ("Interface"), based in Lancaster, Pennsylvania. A globally-recognized leader in the delivery of engineered sealing solutions, the Interface operations manufacture wet-laid gasket and specialty materials primarily serving OEM and Tier I manufacturers in the Agriculture, Construction, Earthmoving, Industrial, and Automotive segments. The transaction strengthens the Company's position as an industry-leading global provider of filtration materials and expands the Company's end markets into attractive adjacencies. The Company acquired one hundred percent of Interface for $268.4 million, net of cash acquired of $5.2 million, subject to a post-closing purchase price adjustment that is expected to be finalized in the fourth quarter of 2018. The purchase price was financed with a combination of cash on hand and $261.4 million of borrowings from the Company's amended $450 million credit facility. The assets and liabilities of Interface have been included in the Company's Consolidated Balance Sheet at September 30, 2018. The acquired business is included in the Company's Performance Materials reporting segment.

During the quarter and nine months ended September 30, 2018, the Company incurred $1.5 million and $2.6 million, respectively, of transaction costs, related to the acquisition of Interface. These transaction costs include legal fees and other professional services fees to complete the transaction. These corporate office expenses have been recognized in the Company's Condensed Consolidated Statements of Operations as selling, product development and administrative expenses.

The results of operations of Interface have been included in the Company's results from the date of the acquisition, and for the quarter and nine months ended September 30, 2018, Interface reported net sales and operating loss of $11.8 million and $0.3 million, respectively. Interface's operating loss for the quarter and nine months ended September 30, 2018 included $1.4 million of purchase accounting inventory fair value step-up adjustments in cost of sales upon the sale of inventory and $0.9 million of intangible amortization expense in selling, product development and administrative expenses.

The following table presents the preliminary determination of the fair value of identifiable assets acquired and liabilities assumed from the Company's acquisition of Interface. The final determination of the fair value of certain assets and liabilities will be completed within the one year measurement period as required by the FASB ASC Topic 805, “Business Combinations.” As the Company finalizes the fair value of assets acquired and liabilities assumed, additional purchase price adjustments may be recorded during the measurement period in the last quarter of 2018 and the first eight months of 2019. Fair value estimates are based on a complex series of judgments about future events and uncertainties and rely heavily on estimates and assumptions. The judgments used to determine the estimated fair value assigned to each class of assets acquired and liabilities assumed, as well as asset lives, can materially impact the Company's results of operations. The finalization of the purchase accounting assessment may result in a change in the valuation of assets acquired and liabilities assumed and may have a material impact on the Company's results of operations and financial position.

The following is a preliminary estimate of the assets acquired and the liabilities assumed by the Company at the date of the acquisition:

In thousands	
Accounts receivable	$25,182
Inventories	17,313
Prepaid expenses and other current assets	2,382
Property, plant and equipment	40,902
Goodwill (Note 5)	130,462

Other intangible assets (Note 5)	107,800
Other assets	308
Total assets acquired, net of cash acquired	$324,349
Current liabilities	$(11,319)
Deferred tax liabilities	(25,275)
Benefit plan liabilities	(18,352)
Other long-term liabilities	(1,031)
Total liabilities assumed	(55,977)
Total purchase price, net of cash acquired	$268,372

The following table reflects the unaudited pro forma operating results of the Company for the quarter and nine months ended September 30, 2018 and 2017, which gives effect to the acquisition of Interface as if it had occurred on January 1, 2017. The pro forma information includes the historical financial results of the Company and Interface. The pro forma results are not necessarily indicative of the operating results that would have occurred had the acquisition been effective January 1, 2017, nor are they intended to be indicative of results that may occur in the future. The pro forma information does not include the effects of any synergies related to the acquisition.

	(Unaudited Pro Forma) Quarter Ended September 30,		(Unaudited Pro Forma) Nine Months Ended September 30,	
In thousands	2018	2017	2018	2017
Net sales	$220,937	$214,503	$678,418	$627,197
Net income	$6,147	$8,474	$28,461	$26,061
Earnings per share:				
Basic	$0.36	$0.50	$1.66	$1.53
Diluted	$0.35	$0.49	$1.64	$1.51
Basic	17,216	17,055	17,189	17,028
Diluted	17,349	17,267	17,339	17,270

Pro forma adjustments to historical financial statements during the quarter ended September 30, 2018 resulted in an additional $7.9 million of net income. Earnings were adjusted to exclude non-recurring items such as acquisition related expenses for both Lydall and Interface, purchase accounting adjustments for inventory step-up and tax valuation allowance expenses. Earnings were also adjusted to include items such as additional intangibles amortization expense and additional interest expense associated with borrowings under the Company's Amended Credit Facility.

Pro forma adjustments during the quarter ended September 30, 2017 reduced net income by $1.7 million. Earnings for the quarter ended September 30, 2017 were adjusted to include items such as additional intangibles amortization expense and additional interest expense associated with borrowings under the Company's Amended Credit Facility. Earnings were adjusted to exclude items such as Interface management fee expenses and tax valuation allowance expenses.

Pro forma adjustments during the nine months ended September 30, 2018 resulted in an additional $5.6 million of net income. Earnings were adjusted to exclude items such as acquisition related expenses for both Lydall and Interface, purchase accounting adjustments for inventory step-up and tax valuation allowance expenses. Earnings for the nine months ended September 30, 2018 were adjusted to include items such as additional intangibles amortization expense and additional interest expense associated with borrowings under the Company's Amended Credit Facility.

Pro forma adjustments during the nine months ended September 30, 2017 reduced net income by $11.6 million. Earnings for the nine months ended September 30, 2017 were adjusted to include items such as acquisition related expenses for both Lydall and Interface, additional intangibles amortization expense, purchase accounting adjustments for inventory step-up and additional interest expense associated with borrowings under the Company's Amended Credit Facility. Earnings were adjusted to exclude items such as Interface management fee expenses and tax valuation allowance expenses.

On July 12, 2018, the Company acquired certain assets and assumed certain liabilities of the Precision Filtration division of Precision Custom Coatings ("PCC") based in Totowa, NJ. Precision Filtration is a producer of high-quality, air filtration media principally serving the commercial and residential HVAC markets with a range of low efficiency through high-performing air filtration media. The Company acquired the assets and liabilities of PCC for $1.6 million in cash with additional cash payments of up to $2.0 million to be made based on the achievement of certain future financial targets through 2022. The assets and liabilities related to the acquisition of PCC have been included in the Company's Performance Materials reporting segment and in the Consolidated Balance Sheets at September 30, 2018. PCC had a minimal impact on the Company's sales and operating income for the quarter and nine months ended September 30, 2018.

4. Inventories

Inventories as of September 30, 2018 and December 31, 2017 were as follows:

In thousands	September 30, 2018	December 31, 2017
Raw materials	$ 41,182	$ 28,672
Work in process	21,630	29,427
Finished goods	29,067	23,901
	91,879	82,000
Less: Progress billings	—	(1,661)
Total inventories	$ 91,879	$ 80,339

Included in work in process is gross tooling inventory of $5.2 million and $20.2 million at September 30, 2018 and December 31, 2017, respectively. Tooling inventory, net of progress billings, was $18.5 million at December 31, 2017. Effective January 1, 2018 the Company adopted ASC 606, Revenue from Contracts from Customers, under the modified retrospective transition method. The adoption of ASC 606 resulted in the reclassification of progress billings to contract liabilities. See Note 2, Revenue from Contracts with Customers, for further discussion of contract liabilities.

5. Goodwill and Other Intangible Assets

Goodwill:

The Company tests its goodwill for impairment annually in the fourth quarter, and whenever events or changes in circumstances indicate that the carrying value may exceed its fair value.

The changes in the carrying amount of goodwill by segment as of and for the nine months ended September 30, 2018 were as follows:

In thousands	December 31, 2017	Currency translation adjustments	Additions	September 30, 2018
Performance Materials	$ 13,307	$ (142)	$ 130,980	$ 144,145
Technical Nonwovens	55,662	(1,574)	—	54,088
Total goodwill	$ 68,969	$ (1,716)	$ 130,980	$ 198,233

The additional goodwill of $131.0 million within the Performance Materials segment results from the two acquisitions completed in the third quarter of 2018. The Interface acquisition accounted for $130.5 million of the $131.0 million increase. The amount allocated to goodwill is reflective of the benefits the Company expects to realize from the expansion of the Company's engineered materials offering, new product development and Interface's assembled workforce. None of the goodwill associated with the Interface acquisition is expected to be deductible for income tax purposes.

Other Intangible Assets:

The table below presents the gross carrying amount and, as applicable, the accumulated amortization of the Company's acquired intangible assets other than goodwill included in "Other intangible assets, net" in the Condensed Consolidated Balance Sheets as of September 30, 2018 and December 31, 2017:

	September 30, 2018		December 31, 2017	
In thousands	Gross Carrying	Accumulated Amortization	Gross Carrying	Accumulated Amortization

	Amount		Amount	
Amortized intangible assets				
Customer Relationships	$143,651	$ (8,538)	$39,474	$ (4,460)
Patents	4,376	(3,796)	4,504	(3,821)
Technology	2,500	(769)	2,500	(644)
Trade Names	7,368	(2,263)	4,288	(1,461)
License Agreements	625	(625)	640	(640)
Other	564	(423)	586	(423)
Total amortized intangible assets	$159,084	$ (16,414)	$51,992	$ (11,449)

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In connection with the acquisition of Interface on August 31, 2018, the Company recorded intangible assets of $107.8 million, which included $104.6 million of customer relationships and $3.2 million of trade names. The average useful lives of the acquired assets were 13 years and 3 years, respectively.

6. Long-term Debt and Financing Arrangements

On August 31, 2018, the Company amended and restated its $175 million senior secured revolving credit agreement ("Amended Credit Agreement") that increased the available borrowing from $175 million to $450 million, added three additional lenders and extended the maturity date from July 7, 2021 to August 31, 2023.

Under the terms of the Amended Credit Agreement, the lenders are providing up to a $450 million credit facility (the “Facility”) to the Company, under which the lenders provided a term loan commitment of $200 million and revolving loans to or for the benefit of the Company and its subsidiaries of up to $250 million. The Facility may be increased by an aggregate amount not to exceed $150 million through an accordion feature, subject to specified conditions. The Facility is secured by substantially all of the assets of the Company.

Interest is charged on borrowings at the Company’s option of either: (i) Base Rate plus the Applicable Rate, or (ii) the Eurodollar Rate plus the Applicable Rate. The Base Rate is a fluctuating rate equal to the highest of (a) the federal funds rate plus 0.50%, (b) the prime rate as set by Bank of America, and (c) the Eurocurrency Rate plus 1.00%. The Eurocurrency Rate means (i) if denominated in LIBOR quoted currency, a fluctuating LIBOR per annum rate equal to the London Interbank Offered Rate; (ii) if denominated in Canadian Dollars, the rate per annum equal to the Canadian Dollar Offered Rate; or (iii) the rate per annum as designated with respect to such alternative currency at the time such alternative currency is approved by the Lenders. The Applicable Rate is determined based on the Company’s Consolidated Leverage Ratio (as defined in the Amended Credit Agreement). The Applicable Rate added to the Base Rate Committed Loans ranges from 0.00% to 1.25%, and the Applicable Rate added to Eurocurrency Rate Committed Loans and Letters of Credit ranges from 0.75% to 2.00%. The Company pays a quarterly fee ranging from 0.15% to 0.275% on the unused portion of the revolving commitment.

The Company is permitted to prepay term and revolving borrowings in whole or in part at any time without premium or penalty, subject to certain minimum payment requirements, and the Company is generally permitted to irrevocably cancel unutilized portions of the revolving commitments under the Amended Credit Agreement. The Company is required to repay the term commitment in an amount of $2.5 million per quarter beginning with the quarter ending December 31, 2018 through the quarter ending June 30, 2023.

The Amended Credit Agreement contains covenants required of the Company and its subsidiaries, including various affirmative and negative financial and operational covenants. The Company is required to meet certain quarterly financial covenants calculated from the four fiscal quarters most recently ended, including: (i) a minimum consolidated fixed charge coverage ratio, which requires that at the end of each fiscal quarter the ratio of (a) consolidated EBITDA to (b) the sum of consolidated interest charges, redemptions, non-financed maintenance capital expenditures, restricted payments and taxes paid, each as defined in the Amended Credit Agreement, may not be lower than 1.25 to 1.0; and (ii) a consolidated net leverage ratio, which requires that at the end of each fiscal quarter the ratio of consolidated funded indebtedness minus consolidated domestic cash to consolidated EBITDA, as defined in the Amended Credit Agreement, may not be greater than 3.5 to 1.0. The Company was in compliance with all covenants at September 30, 2018.

In April 2017, the Company entered into a three-year interest rate swap agreement transacted with a bank which converts the interest on the first notional $60.0 million of the Company's one-month LIBOR-based borrowings from a variable rate, plus the borrowing spread, to a fixed rate of 1.58% plus the borrowing spread. The notional amount reduces quarterly by $5.0 million through March 31, 2020. The Company is accounting for the interest rate swap agreement as a cash flow hedge. Effectiveness of this derivative agreement is assessed quarterly by ensuring that the critical terms of the swap continue to match the critical terms of the hedged debt.

At September 30, 2018, the Company had borrowing availability of $108.1 million under the Facility, net of $338.0 million of borrowings outstanding and standby letters of credit outstanding of $3.9 million. The borrowings outstanding included a $200.0 million term loan, net of $0.5 million in debt issuance costs being amortized to interest expense over the debt maturity period.

In addition to the amounts outstanding under the Facility, the Company has various acquired foreign credit facilities totaling approximately $8.4 million. At September 30, 2018, the Company's foreign subsidiaries had $0.1 million in borrowings outstanding as well as $2.3 million in standby letters of credit outstanding.

Total outstanding debt consists of:

In thousands	Effective Rate	Maturity	September 30, 2018	December 31, 2017
Revolver Loan	3.87 %	8/31/2023	$138,000	$76,600
Term Loan, net of debt issuance costs	3.87 %	8/31/2023	199,471	—
Capital Leases	1.65% - 2.09%	2019 - 2020	385	590
			337,856	77,190
Less portion due within one year			(10,182)	(277)
Total long-term debt, net of debt issuance costs			$327,674	$76,913

The carrying value of the Company’s $450 million Facility approximates fair value given the variable rate nature of the debt. The fair values of the Company’s long-term debt are determined using discounted cash flows based upon the Company’s estimated current interest cost for similar type borrowings or current market value, which falls under Level 2 of the fair value hierarchy.

The weighted average interest rate on long-term debt was 2.9% for the nine months ended September 30, 2018 and 2.2% for the year ended December 31, 2017.

7. Derivatives

The Company selectively uses financial instruments to manage market risk associated with exposure to fluctuations in interest rates. These financial exposures are monitored and managed by the Company as an integral part of its risk management program. The Company’s interest rate exposure is most sensitive to fluctuations in interest rates in the United States and Europe, which impact interest paid on its debt. The Company has debt with variable rates of interest based generally on LIBOR. From time to time, the Company enters into interest rate swap agreements to manage interest rate risk. These instruments are designated as cash flow hedges and are recorded at fair value using Level 2 observable market inputs.

Derivative instruments are recognized as either assets or liabilities on the balance sheet in either current or non-current other assets or other accrued liabilities or other long-term liabilities depending upon maturity and commitment. For derivative instruments that are designated and qualify as a cash flow hedge, the effective portion of the gain or loss on the derivative is reported as a component of other comprehensive income and reclassified into earnings in the same period or periods in which the hedge transaction affects earnings. Any ineffective portion, or amounts related to contracts that are not designated as hedges, are recorded directly to earnings. The Company's policy for classifying cash flows from derivatives is to report the cash flows consistent with the underlying hedged item. The Company does not use derivatives for speculative or trading purposes.

In April 2017, the Company entered into a three-year interest rate swap agreement transacted with a bank which converts the interest on the first notional $60.0 million of the Company's one-month LIBOR-based borrowings under its Amended Credit Facility from a variable rate, plus the borrowing spread, to a fixed rate of 1.58% plus the borrowing spread. The notional amount reduces quarterly by $5.0 million through March 31, 2020. The interest rate swap agreement was accounted for as cash flow hedge. Effectiveness of this derivative agreement is assessed quarterly by ensuring that the critical terms of the swap continue to match the critical terms of the hedged debt.

The following table sets forth the fair value amounts of derivative instruments held by the Company:

In thousands	September 30, 2018	December 31, 2017

	Asset Derivatives	Liability Derivatives	Asset Derivatives	Liability Derivatives
Derivatives designated as hedging instruments:				
Interest rate contract	$ 272	$ —	$ 157	$ —
Total derivatives	$ 272	$ —	$ 157	$ —

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The following table sets forth the income recorded in accumulated other comprehensive income (loss), net of tax, for the quarters and nine months ended September 30, 2018 and 2017 for derivatives held by the Company and designated as hedging instruments:

	Quarter Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Cash flow hedges:				
Interest rate contract	$ 14	$ 37	$ 89	$ (7)
	$ 14	37	$ 89	$ (7)

8. Equity Compensation Plans

As of September 30, 2018, the Company’s equity compensation plans consisted of the 2003 Stock Incentive Compensation Plan (the “2003 Plan”) and the 2012 Stock Incentive Plan (the “2012 Plan” and together with the 2003 Plan, the “Plans”) under which incentive and non-qualified stock options and time and performance based restricted shares have been granted to employees and directors from authorized but unissued shares of common stock or treasury shares. The 2003 Plan is not active, but continues to govern all outstanding awards granted under the plan until the awards themselves are exercised or terminate in accordance with their terms. The 2012 Plan, approved by shareholders on April 27, 2012, authorizes 1.75 million shares of common stock for awards. The 2012 Plan also authorizes an additional 1.2 million shares of common stock to the extent awards granted under prior stock plans that were outstanding as of April 27, 2012 are forfeited. The 2012 Plan provides for the following types of awards: options, restricted stock, restricted stock units and other stock-based awards.

The Company accounts for the expense of all share-based compensation by measuring the awards at fair value on the date of grant. The Company recognizes expense on a straight-line basis over the vesting period of the entire award. Options issued by the Company under its stock option plans have a term of ten years and generally vest ratably over a period of three to four years. Time-based restricted stock grants are expensed over the vesting period of the award, which is typically two to four years. The number of performance based restricted shares that vest or forfeit depend upon achievement of certain targets during the performance period. The Company accounts for forfeitures as they occur. Compensation expense for performance based awards is recorded based upon the service period and management’s assessment of the probability of achieving the performance goals and will be adjusted based upon actual achievement.

The Company incurred equity compensation expense of $0.6 million and $1.0 million for the quarters ended September 30, 2018 and September 30, 2017, respectively, and $3.2 million for each of the nine months ended September 30, 2018 and September 30, 2017., for the Plans, including restricted stock awards. No equity compensation costs were capitalized as part of inventory.

Stock Options

The following table is a summary of outstanding and exercisable options as of September 30, 2018:

In thousands except per share amounts	Shares	Weighted-Average Exercise Price	Aggregate Intrinsic Value
Outstanding at September 30, 2018	398	$ 35.57	$ 4,688
Exercisable at September 30, 2018	188	$ 23.18	$ 3,944
Unvested at September 30, 2018	210	$ 46.64	$ 744

There were no stock options granted and 19,250 stock options exercised during the quarter ended September 30, 2018. There were 11,180 stock options granted and 46,291 stock options exercised during the nine months ended September 30, 2018. The amount of cash received from the exercise of stock options was $0.2 million during the quarter ended September 30, 2018. The amount of cash received from the exercise of stock options was $0.8 million during the nine months ended September 30, 2018. The intrinsic value of stock options exercised was $0.6 million with a tax benefit of $0.1 million during the quarter ended September 30, 2018. The intrinsic value of stock options exercised was $1.3 million with a tax benefit of $0.3 million during the nine months ended September 30, 2018.

There were no stock options granted and 6,170 stock options exercised during the quarter ended September 30, 2017 and no stock options granted and 34,634 stock options exercised during the nine months ended September 30, 2017. The amount of cash received from the exercise of stock options was $0.1 million during the quarter ended September 30, 2017 and $0.4 million during the nine months ended September 30, 2017. The intrinsic value of stock options exercised was $0.2 million with a tax benefit of $0.1

million during the quarter ended September 30, 2017 and the intrinsic value of stock options exercised was $1.4 million with a tax benefit of $0.4 million during the nine months ended September 30, 2017.

At September 30, 2018, the total unrecognized compensation cost related to non-vested stock option awards was approximately $2.6 million, with a weighted average expected amortization period of 2.6 years.

Restricted Stock

Restricted stock includes both performance-based and time-based awards. There were 10,790 time-based restricted stock shares granted during the quarter ended September 30, 2018 and 18,896 time-based restricted stock shares granted during the nine months ended September 30, 2018. There were no performance-based restricted shares granted during the quarter ended September 30, 2018 and 15,190 performance-based restricted shares granted during the nine months ended September 30, 2018. There were no performance-based restricted shares that vested during the quarter ended September 30, 2018 and 48,035 performance-based restricted shares that vested during nine months ended September 30, 2018, in accordance with plan provisions. There were 14,570 time-based restricted shares that vested during the quarter ended September 30, 2018 and 19,734 time-based restricted shares that vested during nine months ended September 30, 2018.

There were no time-based restricted stock shares granted during the quarter and nine month period ended September 30, 2017. There were no performance-based restricted shares granted during the quarter ended September 30, 2017 and 18,100 performance-based restricted shares granted for the nine months ended September 30, 2017. There were no performance-based restricted shares that vested during the quarter ended September 30, 2017 and 108,600 performance-based restricted shares that vested during the nine months ended September 30, 2017 in accordance with plan provisions. There were 6,000 time-based restricted shares that vested during the quarter ended September 30, 2017 and 15,288 time-based restricted shares that vested during the nine months ended September 30, 2017.

At September 30, 2018, there were 179,772 unvested restricted stock awards with total unrecognized compensation cost related to these awards of $4.3 million with a weighted average expected amortization period of 1.9 years. Compensation expense for performance based awards is recorded based on the service period and management’s assessment of the probability of achieving the performance goals.

9. Stock Repurchases

During the nine months ended September 30, 2018, the Company purchased 20,726 shares of common stock valued at $0.9 million, through withholding, pursuant to provisions in agreements with recipients of restricted stock granted under the Company’s equity compensation plans, in which the Company withholds that number of shares having fair value equal to each recipient’s minimum tax withholding due.

10. Restructuring

In April 2017, the Company commenced a restructuring plan in the Technical Nonwovens segment which includes plant consolidations and transfer of equipment to other facilities within the segment's Europe and China operations. The consolidation of certain plants, which is expected to conclude in 2019, is expected to reduce operating costs, increase efficiency and enhance the Company’s flexibility by better aligning its manufacturing footprint with the segment's customer base. Accordingly, the Company expects to record total pre-tax expenses of approximately $5.0 million, in connection with this restructuring plan, of which approximately $4.8 million is expected to result in cash expenditures over the period of consolidation. The Company also expects to incur cash expenditures of approximately

$3.5 million for capital expenditures associated with this plan.

During the quarter ended September 30, 2018, the Company recorded pre-tax restructuring expenses of $0.5 million. Restructuring expenses of $0.4 million, primarily related to equipment move costs, were recorded in cost of sales and $0.1 million of severance costs were recorded in selling, product development and administrative expenses. During the nine months ended September 30, 2018, the Company recorded pre-tax restructuring expenses of $1.9 million as part of this restructuring plan. Restructuring expenses of $1.7 million, primarily related to equipment move costs and severance, were recorded in cost of sales and $0.2 million of severance and engineering costs were recorded in selling, product development and administrative expenses during the nine months ended September 30, 2018. The Company expects to record approximately $0.6 million of restructuring expenses in the fourth quarter of 2018 and $2.5 million for the year ending December 31, 2018.

Actual pre-tax expenses incurred and total estimated pre-tax expenses for the restructuring program by type are as follows:

In thousands	Severance and Related Expenses	Contract Termination Expenses	Facility Exit, Move and Set-up Expenses	Total
Total estimated expenses	$ 1,200	$ 300	$ 3,500	$5,000
Expenses incurred through December 31, 2017	181	154	327	662
Estimated remaining expense at December 31, 2017	$ 1,019	$ 146	$ 3,173	$4,338
Expense incurred during quarter ended:				
March 31, 2018	$ 315	$ —	$ 219	$534
June 30, 2018	185	—	700	885
September 30, 2018	105	—	414	519
Total pre-tax expense incurred	$ 786	$ 154	$ 1,660	$2,600
Estimated remaining expense at September 30, 2018	$ 414	$ 146	$ 1,840	$2,400

There were cash outflows of $0.6 million and $1.4 million for the restructuring program for the quarter and nine months ended September 30, 2018, respectively.

Accrued restructuring costs were as follows at September 30, 2018:

In thousands	Total
Balance as of December 31, 2017	$333
Pre-tax restructuring expenses, excluding depreciation	1,768
Cash paid	(1,407)
Balance as of September 30, 2018	$694

11. Employer Sponsored Benefit Plans

As of September 30, 2018, the Company maintains a defined benefit pension plan that covers certain domestic Lydall employees (“Lydall Pension Plan”) that is closed to new employees and benefits are no longer accruing. The Lydall Pension Plan is noncontributory and benefits are based on either years of service or eligible compensation paid while a participant is in the plan. The Company’s funding policy is to fund not less than the ERISA minimum funding standard and not more than the maximum amount that can be deducted for federal income tax purposes. Contributions of $3.0 million and $7.2 million were made during the quarter and nine months ended September 30, 2018, respectively. No further contributions are expected to the Lydall Pension Plan for the remainder of 2018. Contributions of $1.2 million and $3.6 million were made during the quarter and nine months ended September 30, 2017, respectively.

On August 31, 2018, the Company acquired the Interface business, and as part of this transaction the Company acquired two domestic pension plans ("Interface Pension Plans") and a multi-employer plan. The Interface Pension Plans cover Interface's union and non-union employees, the plans are closed to new employees and benefits are no longer accruing for the majority of participants. Certain union employees of Interface business participate in a multi-employer pension plan. Contributions to this multi-employer plan are required to be made monthly based upon the total monthly hours worked by the covered employees multiplied by the employer contribution rate published by the fund. Total contributions related to the multi-employer plan from the date of acquisition through September 30, 2018 were immaterial. As of the acquisition date, the Company remeasured the fair value of plan liabilities and funded status of the plans. An underfunded liability of $11.2 million was included in benefit plan liabilities within the Company’s Condensed Consolidated Balance Sheets. The Company made no contributions into the Interface Pension Plans for the quarter ended September 30, 2018. The Company expects to make a required contribution of approximately $0.3 million to the Interface Pension Plans during the fourth quarter of 2018.

The Company also acquired Interface's domestic post-retirement benefit plan and recorded a liability of $4.1 million and German pension plans and recorded a liability of $2.9 million included in benefit plan liabilities within the Company’s Condensed Consolidated Balance Sheets. The Interface post-retirement benefits include life insurance and medical benefits for certain domestic employees and these plans are closed to new employees. The Company acquired a German noncontributory plan closed to new employees and also participates in a government program.

As of January 1, 2018 the Company adopted ASU No. 2017-07, "Compensation - Retirement Benefits (Topic 715): Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost". This ASU required the other components of net benefit cost, which includes interest costs, expected return on plan assets, and amortization of actuarial loss be presented in the income statement outside a subtotal of income from operations for the quarter and nine months ended September 30, 2018. The retrospective adoption of this ASU resulted in the reclassification of net benefit costs of $0.1 million from cost of sales and $0.1 million from the selling, product development and administrative expenses to the other expense, net line in the Consolidated Statement of Operations for the quarter ended September 30, 2017. Net benefit costs of $0.2 million from cost of sales and $0.4 million from the selling, product development and administrative expenses were reclassified to the other expense, net line in the Consolidated Statement of Operations for the nine months ended September 30, 2017.

The following is a summary of the components of net periodic benefit cost for the Lydall and acquired Interface Pension Plans:

In thousands	Quarter Ended September 30, 2018	2017	Nine Months Ended September 30, 2018	2017
Components of net periodic benefit cost				
Service Cost	$12	$—	$12	$—
Interest cost	640	514	1,579	1,543
Expected return on assets	(893)	(594)	(2,193)	(1,782)
Amortization of actuarial loss	256	273	768	819
Net periodic benefit cost	$15	$193	$166	$580

12. Income Taxes

On December 22, 2017, the United States enacted significant changes to U.S. tax law following the passage and signing of the Tax Cuts and Jobs Act (the "Tax Reform Act"). The Company has followed guidance in Staff Accounting Bulletin No.118 ("SAB 118"), which provides a measurement period, not to exceed one year from the enactment of the Tax Reform Act, and recorded provisional items related to the one-time mandatory repatriation of foreign earnings and the revaluation of deferred tax assets and liabilities for the year ended December 31, 2017. For the quarter ended September 30, 2018, the Company continued to perform analysis and evaluate interpretations and additional regulatory guidance. As a result of this analysis, the Company recorded an expense to adjust the provisional one-time mandatory repatriation of foreign earnings tax of $0.7 million during the third quarter of 2018. All items related to tax reform remain provisional and no items were deemed complete.

The Company’s effective tax rate was 25.1% and 24.2% for the quarters ended September 30, 2018 and 2017, respectively, and 17.5% and 24% for the nine months ended September 30, 2018 and 2017, respectively. The Company's effective tax rate for the three months ended September 30, 2018 was primarily driven by the reduction of the U.S. corporate tax rate from 35% to 21% under the Tax Reform Act and a tax benefit from a valuation allowance release, partially offset by the adjustment to the provisional one-time mandatory repatriation of foreign earnings tax and non-deductible transaction costs as a result of the Interface Performance Materials acquisition. The Company's effective tax rate for the quarter ended September 30, 2017 was primarily driven by a net tax benefit of $1.4 million from the completion of a tax audit in the third quarter of 2017. The decrease in the Company's effective tax rate for the nine months ended September 30, 2018 compared to September 30, 2017 was primarily related to the reduction of the

U.S. corporate tax rate from 35% to 21% under the Tax Reform Act, offset by the adjustment to the provisional one-time mandatory repatriation of foreign earnings tax of $0.7 million, lower tax benefits from stock vesting and the absence a net tax benefit of $1.4 million from the completion of a tax audit in the third quarter of 2017.

The Company and its subsidiaries file a consolidated federal income tax return, as well as returns required by various state and foreign jurisdictions. In the normal course of business, the Company is subject to examination by taxing authorities, including such major jurisdictions as the United States, France, Germany, China, the United Kingdom, Canada and the Netherlands. With few exceptions, the Company is no longer subject to U.S. federal examinations for years before 2015, state and local examinations for years before 2013, and non-U.S. income tax examinations for years before 2003.

The Company’s effective tax rates in future periods could be affected by an increase or decrease in earnings in countries where tax rates differ from the United States federal tax rate, the relative impact of permanent tax adjustments on earnings from domestic operations, changes in net deferred tax asset valuation allowances, stock vesting, the completion of acquisitions or divestitures, changes in tax rates or tax laws and the completion of tax projects and audits.

13. Earnings Per Share

For the quarters and nine months ended September 30, 2018 and 2017, basic earnings per share were computed by dividing net income by the weighted average number of shares of common stock outstanding during the period. Unexercised stock options and unvested restricted shares are excluded from this calculation but are included in the diluted earnings per share calculation using the treasury stock method as long as their effect is not antidilutive.

The following table provides a reconciliation of weighted-average shares used to determine basic and diluted earnings per share:

	Quarter Ended September 30,		Nine Months Ended September 30,	
In thousands	2018	2017	2018	2017
Basic average common shares outstanding	17,216	17,055	17,189	17,028
Effect of dilutive options and restricted stock awards	133	212	150	242
Diluted average common shares outstanding	17,349	17,267	17,339	17,270

For each of the quarters ended September 30, 2018 and 2017, stock options for 162,830 shares and 38,280 shares of Common Stock were not considered in computing diluted earnings per common share because they were antidilutive.

For each of the nine months ended September 30, 2018 and 2017, stock options for 150,005 shares and 38,280 shares of Common Stock were not considered in computing diluted earnings per common share because they were antidilutive.

14. Segment Information

As of September 30, 2018, the Company’s reportable segments are Performance Materials, Technical Nonwovens, and Thermal Acoustical Solutions.

On July 12, 2018, the Company acquired certain assets and assumed certain liabilities the Precision Filtration division of Precision Custom Coatings ("PCC") based in Totowa, NJ. Precision Filtration is a producer of high-quality, air filtration media principally serving the commercial and residential HVAC markets with products in the efficiency range of MERV 7-11. The acquired business is included in the Company’s Performance Materials operating segment.

On August 31, 2018, the Company acquired an engineered sealing materials business operating under Interface Performance Materials ("Interface"), based in Lancaster, Pennsylvania. A globally-recognized leader in the delivery of engineered sealing solutions, the Interface operations manufacture wet-laid gasket and specialty materials primarily serving OEM and Tier I manufacturers in the agriculture, construction, earthmoving, industrial, and automotive segments. The acquired business is included in the Company's Performance Materials operating segment.

Effective September 30, 2018, as a result of the Interface acquisition, the Performance Materials segment changed the disaggregation of revenue at the product level to be categorized as "Filtration" and "Sealing and Advanced Solutions".

Effective January 1, 2018, the Thermal/Acoustical Metals and Thermal/Acoustical Fibers operating segments were combined into a single operating segment named Thermal Acoustical Solutions. These automotive segments were combined into one segment to allow the Company to better serve its customers, leverage operating disciplines and drive efficiencies across the global automotive operations.

Prior period segment amounts throughout the Notes to the Condensed Consolidated Financial Statements have been recast to reflect the results of the new segment structure. The recast of historical business segment information had no impact on the consolidated financial results.

Performance Materials Segment

The Performance Materials segment includes filtration media solutions primarily for air, fluid power, life science and industrial applications ("Filtration"), and gasket and sealing solutions, thermal insulation, energy storage, and other engineered products ("Sealing and Advanced Solutions").

Filtration products include LydAir® MG (Micro-Glass) Air Filtration Media, LydAir® MB (Melt Blown) Air Filtration Media, LydAir® SC (Synthetic Composite) Air Filtration Media, and Arioso® Membrane Composite Media. These products constitute the critical media component of clean-air systems for applications in clean-space, commercial, industrial and residential HVAC, power generation, respiratory protection, and industrial processes. Lydall has leveraged its extensive technical expertise and applications knowledge into a suite of media products covering the vast liquid filtration landscape across the engine and industrial fields. The LyPore® Liquid Filtration Media series address a variety of application needs in fluid power including hydraulic filters, air-water and air-oil coalescing, industrial fluid processes and diesel fuel filtration. LyPore® media and Solupor® ultra-high molecular weight polyethylene membranes also serve critical liquid filtration/separation applications such as biopharmaceutical pre-filtration and clarification, lateral flow diagnostic and analytical testing, potable water filtration and high purity process filtration such as those found in food and beverage and medical applications.

Sealing and Advanced Solutions includes nonwoven specialty engineered materials for a myriad of applications. Fiber-reinforced gasket materials serve the heavy-duty diesel, automobile, small engine, transmission and compressor markets, providing sealing solutions for demanding applications, including Select-a-Seal® rubber edged composite (REC) technology that provides robust sealing, compression, adhesion, and shear strength for driveline applications. High performance insulating materials include nonwoven veils, papers and specialty composites for the building products, appliance, energy and industrial markets including Manniglas® Thermal Insulation Papers, and Lytherm® Insulation Media for high temperature technology applications. Lydall’s Cryotherm® Super-Insulating Media, CRS-Wrap® Super-Insulating Media and Cryo-Lite® Cryogenic Insulation products are industry standards for state-of-the-art cryogenic insulation designs used by manufacturers of cryogenic equipment for liquid gas storage, piping, and transportation. Additional Specialty Composite Materials include calendar bowl products to service the printing and textile industries and press pad materials for industrial lamination processes.

Technical Nonwovens Segment

The Technical Nonwovens segment primarily produces needle punch nonwoven solutions for a myriad of industries and applications. Products are manufactured and sold globally under the leading brands of Lydall Industrial Filtration, Southern Felt, Gutsche, and Texel. Industrial Filtration products include nonwoven rolled-good felt media and filter bags used primarily in industrial air and liquid filtration applications. Nonwoven filter media is the most effective solution to satisfy increasing emission control regulations in a wide range of industries, including power, cement, steel, asphalt, incineration, mining, food, and pharmaceutical. Advanced Materials products include nonwoven rolled-good media used in commercial applications and predominantly serves the geosynthetics, automotive, industrial, medical, and safety apparel markets. Automotive media is provided to Tier I/II suppliers as well as the Company's Thermal Acoustical Solutions segment.

Technical Nonwovens segment products include air and liquid filtration media sold under the brand names Fiberlox® high performance filtration felts, Checkstatic™ conductive filtration felts, Microfelt® high efficiency filtration felts, Pleatlox® pleatable filtration felts, Ultratech™ PTFE filtration felts, Powertech® and Powerlox® power generation filtration felts, Microcap® high efficiency liquid filtration felts, Duotech membrane composite filtration felts, along with our porotex® family of high temperature filtration felts including microvel® and optivel® products. Technical Nonwovens Advanced Materials products are sold under the brand names Thermofit® thermo-formable products, Ecoduo® recycled content materials, Duotex® floor protection products, and Versaflex® composite molding materials. Technical Nonwovens also offers extensive finishing and coating capabilities which provide custom engineered properties tailored to meet the most demanding applications. The business leverages a wide range of fiber types and extensive technical capabilities to provide products that meet our customers’ needs across a variety of applications providing both high performance and durability.

Thermal Acoustical Solutions Segment

The Thermal Acoustical Solutions segment offers a full range of innovative engineered products tailored for the transportation and industrial sectors to thermally shield sensitive components from high heat, improve exhaust gas treatment and lower harmful emissions as well as assist in the reduction of noise, vibration and harshness (NVH). Within the transportation sector, Lydall’s products are found in the interior (dash insulators, cabin flooring), underbody (wheel well, aerodynamic belly pan, fuel tank, exhaust, tunnel, spare tire) and under hood (engine compartment, outer dash, powertrain, catalytic converter, turbo charger, manifolds) of cars, trucks, SUVs, heavy duty trucks and recreational vehicles.

Thermal Acoustical Solutions segment products offer thermal and acoustical insulating solutions comprised of organic and inorganic fiber composites that provide weight reduction, superior noise suppression and increased durability over conventional designs, as well as products that efficiently combine multiple layers of metal and thermal - acoustical insulation media to provide an engineered shielding solution for an array of application areas. Lydall’s dBCore® is a lightweight acoustical composite that emphasizes absorption principles over heavy-mass type systems. Lydall’s dBLyte® is a high-performance acoustical barrier with sound absorption and blocking properties and can be used throughout a vehicle’s interior to minimize intrusive noise from an engine compartment and road. Lydall’s ZeroClearance® is an innovative thermal solution that utilizes an adhesive backing for attachment and is used to protect vehicle components from excessive heat. Lydall’s flux® product family includes several patented or IP-rich products that address applications which include: Direct Exhaust Mount heat shields, which are assembled to high temperature components like catalytic converters, turbochargers or exhaust manifolds using aluminized and stainless steel and high performance and high temperature heat insulating materials; Powertrain heat shields that absorb noise at the source and do not contribute to the engine's noise budget; and durable, thermally robust solutions for temperature sensitive plastic components such as fuel tanks that are in proximity to high temperature heat sources.

The tables below present net sales and operating income by segment for the quarters and nine months ended September 30, 2018 and 2017, and also a reconciliation of total segment net sales and operating income to total consolidated net sales and operating income.

Consolidated net sales by segment:

	Quarter Ended September 30,		Nine Months Ended September 30,	
In thousands	2018	2017	2018	2017
Performance Materials Segment (1):				
Filtration	$22,643	$22,263	$68,846	$65,483
Sealing and Advanced Solutions	19,077	7,284	34,801	22,116
Performance Materials Segment net sales	41,720	29,547	103,647	87,599
Technical Nonwovens Segment:				
Industrial Filtration	40,945	38,346	120,346	108,884
Advanced Materials (2)	32,126	34,960	91,978	90,438
Technical Nonwovens net sales	73,071	73,306	212,324	199,322
Thermal Acoustical Solutions Segment:				
Parts	77,723	75,195	248,764	237,657
Tooling	10,488	9,181	31,053	17,505
Thermal Acoustical Solutions Segment net sales	88,211	84,376	279,817	255,162
Eliminations and Other (2)	(5,116)	(7,188)	(19,829)	(21,676)
Consolidated Net Sales	$197,886	$180,041	$575,959	$520,407

Operating income by segment:

	Quarter Ended September 30,		Nine Months Ended September 30,	
In thousands	2018	2017 (3)	2018	2017 (3)
Performance Materials (1)	$1,753	$3,133	$8,043	$8,725
Technical Nonwovens	6,271	8,589	17,395	19,792
Thermal Acoustical Solutions	7,923	10,607	29,357	40,798
Corporate Office Expenses	(6,214)	(6,975)	(18,777)	(18,775)
Consolidated Operating Income	$9,733	$15,354	$36,018	$50,540

(1) The Performance Materials segment reports the results of Interface and PCC for the period following the date of acquisitions of August 31, 2018 and July 12, 2018, respectively.

(2) Included in the Technical Nonwovens segment and Eliminations and Other is $4.3 million and $6.5 million in intercompany sales to the Thermal Acoustical Solutions segment for the quarters ended September 30, 2018 and 2017, respectively, and $17.2 million and $19.5 million for the nine months ended September 30, 2018 and 2017, respectively.

(3) The quarter and nine months ended September 30, 2017 segment operating income amounts of $0.2 million and $0.6 million, respectively, have been reclassified to other expense (income), net, to give effect to the adoption of

ASU No. 2017-07, "Compensation - Retirement Benefits (Topic 715): Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost".

15. Commitments and Contingencies

Environmental Remediation

The Company elected to remediate environmental contamination discovered prior to the closing of the Texel acquisition in 2016 at a certain property in the province of Quebec, Canada (“the Property”) that was acquired by Lydall. The Company records accruals for environmental costs when such losses are probable and reasonably estimable. In 2016, the Company, through the engagement of a third-party environmental service firm, determined the final scope and timing of the remediation project and estimated the cost of the remediation project to range between $0.9 million and $1.5 million, which was further refined in July of 2017 to the top end of this range at $1.5 million and remains as the Company's best estimate as of September 30, 2018. During 2017, the environmental liability was reduced by $0.7 million, reflecting payments made to vendors, resulting in a balance of $0.8 million at December 31, 2017. During the nine months ended September 30, 2018, the environmental liability was further reduced by $0.6 million, reflecting payments to vendors. The remaining balance for the environmental liability of $0.2 million (which remains fully offset as described below) is included within other long-term liabilities on the Company's balance sheet at September 30, 2018.

Pursuant to the Share Purchase Agreement, ADS, Inc. ("ADS") has agreed to indemnify the Company from all costs and liabilities associated with the contamination and remediation work, including the costs of preparation and approval of the remediation plan and other reports in relation therewith. This indemnity was secured by an environmental escrow account, which was established in the amount of $3.0 million Canadian Dollars (approximately $2.3 million U.S. Dollars as of September 30, 2018). As of September 30, 2018, for any costs and liabilities that exceeded the environmental escrow amount, the Company had access to the general indemnity escrow account, which was originally established in the amount of $14.0 million Canadian Dollars (approximately $10.8 million U.S. Dollars as of September 30, 2018). Based on the Share Purchase Agreement, the general indemnity escrow account was initially reduced to approximately $7.0 million Canadian Dollars (approximately $5.4 million U.S. Dollars as of September 30, 2018) on the first anniversary date of the closing date and then liquidated, in full on or about the second anniversary date of the closing date (i.e., July 9, 2018). Based on the foregoing, an indemnification asset of $0.9 million was also recorded in other assets at December 31, 2016, and subsequently increased to $1.5 million in July of 2017, as the Company believed, and still believes collection from ADS is probable. The indemnification asset was decreased by $0.7 million, reflecting indemnification from ADS for payments made by the Company to its vendors during 2017. During the nine months ended September 30, 2018, the indemnification asset was further reduced by $0.6 million, reflecting indemnification from ADS for payments made by the Company to its vendors The resulting indemnification asset balance was $0.2 million at September 30, 2018. The accrual for remediation costs will be adjusted as further information develops, estimates change and payments to vendors are made for remediation, with an off-setting adjustment to the indemnification asset from ADS if collection is deemed probable.

In the fourth quarter of 2016, as part of a groundwater discharging permitting process, water samples collected from wells and process water basins at the Company’s Rochester New Hampshire manufacturing facility, within the Performance Materials segment, showed concentrations of Perfluorinated Compounds (“PFCs”) in excess of state ambient groundwater quality standards.
In January 2017, the Company received a notification from the State of New Hampshire Department of Environmental Services (“NHDES”) naming Lydall Performance Materials, Inc. a responsible party with respect to the discharge of regulated contaminants and, as such, is required to take action to investigate and remediate the impacts in accordance with standards established by the NHDES. The Company conducted a site investigation, the scope of which was reviewed by the NHDES, in order to assess the extent of potential soil and groundwater contamination and develop a remedial action. Based on input received from NHDES in March 2017 with regard to the scope of the site investigation, the Company recorded $0.2 million of expense in the first quarter of 2017 associated with the expected costs of conducting this site investigation.

In the fourth quarter of 2017, the Company completed its state-approved site investigation report and submitted it to the NHDES. During the year ended December 31, 2017, the environmental liability of $0.2 million was reduced by $0.2 million reflecting payments made to vendors, resulting in no balance at December 31, 2017.

In the first quarter of 2018, the Company received a response from the NHDES to the site investigation report outlining proposed remedial actions. The Company recorded $0.1 million of expense in the first quarter of 2018 associated with the expected costs to remediate the impacts of the discharge of regulated contaminants in accordance with standards established by the NHDES.

In May of 2018, the Company met with the NHDES to finalize the proposed remedial actions from the site investigation report. The Company recorded a minimal incremental amount in the second quarter of 2018 associated with the cost of the proposed remedial actions resulting in an environmental liability of $0.1 million at June 30, 2018. During the quarter ended September 30, 2018, the environmental liability was reduced by $0.1 million reflecting payments made to vendors, resulting in no balance at September 30, 2018. Additionally, the Company incurred $0.2 million of capital expenditures in 2018, in relation to the lining of the Company's fresh water waste lagoons.

The site investigation is ongoing. The Company cannot be sure that costs will not exceed the current estimates until this matter is closed with the NHDES, nor that any future corrective action at this location would not have a material effect on the Company’s financial condition, results of operations or liquidity. Provisions for such matters are charged to expense when it is probable that a liability has been incurred and reasonable estimates of the liability can be made. Estimates of environmental liabilities are based on a variety of matters, including, but not limited to, the stage of investigation, the stage of the remedial design, evaluation of existing remediation technologies, and presently enacted laws and regulations. In future periods, a number of factors could significantly impact any estimates of environmental remediation costs.

16. Changes in Accumulated Other Comprehensive Income (Loss)

The following table discloses the changes by classification within accumulated other comprehensive income (loss) for the nine months ended September 30, 2018 and 2017:

In thousands	Foreign Currency Translation Adjustment	Defined Benefit Pension Adjustment	Gains and Losses on Cash Flow Hedges	Total Accumulated Other Comprehensive (Loss) Income
Balance at December 31, 2016	$ (27,885)	$ (20,065)	$ —	$ (47,950)
Other comprehensive income (loss)	23,951	—	(7) (b)	23,944
Amounts reclassified from accumulated other comprehensive loss	—			