

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

FORM 10-Q

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

For the quarterly period ended September 29, 2019

or

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

Commission File Number 001-11430

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MINERALS TECHNOLOGIES INC.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

25-1190717

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

622 Third Avenue, New York, New York 10017-6707
(Address of principal executive offices, including zip code)

(212) 878-1800

(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbol	Name of exchange on which registered
Common Stock, \$0.10 par value	MTX	New York Stock Exchange LLC

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15 (d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports) and (2) has been subject to such filing requirements for the past 90 days.

Yes NO

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).

Yes NO

Indicate by check mark 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
Non-accelerated Filer (Do not check if a smaller reporting company)
Emerging Growth Company

Accelerated Filer
Smaller Reporting 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

As of October 23, 2019, there were 34,854,994 shares of common stock, par value of \$0.10 per share, of the registrant outstanding.

MINERALS TECHNOLOGIES INC.
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PART 1. FINANCIAL INFORMATION

ITEM 1. Financial Statements

MINERALS TECHNOLOGIES INC. AND SUBSIDIARY COMPANIES
CONDENSED CONSOLIDATED STATEMENTS OF INCOME
(Unaudited)

(millions of dollars, except per share data)	Three Months Ended		Nine Months Ended	
	Sep. 29, 2019	Sep. 30, 2018	Sep. 29, 2019	Sep. 30, 2018
Product sales	\$ 423.8	\$ 444.9	\$ 1,279.2	\$ 1,302.1
Service revenue	25.5	19.2	71.6	58.0
Total net sales	449.3	464.1	1,350.8	1,360.1
Cost of goods sold	320.5	332.1	968.5	972.4
Cost of service revenue	17.6	12.8	49.4	39.1
Total cost of sales	338.1	344.9	1,017.9	1,011.5
Production margin	111.2	119.2	332.9	348.6
Marketing and administrative expenses	46.9	45.4	138.2	135.1
Research and development expenses	5.2	5.0	14.9	17.5
Acquisition related transaction and integration costs	—	0.3	—	1.7
Litigation expenses	5.6	—	5.6	—
Restructuring and other items, net	—	0.3	13.2	0.7
Income from operations	53.5	68.2	161.0	193.6
Interest expense, net	(11.0)	(11.7)	(33.3)	(33.9)
Non-cash pension settlement charge	—	(3.6)	—	(3.6)
Other non-operating income (deductions), net	(1.6)	(0.9)	(5.4)	(0.5)
Total non-operating deductions, net	(12.6)	(16.2)	(38.7)	(38.0)
Income from operations before tax and equity in earnings	40.9	52.0	122.3	155.6
Provision for taxes on income	2.6	9.7	17.0	29.3
Equity in earnings of affiliates, net of tax	0.8	0.6	1.4	2.9
Consolidated net income	39.1	42.9	106.7	129.2
Less:				
Net income attributable to non-controlling interests	1.1	1.0	3.0	3.3
Net income attributable to Minerals Technologies Inc.	\$ 38.0	\$ 41.9	\$ 103.7	\$ 125.9
Earnings per share:				
Basic:				
Income from operations attributable to Minerals Technologies Inc.	\$ 1.09	\$ 1.19	\$ 2.95	\$ 3.57
Diluted:				
Income from operations attributable to Minerals Technologies Inc.	\$ 1.08	\$ 1.18	\$ 2.95	\$ 3.54
Cash dividends declared per common share	\$ 0.05	\$ 0.05	\$ 0.15	\$ 0.15
Shares used in computation of earnings per share:				
Basic	35.0	35.3	35.1	35.3
Diluted	35.1	35.6	35.2	35.6

See accompanying Notes to Condensed Consolidated Financial Statements.

MINERALS TECHNOLOGIES INC. AND SUBSIDIARY COMPANIES
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(Unaudited)

(millions of dollars)	Three Months Ended		Nine Months Ended	
	Sep. 29, 2019	Sep. 30, 2018	Sep. 29, 2019	Sep. 30, 2018
Consolidated net income	\$ 39.1	\$ 42.9	\$ 106.7	\$ 129.2
Other comprehensive income (loss), net of tax:				
Foreign currency translation adjustments	(23.1)	(23.1)	(42.2)	(62.4)
Pension and postretirement plan adjustments	1.6	4.6	4.9	8.4
Unrealized gains (losses) on derivative instruments	4.5	(0.4)	2.5	(0.1)
Total other comprehensive loss, net of tax	(17.0)	(18.9)	(34.8)	(54.1)
Total comprehensive income including non-controlling interests	22.1	24.0	71.9	75.1
Comprehensive income attributable to non-controlling interests	(0.3)	(0.6)	(2.6)	(1.8)
Comprehensive income attributable to Minerals Technologies Inc.	\$ 21.8	\$ 23.4	\$ 69.3	\$ 73.3

See accompanying Notes to Condensed Consolidated Financial Statements.

MINERALS TECHNOLOGIES INC. AND SUBSIDIARY COMPANIES
CONDENSED CONSOLIDATED BALANCE SHEETS

(millions of dollars)		<u>Sep. 29, 2019*</u>	<u>Dec. 31, 2018 **</u>
	ASSETS		
Current assets:			
	Cash and cash equivalents	\$ 213.0	\$ 208.8
	Short-term investments	1.5	3.8
	Accounts receivable, net	403.8	387.3
	Inventories	256.9	239.2
	Prepaid expenses and other current assets	44.9	37.2
	Total current assets	<u>920.1</u>	<u>876.3</u>
	Property, plant and equipment	2,241.7	2,256.0
	Less accumulated depreciation and depletion	<u>(1,182.8)</u>	<u>(1,153.1)</u>
	Property, plant and equipment, net	1,058.9	1,102.9
	Goodwill	806.8	812.4
	Intangible assets	204.8	214.1
	Deferred income taxes	23.3	26.3
	Other assets and deferred charges	112.0	55.1
	Total assets	<u>\$ 3,125.9</u>	<u>\$ 3,087.1</u>
LIABILITIES AND SHAREHOLDERS' EQUITY			
Current liabilities:			
	Short-term debt	\$ 103.0	\$ 105.2
	Current maturities of long-term debt	1.8	3.3
	Accounts payable	176.0	169.1
	Other current liabilities	129.1	104.3
	Total current liabilities	<u>409.9</u>	<u>381.9</u>
	Long-term debt, net of unamortized discount and deferred financing costs	844.7	907.8
	Deferred income taxes	194.3	196.8
	Accrued pension and post-retirement benefits	120.2	124.2
	Other non-current liabilities	123.2	91.1
	Total liabilities	<u>1,692.3</u>	<u>1,701.8</u>
Shareholders' equity:			
	Common stock	4.9	4.9
	Additional paid-in capital	438.1	431.9
	Retained earnings	1,878.4	1,769.1
	Accumulated other comprehensive loss	(279.0)	(233.7)
	Less common stock held in treasury	<u>(639.7)</u>	<u>(618.7)</u>
	Total Minerals Technologies Inc. shareholders' equity	1,402.7	1,353.5
	Non-controlling interests	<u>30.9</u>	<u>31.8</u>
	Total shareholders' equity	<u>1,433.6</u>	<u>1,385.3</u>
	Total liabilities and shareholders' equity	<u>\$ 3,125.9</u>	<u>\$ 3,087.1</u>

* Unaudited

** Condensed from audited financial statements

See accompanying Notes to Condensed Consolidated Financial Statements.

MINERALS TECHNOLOGIES INC. AND SUBSIDIARY COMPANIES
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited)

(millions of dollars)	Nine Months Ended	
	Sep. 29, 2019	Sep. 30, 2018
Operating Activities:		
Consolidated net income	\$ 106.7	\$ 129.2
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation, depletion and amortization	73.6	71.0
Non-cash pension settlement charge	—	3.6
Reduction of right of use asset	9.6	—
Asset write-down charges	7.5	—
Other non-cash items	0.1	—
Pension plan funding	(5.6)	(18.6)
Net changes in operating assets and liabilities	(33.4)	(51.8)
Net cash provided by operating activities	158.5	133.4
Investing Activities:		
Purchases of property, plant and equipment, net	(51.8)	(56.4)
Acquisition of business, net of cash acquired	—	(122.5)
Proceeds from sale of assets	—	0.4
Proceeds from sale of short-term investments	7.7	3.3
Purchases of short-term investments	(5.5)	(5.6)
Other investing activities	(0.8)	(0.1)
Net cash used in investing activities	(50.4)	(180.9)
Financing Activities:		
Debt issuance costs	—	(1.4)
Repayment of long-term debt	(67.1)	(27.4)
Proceeds from issuance of short-term debt	—	113.0
Repayment of short-term debt	(2.2)	(11.0)
Purchase of common stock for treasury	(21.0)	(16.4)
Proceeds from issuance of stock under option plan	0.7	2.2
Excess tax benefits related to stock incentive programs	(1.7)	(3.1)
Dividends paid to non-controlling interests	(4.1)	(1.6)
Capital contribution from non-controlling interests	0.6	3.7
Cash dividends paid	(5.3)	(5.3)
Net cash (used in) provided by financing activities	(100.1)	52.7
Effect of exchange rate changes on cash and cash equivalents	(3.8)	(10.5)
Net increase (decrease) in cash and cash equivalents	4.2	(5.3)
Cash and cash equivalents at beginning of period	208.8	212.2
Cash and cash equivalents at end of period	\$ 213.0	\$ 206.9
Supplemental disclosure of cash flow information:		
Interest paid	\$ 32.8	\$ 34.6
Income taxes paid	\$ 19.9	\$ 28.9
Non-cash financing activities:		
Treasury stock purchases settled after period end	\$ 0.2	\$ 0.3

See accompanying Notes to Condensed Consolidated Financial Statements.

MINERALS TECHNOLOGIES INC. AND SUBSIDIARY COMPANIES
CONDENSED CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY
(Unaudited)

(millions of dollars)	Equity Attributable to Minerals Technologies Inc.						Non-controlling Interests	Total
	Common Stock	Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Treasury Stock			
<i>Balance as of December 31, 2018</i>	\$ 4.9	\$ 431.9	\$ 1,769.1	\$ (233.7)	\$ (618.7)	\$ 31.8	\$ 1,385.3	
Net income	—	—	39.1	—	—	0.9	40.0	
Other comprehensive income	—	—	—	1.9	—	0.5	2.4	
Dividends declared	—	—	(1.7)	—	—	—	(1.7)	
Dividends paid to non-controlling interests	—	—	—	—	—	(0.1)	(0.1)	
Cumulative effect of accounting change	—	—	10.9	(10.9)	—	—	—	
Capital contribution from non-controlling interests	—	—	—	—	—	0.8	0.8	
Issuance of shares pursuant to employee stock compensation plans	—	0.1	—	—	—	—	0.1	
Stock-based compensation	—	0.6	—	—	—	—	0.6	
<i>Balance as of March 31, 2019</i>	\$ 4.9	\$ 432.6	\$ 1,817.4	\$ (242.7)	\$ (618.7)	\$ 33.9	\$ 1,427.4	
Net income	—	—	26.6	—	—	1.0	27.6	
Other comprehensive income	—	—	—	(20.1)	—	(0.2)	(20.3)	
Dividends declared	—	—	(1.8)	—	—	—	(1.8)	
Dividends paid to non-controlling interests	—	—	—	—	—	(3.8)	(3.8)	
Capital contribution from non-controlling interests	—	—	—	—	—	(0.2)	(0.2)	
Issuance of shares pursuant to employee stock compensation plans	—	0.2	—	—	—	—	0.2	
Stock-based compensation	—	2.5	—	—	—	—	2.5	
Purchase of common stock for treasury	—	—	—	—	(10.0)	—	(10.0)	
<i>Balance as of June 30, 2019</i>	\$ 4.9	\$ 435.3	\$ 1,842.2	\$ (262.8)	\$ (628.7)	\$ 30.7	\$ 1,421.6	
Net income	—	—	38.0	—	—	1.1	39.1	
Other comprehensive income	—	—	—	(16.2)	—	(0.8)	(17.0)	
Dividends declared	—	—	(1.8)	—	—	—	(1.8)	
Dividends paid to non-controlling interests	—	—	—	—	—	(0.1)	(0.1)	
Capital contribution from non-controlling interests	—	—	—	—	—	—	—	
Issuance of shares pursuant to employee stock compensation plans	—	0.3	—	—	—	—	0.3	
Stock-based compensation	—	2.5	—	—	—	—	2.5	
Purchase of common stock for treasury	—	—	—	—	(11.0)	—	(11.0)	
<i>Balance as of September 29, 2019</i>	\$ 4.9	\$ 438.1	\$ 1,878.4	\$ (279.0)	\$ (639.7)	\$ 30.9	\$ 1,433.6	

MINERALS TECHNOLOGIES INC. AND SUBSIDIARY COMPANIES
CONDENSED CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY
(Unaudited)

(millions of dollars)	Equity Attributable to Minerals Technologies Inc.						Total
	Common Stock	Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Treasury Stock	Non- controlling Interests	
<i>Balance as of December 31, 2017</i>	\$ 4.9	\$ 422.7	\$ 1,607.2	\$ (186.1)	\$ (597.0)	\$ 27.4	\$ 1,279.1
Net income	—	—	39.9	—	—	1.2	41.1
Other comprehensive income (loss)	—	—	—	18.2	—	0.5	18.7
Dividends declared	—	—	(1.8)	—	—	—	(1.8)
Dividends paid to non-controlling interests	—	—	—	—	—	(0.1)	(0.1)
Issuance of shares pursuant to employee stock compensation plans	—	0.5	—	—	—	—	0.5
Purchase of common stock for treasury	—	—	—	—	(5.7)	—	(5.7)
<i>Balance as of April 1, 2018</i>	\$ 4.9	\$ 423.2	\$ 1,645.3	\$ (167.9)	\$ (602.7)	\$ 29.0	\$ 1,331.8
Net income	—	—	44.1	—	—	1.1	45.2
Other comprehensive income (loss)	—	—	—	(52.3)	—	(1.6)	(53.9)
Dividends declared	—	—	(1.7)	—	—	—	(1.7)
Dividends paid to non-controlling interests	—	—	—	—	—	—	—
Issuance of shares pursuant to employee stock compensation plans	—	1.4	—	—	—	—	1.4
Stock based compensation	—	2.3	—	—	—	—	2.3
Purchase of common stock for treasury	—	—	—	—	(7.7)	—	(7.7)
<i>Balance as of July 1, 2018</i>	\$ 4.9	\$ 426.9	\$ 1,687.7	\$ (220.2)	\$ (610.4)	\$ 28.5	\$ 1,317.4
Net income	—	—	41.9	—	—	1.0	42.9
Other comprehensive income (loss)	—	—	—	(18.6)	—	(0.3)	(18.9)
Dividends declared	—	—	(1.7)	—	—	—	(1.7)
Dividends paid to non-controlling interests	—	—	—	—	—	(1.5)	(1.5)
Issuance of shares pursuant to employee stock compensation plans	—	0.3	—	—	—	—	0.3
Stock based compensation	—	2.4	—	—	—	—	2.4
Purchase of common stock for treasury	—	—	—	—	(3.0)	—	(3.0)
<i>Balance as of September 30, 2018</i>	\$ 4.9	\$ 429.6	\$ 1,727.9	\$ (238.8)	\$ (613.4)	\$ 31.4	\$ 1,341.6

See Notes to Consolidated Financial Statements, which are an integral part of these statements.

MINERALS TECHNOLOGIES INC. AND SUBSIDIARY COMPANIES
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

Note 1. Basis of Presentation and Summary of Significant Accounting Policies

The accompanying unaudited condensed consolidated financial statements have been prepared by management of Minerals Technologies Inc. (the “Company”, “MTI”, “we”, or “us”) in accordance with the rules and regulations of the United States Securities and Exchange Commission. Accordingly, certain information and footnote disclosures normally included in financial statements prepared in accordance with U.S. generally accepted accounting principles have been condensed or omitted. Therefore, these financial statements should be read in conjunction with the consolidated financial statements and notes thereto contained in the Company’s Annual Report on Form 10-K for the year ended December 31, 2018. In the opinion of management, all adjustments, consisting solely of normal recurring adjustments necessary for a fair presentation of the financial information for the periods indicated, have been included. The results for the three-month and nine-month periods ended September 29, 2019 are not necessarily indicative of the results that may be expected for the year ending December 31, 2019.

Company Operations

The Company is a resource- and technology-based company that develops, produces and markets worldwide a broad range of specialty mineral, mineral-based and synthetic mineral products and supporting systems and services.

The Company has four reportable segments: Performance Materials, Specialty Minerals, Refractories and Energy Services.

- The Performance Materials segment is a leading global supplier of bentonite and bentonite-related products, chromite and leonardite. This segment also provides products for non-residential construction, environmental and infrastructure projects worldwide, serving customers engaged in a broad range of construction projects.
- The Specialty Minerals segment produces and sells the synthetic mineral product precipitated calcium carbonate (“PCC”) and processed mineral product quicklime (“lime”), and mines mineral ores then processes and sells natural mineral products, primarily limestone and talc.
- The Refractories segment produces and markets monolithic and shaped refractory materials and specialty products, services and application and measurement equipment, and calcium metal and metallurgical wire products.
- The Energy Services segment provides services to improve the production, costs, compliance, and environmental impact of activities performed in the oil and gas industry. This segment offers a range of patented and unpatented technologies, products and services to the upstream and downstream oil and gas sector throughout the world.

Use of Estimates

The Company employs accounting policies that are in accordance with U.S. generally accepted accounting principles and require management to make estimates and assumptions relating to the reporting of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenue and expenses during the reported period. Significant estimates include those related to revenue recognition, valuation of long-lived assets, goodwill and other intangible assets, income taxes, including valuation allowances, and pension plan assumptions. Actual results could differ from those estimates.

Recently Issued Accounting Standards

Changes to accounting principles generally accepted in the United States of America (U.S. GAAP) are established by the Financial Accounting Standards Board (FASB) in the form of accounting standards updates (ASUs) to the FASB’s Accounting Standards Codification. The Company considers the applicability and impact of all ASUs. All recently issued ASUs were assessed and determined to be either not applicable or are expected to have minimal impact on our consolidated financial position and results of operations.

MINERALS TECHNOLOGIES INC. AND SUBSIDIARY COMPANIES
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

Recently Adopted Accounting Standards

On January 1, 2019, the Company adopted the provisions of ASU 2016-02, "Leases", which requires lessees to recognize most leases on-balance sheet. The Company has adopted this new standard under the modified retrospective transition method, using the effective date as our date of initial application. As such, financial information and required disclosures will not be provided for dates prior to January 1, 2019. The new standard provides a number of optional practical expedients in transition. We have elected the 'package of practical expedients', which permits us not to reassess under the new standard our prior conclusions about lease identification, lease classification and initial direct costs. The new standard also provides practical expedients for an entity's ongoing accounting. We have elected the short-term lease recognition exemption for all leases that qualify. On adoption, we recognized additional operating liabilities of \$61.4 million with corresponding right-of-use assets of \$50.5 million based on the present value of the remaining lease payments under existing operating leases. As of December 31, 2018, we had \$10.9 million in deferred charges related to some of our real estate leases that were recorded against the right of use asset as part of the transition. The adoption of this standard did not have a material impact on the Company's financial statements.

On January 1, 2019, the Company adopted the provisions of ASU 2018-02, "Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income", which allows a reclassification from accumulated other comprehensive income to retained earnings for stranded tax effects resulting from the U.S. Tax Cuts and Jobs Act. As a result, the Company reclassified \$10.9 million from "Accumulated other comprehensive loss" to "Retained earnings" on the Condensed Consolidated Balance Sheets as of September 29, 2019.

Note 2. Leases

We determine if an arrangement is a lease at inception. The Company has operating leases for premises, equipment, rail cars and automobiles. Our leases have remaining lease terms of 1 year to 50 years, some of which may include options to extend the leases further. The Company considers these options in determining the lease term used to establish the right-of-use assets and lease liabilities. As most of our leases do not provide an implicit rate, we use our incremental borrowing rate based upon the information available at commencement date, or as of implementation of ASC 842, in determining the present value of lease payments.

Leases with an initial term of 12 months or less are not recorded on the balance sheet. We recognize lease expense for these leases on a straight-line basis over the lease term. Certain lease agreements contain both lease and non-lease components. We account for lease components together with non-lease components.

Operating lease cost was \$3.8 million and \$11.9 million for the three and nine-month periods ended September 29, 2019, respectively. The components of lease costs are as follows:

(millions of dollars)	Three Months Ended Sep. 29, 2019	Nine Months Ended Sep. 29, 2019
Operating lease cost	\$ 3.8	\$ 11.7
Short-term lease cost	—	0.2
Total	\$ 3.8	\$ 11.9

Supplemental cash flow information and non-cash activity related to our operating leases are as follows:

(millions of dollars)	September 29, 2019
Operating cash flows information:	
Cash paid for amounts included in the measurement of lease liabilities	\$ 12.3
Non-cash activity:	
Right-of-use assets obtained in the exchange for operating lease liabilities	\$ 4.3

Weighted average remaining lease term, and weighted average discount rates related to the Company's operating leases were as follows:

Weighted-average remaining operating lease term (in years)	7.70
Weighted-average operating leases discount rate	5.0%

MINERALS TECHNOLOGIES INC. AND SUBSIDIARY COMPANIES
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

The following table summarizes the Company's outstanding lease assets and liabilities and their classification on the Condensed Consolidated Balance Sheet:

(millions of dollars)	<u>Balance Sheet Classification</u>	<u>September 29, 2019</u>
Right-of-use asset	Other assets and deferred charges	\$ 44.5
Lease liability - current	Other current liabilities	11.7
Lease liability - non-current	Other non-current liabilities	43.4

Future minimum lease payments under the Company's operating leases as of September 29, 2019 were as follows:

(millions of dollars)	<u>September 29, 2019</u>
For the remainder of 2019	\$ 3.7
2020	13.3
2021	9.8
2022	7.8
2023	6.3
Thereafter	26.0
Total future minimum lease payments	66.9
Less imputed interest	(11.8)
Total	<u>\$ 55.1</u>

As of December 31, 2018, minimum lease payments under non-cancellable operating leases were expected to be as follows:

(millions of dollars)	<u>Dec. 31, 2018</u>
2019	\$ 17.3
2020	13.0
2021	9.5
2022	8.2
2023	7.0
Thereafter	24.8
Total	<u>\$ 79.8</u>

A summary of rent expense for the fiscal years ended December 31, 2018 and December 31, 2017 was as follows:

(millions of dollars)	<u>Dec. 31, 2018</u>	<u>Dec. 31, 2017</u>
Rent expense	\$ 19.5	\$ 19.3

The Company has certain arrangements under which we are the lessor. Lease income associated with these leases is not material.

Note 3. Revenue from Contracts with Customers

On a regular basis, the Company reviews its product line groupings to generate greater alignment within each product line. Accordingly, in the third quarter of 2019, the Company combined its Basic Minerals product line with its Household, Personal Care & Specialty Products product line, both within our Performance Materials segment. Prior year amounts were reclassified to conform to current presentation.

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The following table disaggregates our revenue by major source (product line) for the three and nine-month periods ended September 29, 2019 and September 30, 2018 :

(millions of dollars)	Three Months Ended		Nine Months Ended	
	Sep. 29, 2019	Sep. 30, 2018	Sep. 29, 2019	Sep. 30, 2018
Net Sales				
Metalcasting	\$ 69.0	\$ 77.8	\$ 218.0	\$ 245.8
Household, Personal Care & Specialty Products	94.1	97.4	280.4	256.4
Environmental Products	27.1	26.3	72.0	64.2
Building Materials	17.1	18.0	51.5	54.9
Performance Materials	207.3	219.5	621.9	621.3
Paper PCC	90.2	93.1	271.9	284.6
Specialty PCC	17.7	16.9	53.1	51.2
Ground Calcium Carbonate	23.0	23.0	70.1	70.7
Talc	12.2	13.3	37.5	40.3
Specialty Minerals	143.1	146.3	432.6	446.8
Refractory Products	61.3	66.7	184.3	195.7
Metallurgical Products	12.1	12.4	40.4	38.3
Refractories	73.4	79.1	224.7	234.0
Energy Services	25.5	19.2	71.6	58.0
Total	\$ 449.3	\$ 464.1	\$ 1,350.8	\$ 1,360.1

Note 4. Business Combination

On April 30, 2018, the Company completed the acquisition of Sivomatic Holding B.V. (“Sivomatic”), a leading European supplier of premium pet litter products. Sivomatic is a vertically integrated manufacturer, with production facilities in the Netherlands, Austria and Turkey. With a leading position in premier clumping products, Sivomatic’s product portfolio spans the range of pet litter derived from bentonite, sourced predominantly from wholly-owned mines in Turkey. The results of Sivomatic are included in our Performance Materials segment. The acquisition was financed through a combination of cash on hand and borrowings under the Company’s credit facilities. The fair value of the total consideration transferred, net of cash acquired, was \$ million.

The acquisition has been accounted for using the acquisition method of accounting, which requires, among other things, that we recognize the assets acquired and liabilities assumed at their respective fair values as of the acquisition date. As of April 30, 2019, the purchase price allocation has been finalized.

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The following table summarizes the Company's final amounts recognized for assets acquired and liabilities assumed for the Sivomatic acquisition, which did not change from the amounts previously reported on the Company's Form 10-K for the year ended December 31, 2018:

(millions of dollars)	Final Allocation
Accounts receivable	\$ 24.4
Inventories	15.6
Other current assets	0.6
Mineral rights	39.7
Property, plant and equipment	28.3
Goodwill	35.0
Intangible assets	26.4
Total assets acquired	<u>170.0</u>
Current maturity of long-term debt	5.7
Accounts payable	9.0
Accrued expenses	5.6
Long-term debt	5.3
Non-current deferred tax liability	19.7
Other non-current liabilities	2.2
Total liabilities assumed	<u>47.5</u>
Net assets acquired	<u>\$ 122.5</u>

The Company used the income, market, or cost approach (or a combination thereof) for the valuation and used valuation inputs and analyses that were based on market participant assumptions. Market participants are considered to be buyers and sellers unrelated to the Company in the principal or most advantageous market for the asset or liability. For certain items, the carrying value was determined to be a reasonable approximation of fair value based on the information available.

Goodwill was calculated as the excess of the consideration transferred over the assets acquired and represents the estimated future economic benefits arising from other assets acquired that could not be individually identified and separately recognized. The allocation was completed during the second quarter of 2019. Goodwill recognized as a result of this acquisition is not deductible for tax purposes.

In connection with the acquisition, the Company recorded an additional deferred tax liability of \$18.8 million with a corresponding increase to goodwill. The increase in the deferred tax liability represents the tax effect of the difference between the estimated assigned fair value of the tangible and intangible assets and the tax basis of such assets.

Mineral rights were valued using discounted cash flow method. Property, plant and equipment were valued using the cost method adjusted for age and deterioration.

Intangible assets acquired mainly include tradenames and customer relationships. Both tradenames and customer relationships have an estimated useful life of approximately 20 years.

The Company did not present pro forma and other financial information for the Sivomatic acquisition, as this is not considered to be a material business combination.

Note 5. Earnings per Share (EPS)

Basic earnings per share are based upon the weighted average number of common shares outstanding during the period. Diluted earnings per share are based upon the weighted average number of common shares outstanding during the period assuming the issuance of common shares for all potentially dilutive common shares outstanding.

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

(in millions, except per share data)	Three Months Ended		Nine Months Ended	
	Sep. 29, 2019	Sep. 30, 2018	Sep. 29, 2019	Sep. 30, 2018
Net income attributable to Minerals Technologies Inc.	\$ 38.0	\$ 41.9	\$ 103.7	\$ 125.9
Weighted average shares outstanding	35.0	35.3	35.1	35.3
Dilutive effect of stock options and stock units	0.1	0.3	0.1	0.3
Weighted average shares outstanding, adjusted	35.1	35.6	35.2	35.6
Basic earnings per share attributable to Minerals Technologies Inc.	\$ 1.09	\$ 1.19	\$ 2.95	\$ 3.57
Diluted earnings per share attributable to Minerals Technologies Inc.	\$ 1.08	\$ 1.18	\$ 2.95	\$ 3.54

Options to purchase 456,693 shares and 352,625 shares of common stock for the three-month and nine-month periods ended September 29, 2019 and September 30, 2018, respectively, were not included in the computation of diluted earnings per share because they were anti-dilutive, as the exercise prices of the options were greater than the average market price of the common shares.

Note 6. Restructuring and Other Items, net

During the second quarter of 2019, the Company initiated a restructuring and cost savings program to better align our costs and organizational structure with the current market environment. The Company recorded a \$7.5 million non-cash impairment of assets charge related to facilities and equipment no longer operating and deemed to be held for sale or discontinued and \$5.7 million in other restructuring costs in the second quarter of 2019.

The following table outlines the amount of restructuring charges recorded within the Consolidated Statements of Income and the segments they relate to the nine months ended September 29, 2019:

(millions of dollars)	<u>September 29, 2019</u>
<i>Asset Write-Downs</i>	
Performance Materials	\$ 4.2
Specialty Minerals	1.6
Energy Services	1.7
Total impairment of assets charges	\$ 7.5
<i>Severance and other related costs</i>	
Performance Materials	\$ 2.8
Specialty Minerals	0.9
Refractories	0.8
Energy Services	0.1
Corporate	1.1
Total severance and other related costs	\$ 5.7
Total restructuring and other items, net	<u>\$ 13.2</u>

At September 29, 2019, the Company had \$5.3 million included within accrued liabilities in the Condensed Consolidated Balance Sheet for cash expenditures needed to satisfy remaining obligations under workforce reduction initiatives. The Company expects to pay these amounts by the first half of 2020.

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The following table is a reconciliation of our restructuring liability balance as of September 29, 2019:

(millions of dollars)	
Restructuring liability, December 31, 2018	\$ 2.5
Additional provisions	5.7
Cash payments	(2.9)
Restructuring liability, September 29, 2019	<u>\$ 5.3</u>

Note 7. Income Taxes

Provision for taxes was \$2.6 million and \$17.0 million during the three and nine-month periods ended September 29, 2019, respectively. Provision for taxes was \$9.7 million and \$29.3 million during the three and nine-month periods ended September 30, 2018, respectively. The effective tax rate was 6.4% for the three months ended September 29, 2019 as compared with 18.7% in the prior year and 13.9% for the nine months ended September 29, 2019 as compared with 18.8% in the prior year. The lower effective tax rate in the current year was primarily due to tax benefits related to the expiration of a tax statute of limitations, which was recorded in the third quarter of 2019.

As of September 29, 2019, the Company had approximately \$9.2 million of total unrecognized income tax benefits. Included in this amount were a total of \$6.2 million of unrecognized income tax benefits that, if recognized, would affect the Company's effective tax rate. While it is expected that the amount of unrecognized tax benefits will change in the next 12 months, the Company does not expect the change to have a significant impact on the results of operations or the financial position of the Company.

The Company's accounting policy is to recognize interest and penalties accrued relating to unrecognized income tax benefits as part of its provision for income taxes. The Company had net decreases of approximately \$0.4 million and \$0.7 million during the three and nine-months ended September 29, 2019, respectively, and had an accrued balance of \$2.2 million of interest and penalties as of September 29, 2019.

The Company's accounting policy is also to record derecognition of unrecognized income tax benefits as part of its provision for income taxes. Included in the provision for income taxes for the three-month and nine-month periods ended September 29, 2019 was a \$7.8 million tax benefit relating to the derecognition of an unrecognized tax benefit due to the expiration of the statute of limitations.

The Company operates in multiple taxing jurisdictions, both within and outside the U.S. In certain situations, a taxing authority may challenge positions that the Company has adopted in its income tax filings. The Company, with a few exceptions (none of which are material), is no longer subject to income tax examinations by tax authorities for years prior to 2010.

Note 8. Inventories

The following is a summary of inventories by major category:

(millions of dollars)	Sep. 29, 2019	Dec. 31, 2018
Raw materials	\$ 104.2	\$ 93.4
Work-in-process	9.9	11.2
Finished goods	98.8	92.2
Packaging and supplies	44.0	42.4
Total inventories	<u>\$ 256.9</u>	<u>\$ 239.2</u>

Note 9. Goodwill and Other Intangible Assets

Goodwill and other intangible assets with indefinite lives are not amortized, but instead are assessed for impairment, at least annually. The carrying amount of goodwill was \$806.8 and \$812.4 million as of September 29, 2019 and December 31, 2018, respectively. The change in goodwill from December 31, 2018 to September 29, 2019 is attributable to the effects of foreign exchange.

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Intangible assets subject to amortization as of September 29, 2019 and December 31, 2018 were as follows:

(millions of dollars)	Weighted Average Useful Life (Years)	Sep. 29, 2019		Dec. 31, 2018	
		Gross Carrying Amount	Accumulated Amortization	Gross Carrying Amount	Accumulated Amortization
Tradenames	35	\$ 203.8	\$ 31.0	\$ 204.2	\$ 26.6
Technology	13	18.8	7.6	18.8	6.4
Patents	19	6.4	5.8	6.4	5.6
Customer relationships	22	24.3	4.1	26.5	3.2
	32	\$ 253.3	\$ 48.5	\$ 255.9	\$ 41.8

The weighted average amortization period for acquired intangible assets subject to amortization is approximately 32 years. Estimated amortization expense is \$2.6 million for the remainder of 2019, \$36.7 million for 2020–2023 and \$165.5 million thereafter.

Note 10. Derivative Financial Instruments

As a multinational corporation with operations throughout the world, the Company is exposed to certain market risks. The Company uses a variety of practices to manage these market risks, including, when considered appropriate, derivative financial instruments. The Company's objective is to offset gains and losses resulting from interest rates and foreign currency exposures with gains and losses on the derivative contracts used to hedge them. The Company uses derivative financial instruments only for risk management and not for trading or speculative purposes.

By using derivative financial instruments to hedge exposures to changes in interest rates and foreign currencies, the Company exposes itself to credit risk and market risk. Credit risk is the risk that the counterparty will fail to perform under the terms of the derivative contract. When the fair value of a derivative contract is positive, the counterparty owes the Company, which creates credit risk for the Company. When the fair value of a derivative contract is negative, the Company owes the counterparty, and therefore, it does not face any credit risk. The Company minimizes the credit risk in derivative instruments by entering into transactions with major financial institutions.

Market risk is the adverse effect on the value of a financial instrument that results from a change in interest rates, currency exchange rates, or commodity prices. The market risk associated with interest rate and forward exchange contracts is managed by establishing and monitoring parameters that limit the types and degree of market risk that may be undertaken.

Cash Flow Hedges

For derivative instruments that are designated and qualify as cash flow hedges, the Company records the effective portion of the gain or loss in accumulated other comprehensive income (loss) as a separate component of shareholders' equity. The Company subsequently reclassifies the effective portion of gain or loss into earnings in the period during which the hedged transaction is recognized in earnings.

The Company utilizes interest rate swaps to limit exposure to market fluctuations on floating-rate debt. In the second quarter of 2018, the Company entered into a floating to fixed interest rate swap for a notional amount of \$150 million. The fair value of this swap is a liability of \$7.3 million at September 29, 2019 and is recorded in other non-current liabilities on the Condensed Consolidated Balance Sheet. In addition, in the second quarter of 2016, the Company entered into a floating to fixed interest rate swap with an initial aggregate notional amount of \$300 million. The notional amount was \$100 million at September 29, 2019. The fair value of this swap is an asset of \$0.5 million at September 29, 2019 and is recorded in other assets and deferred charges on the Condensed Consolidated Balance Sheet. These interest rate swaps are designated as cash flow hedges. As a result, the gains and losses associated with these interest rate swaps are recorded in accumulated other comprehensive income (loss).

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Net Investment Hedges

For derivative instruments that are designated and qualify as net investment hedges, the Company records the effective portion of the gain or loss in accumulated other comprehensive income (loss) as a separate component of shareholders' equity.

To protect the value of our investments in our foreign operations against adverse changes in foreign currency exchange rates, the Company from time to time hedges a portion of our net investment in one or more of our foreign subsidiaries. During the second quarter of 2018, the Company entered into a cross currency rate swap with a total notional value of \$150 million to exchange monthly fixed-rate interest payments in U.S. dollars for monthly fixed-rate interest rate payments in Euros. This contract matures in May 2023 and requires the exchange of Euros and U.S. dollar principal payments upon maturity. The fair value of this swap is an asset of \$14.1 million at September 29, 2019 and is recorded in other assets and deferred charges on the Condensed Consolidated Balance Sheet. Changes in the fair value of this financial instrument are recognized in accumulated other comprehensive income (loss) to offset the change in the carrying amount of the net investment being hedged. Amounts are reclassified out of accumulated other comprehensive income (loss) into earnings when the hedged net investment is either sold or substantially liquidated.

Assets and liabilities measured at fair value are based on one or more of three valuation techniques. The three valuation techniques are as follows:

- Market approach - prices and other relevant information generated by market transactions involving identical or comparable assets or liabilities.
- Cost approach - amount that would be required to replace the service capacity of an asset or replacement cost.
- Income approach - techniques to convert future amounts to a single present amount based on market expectations, including present value techniques, option-pricing and other models.

The Company primarily applies the income approach for interest rate derivatives for recurring fair value measurements and attempts to utilize valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs.

The fair value of our interest rate and cross currency rate swap contracts are determined based on inputs that are readily available in public markets or can be derived from information available in publicly quoted markets and are categorized as Level 2.

Note 11. Long-Term Debt and Commitments

The following is a summary of long-term debt:

(millions of dollars)	Sep. 29, 2019	Dec. 31, 2018
Term Loan Facility-Variable Tranche due February 14, 2024, net of unamortized discount and deferred financing costs of \$16.8 million and \$19.4 million	\$ 641.1	\$ 638.6
Term Loan Facility- Fixed Tranche due May 9, 2021, net of unamortized discount and deferred financing costs of \$0.2 million and \$0.3 million	197.8	262.6
Netherlands Term Loan due 2020	1.9	3.4
Netherlands Term Loan due 2022	1.0	1.4
Japan Loan Facilities	4.7	5.1
Total	<u>846.5</u>	<u>911.1</u>
Less: Current maturities	1.8	3.3
Total long-term debt	<u>\$ 844.7</u>	<u>\$ 907.8</u>

On May 9, 2014, in connection with the acquisition of AMCOL International Corporation (“AMCOL”), the Company entered into a credit agreement providing for a \$1.560 billion senior secured term loan facility (the “Term Facility”) and a \$200 million senior secured revolving credit facility (the “Revolving Facility” and, together with the Term Facility, the “Facilities”).

On June 23, 2015, the Company entered into an amendment (the “First Amendment”) to the credit agreement to reprice the \$1.378 billion then outstanding on the Term Facility. As amended, the Term Facility had a \$1.078 billion floating rate tranche and a \$300 million fixed rate tranche. On February 14, 2017, the Company entered into an amendment (the “Second Amendment”) to the credit agreement to reprice the \$788 million floating rate tranche then outstanding, which extended the maturity and lowered the interest costs by 75 basis points. On April 18, 2018, the Company entered into an amendment (the “Third Amendment”) to the credit agreement to refinance the Revolving Facility. As amended, the Revolving Facility has been increased to \$300 million in aggregate commitments. Following the amendments, the loans outstanding under the floating rate tranche of the Term Facility will mature on February 14, 2024, the loans outstanding under the fixed rate tranche of the Term Facility will mature on May 9, 2021 and the loans outstanding (if any) and commitments under the Revolving Facility will mature and terminate, as the case may be, on April 18, 2023. Loans under the floating rate tranche of the Term Facility bear interest at a rate equal to an adjusted LIBOR rate (subject to a floor of 0.75%) plus an applicable margin equal to 2.25% per annum. Loans under the fixed rate tranche of the Term Facility bear interest at a rate of 4.75%. Loans under the Revolving Facility bear interest at a rate equal to an adjusted LIBOR rate plus an applicable margin equal to 1.625% per annum. Such rates are subject to decrease by up to 25 basis points in the event that, and for so long as, the Company’s net leverage ratio (as defined in the credit agreement) is less than certain thresholds. The floating rate tranche of the Term Facility was issued at par and the fixed rate tranche of the Term Facility was issued at a 0.25% discount in connection with the First Amendment. The variable rate tranche of the Term Facility was issued at a 0.25% discount in connection with the Second Amendment. The variable rate tranche has a 1% required amortization per year. The Company will pay certain fees under the credit agreement, including customary annual administration fees. The obligations of the Company under the Facilities are unconditionally guaranteed jointly and severally by, subject to certain exceptions, all material domestic subsidiaries of the Company (the “Guarantors”) and secured, subject to certain exceptions, by a security interest in substantially all of the assets of the Company and the Guarantors.

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During 2019, the Company repaid \$65.0 million on its Term Facility.

The credit agreement contains certain customary affirmative and negative covenants that limit or restrict the ability of the Company and its restricted subsidiaries to enter into certain transactions or take certain actions. In addition, the credit agreement contains a financial covenant that requires the Company, if on the last day of any fiscal quarter loans or letters of credit were outstanding under the Revolving Facility (excluding up to \$15 million of letters of credit), to maintain a maximum net leverage ratio (as defined in the credit agreement) of, initially, 5.25 to 1.00 for the four fiscal quarters preceding such day. Such maximum net leverage ratio requirement is subject to decrease during the duration of the facility to a minimum level (when applicable) of 3.50 to 1.00. In connection with the Sivomatic acquisition, the Company incurred \$113 million of short-term debt under the Revolving Facility. As of September 29, 2019, there were \$100 million in outstanding loans and \$10.2 million in letters of credit outstanding under the Revolving Facility. The Company is in compliance with all the covenants associated with the Revolving Facility as of the end of the period covered by this report.

As part of the Sivomatic acquisition, the Company assumed \$10.7 million in long-term debt, recorded at fair value, consisting of two term loans, one of which matures in 2020 and the other of which matures in 2022. These loans carry an interest rate of Euribor plus 2.0% and have quarterly repayments. During 2019, the Company repaid \$1.7 million on these loans.

The Company has a committed loan facility in Japan. As of September 29, 2019, \$4.7 million was outstanding under this loan facility. Principal will be repaid in accordance with the payment schedule ending in 2021. The Company repaid \$0.5 million on this facility during the first nine months of 2019.

As of September 29, 2019, the Company had \$41.2 million in uncommitted short-term bank credit lines, of which approximately \$3.0 million was in use.

Note 12. Benefit Plans

The Company and its subsidiaries have pension plans covering the majority of eligible employees on a contributory or non-contributory basis. The Company also provides postretirement health care and life insurance benefits for the majority of its U.S. retired employees. Disclosures for the U.S. plans have been combined with those outside of the U.S. as the international plans do not have significantly different assumptions, and together represent less than 25% of our total benefit obligation.

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Components of Net Periodic Benefit Cost

(millions of dollars)	Pension Benefits			
	Three Months Ended		Nine Months Ended	
	Sep. 29, 2019	Sep. 30, 2018	Sep. 29, 2019	Sep. 30, 2018
Service cost	\$ 1.8	\$ 1.9	\$ 5.4	\$ 5.8
Interest cost	3.6	3.2	10.7	9.3
Expected return on plan assets	(4.6)	(5.0)	(13.9)	(14.6)
Amortization:				
Prior service cost	0.1	0.1	0.3	0.3
Recognized net actuarial loss	2.3	2.9	6.9	8.4
Pension settlement loss	—	3.6	—	3.6
Net periodic benefit cost	<u>\$ 3.2</u>	<u>\$ 6.7</u>	<u>\$ 9.4</u>	<u>\$ 12.8</u>

(millions of dollars)	Other Benefits			
	Three Months Ended		Nine Months Ended	
	Sep. 29, 2019	Sep. 30, 2018	Sep. 29, 2019	Sep. 30, 2018
Service cost	\$ —	\$ 0.1	\$ 0.1	\$ 0.2
Interest cost	0.1	—	0.2	0.1
Amortization:				
Prior service cost	—	(0.2)	—	(0.7)
Recognized net actuarial (gain) loss	(0.2)	(0.2)	(0.6)	(0.5)
Net periodic benefit cost	<u>\$ (0.1)</u>	<u>\$ (0.3)</u>	<u>\$ (0.3)</u>	<u>\$ (0.9)</u>

Amortization amounts of prior service costs and recognized net actuarial losses are recorded, net of tax, as increases to accumulated other comprehensive income.

The Company expects to contribute approximately \$9.7 million to its pension plans and \$0.3 million to its other postretirement benefit plans in 2019. As of September 29, 2019, \$5.6 million has been contributed to the pension plans and approximately \$0.3 million has been contributed to the other postretirement benefit plans.

Note 13. Comprehensive Income

The following table summarizes the amounts reclassified out of accumulated other comprehensive loss attributable to the Company:

(millions of dollars)	Three Months Ended		Nine Months Ended	
	Sep. 29, 2019	Sep. 30, 2018	Sep. 29, 2019	Sep. 30, 2018
	Amortization of pension items:			
Pre-tax amount	\$ 2.2	\$ 6.2	\$ 6.6	\$ 11.1
Tax	(0.6)	(1.6)	(1.7)	(2.7)
Net of tax	<u>\$ 1.6</u>	<u>\$ 4.6</u>	<u>\$ 4.9</u>	<u>\$ 8.4</u>

The pre-tax amounts in the table above are included within the components of net periodic pension benefit cost (see Note 12 to the Condensed Consolidated Financial Statements) and the tax amounts are included within the provision for taxes on income line within the Condensed Consolidated Statements of Income.

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The major components of accumulated other comprehensive loss, net of related tax, attributable to MTI are as follows:

(millions of dollars)	Foreign Currency Translation Adjustment	Unrecognized Pension Costs	Net Gain (Loss) on Derivative Instruments	Total
Balance as of December 31, 2018	\$ (170.1)	\$ (69.7)	\$ 6.1	\$ (233.7)
Other comprehensive loss before reclassifications	(41.8)	—	2.5	(39.3)
Amounts reclassified from AOCI	—	4.9	—	4.9
Net current period other comprehensive income (loss)	(41.8)	4.9	2.5	(34.4)
Cumulative effect of accounting change	—	(10.4)	(0.5)	(10.9)
Balance as of Sep. 29, 2019	<u>\$ (211.9)</u>	<u>\$ (75.2)</u>	<u>\$ 8.1</u>	<u>\$ (279.0)</u>

In January 2019, the Company adopted the provisions of ASU 2018-02, "Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income", which allows a reclassification from accumulated other comprehensive income to retained earnings for stranded tax effects resulting from the U.S. Tax Cuts and Jobs Act. As a result, the Company reclassified \$10.9 million from "Accumulated other comprehensive loss" to "Retained earnings" on the Condensed Consolidated Balance Sheet as of September 29, 2019.

Note 14. Accounting for Asset Retirement Obligations

The Company records asset retirement obligations for situations in which the Company will be required to incur costs to retire tangible long-lived assets. The fair value of the liability for an asset retirement obligation is recognized in the period in which it is incurred if a reasonable estimate of fair value can be made.

The Company also records liabilities related to land reclamation as a part of asset retirement obligations. The Company mines various minerals using a surface mining process that requires the removal of overburden. In certain areas and under various governmental regulations, the Company is obligated to restore the land comprising each mining site to its original condition at the completion of the mining activity. The obligation is adjusted to reflect the passage of time, mining activities, and changes in estimated future cash outflows.

The following is a reconciliation of asset retirement obligations as of September 29, 2019:

(millions of dollars)	
Asset retirement liability, December 31, 2018	\$ 23.4
Accretion expense	2.1
Other	0.8
Payments	(2.4)
Foreign currency translation	(0.1)
Asset retirement liability, September 29, 2019	<u>\$ 23.8</u>

The asset retirement costs are capitalized as part of the carrying amount of the associated asset. The current portion of the liability of approximately \$0.4 million is included in other current liabilities and the long-term portion of the liability of approximately \$23.4 million is included in other non-current liabilities in the Condensed Consolidated Balance Sheet as of September 29, 2019.

Note 15. Contingencies

The Company is party to a number of lawsuits arising in the normal course of our business.

Certain of the Company's subsidiaries are among numerous defendants in a number of cases seeking damages for exposure to silica or to asbestos containing materials. The Company currently has three pending silica cases and 91 pending asbestos cases. To date, 1,493 silica cases and 61 asbestos cases have been dismissed, not including any lawsuits against AMCOL or American Colloid Company dismissed prior to our acquisition of AMCOL. Twenty nine and forty nine new asbestos cases were filed during the three and nine months ended September 29, 2019, respectively, and 9 additional asbestos cases were filed subsequent to the end of the third quarter. Two asbestos cases and no silica cases were dismissed during the first nine months of 2019. Most of these claims do not provide adequate information to assess their merits, the likelihood that the Company will be found liable, or the magnitude of such liability, if any. Additional claims of this nature may be made against the Company or its subsidiaries. At this time management anticipates that the amount of the Company's liability, if any, and the cost of defending such claims, will not have a material effect on its financial position or results of operations.

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NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

The Company has settled only one silica lawsuit, for a nominal amount, and no asbestos lawsuits to date (not including any that may have been settled by AMCOL prior to completion of the acquisition). We are unable to state an amount or range of amounts claimed in any of the lawsuits because state court pleading practices do not require identifying the amount of the claimed damage. The aggregate cost to the Company for the legal defense of these cases since inception continues to be insignificant. The majority of the costs of defense for these cases, excluding cases against AMCOL or American Colloid, are reimbursed by Pfizer Inc. pursuant to the terms of certain agreements entered into in connection with the Company's initial public offering in 1992. The Company is entitled to indemnification, pursuant to agreement, for sales prior to the initial public offering. Of the 91 pending asbestos cases, 76 of the non-AMCOL cases are subject to indemnification, in whole or in part, because the plaintiffs claim liability based on sales of products that occurred either entirely before the initial public offering, or both before and after the initial public offering. In nine of the eleven remaining non-AMCOL cases, the plaintiffs have not alleged dates of exposure sufficiently to determine indemnity obligations at this time, and in the remaining two non-AMCOL cases, exposure is alleged to have been after the Company's initial public offering in 1992. The remaining four cases involve AMCOL only, so no Pfizer indemnity is available. Our experience has been that the Company is not liable to plaintiffs in any of these lawsuits and the Company does not expect to pay any settlements or jury verdicts in these lawsuits.

The Company is also the respondent in an arbitration requested by the Plan Administrator for the Bankruptcy Estate of Novinda Corp. ("Novinda"), a start-up company which declared bankruptcy in April 2016 and with which the Company had several relationships, including an equity and debt interest and a product supply relationship. On July 30, 2018, the Plan Administrator filed a Demand for Arbitration against the Company and certain of its officers, which demands damages (including fees, interest, and punitive damages) for the alleged destruction of Novinda's business. The arbitration is to occur in the fourth quarter of 2019. The Company has meritorious defenses for this matter and intends to defend itself vigorously. The Company is not able to reasonably estimate the amount, if any, of reasonably possible loss from this matter and has not recorded a loss contingency liability. We do not expect the outcome of this matter to have a material adverse effect on our financial position although, if determined adversely, it could materially impact results of operations in the period recorded. There can be no assurance as to the ultimate outcome of this matter. In advance of arbitration, the Company has recorded litigation expenses of \$5.6 million related to this matter as of September 29, 2019.

Environmental Matters

On April 9, 2003, the Connecticut Department of Environmental Protection issued an administrative consent order relating to our Canaan, Connecticut, plant where both our Refractories segment and Specialty Minerals segment have operations. We agreed to the order, which includes provisions requiring investigation and remediation of contamination associated with historic use of polychlorinated biphenyls ("PCBs") and mercury at a portion of the site. We have completed the required investigations and submitted several reports characterizing the contamination and assessing site-specific risks. We are awaiting regulators' approval of the risk assessment report, which will form the basis for a proposal by the Company concerning eventual remediation.

We believe that the most likely form of overall site remediation will be to leave the existing contamination in place (with some limited soil removal), encapsulate it, and monitor the effectiveness of the encapsulation. We anticipate that a substantial portion of the remediation cost will be borne by the United States based on its involvement at the site from 1942 – 1964, as historic documentation indicates that PCBs and mercury were first used at the facility at a time of U.S. government ownership for production of materials needed by the military. Pursuant to a Consent Decree entered on October 24, 2014, the United States paid the Company \$2.3 million in the 4th quarter of 2014 to resolve the Company's claim for response costs for investigation and initial remediation activities at this facility through October 24, 2014. Contribution by the United States to any future costs of investigation or additional remediation has, by agreement, been left unresolved. Though the cost of the likely remediation remains uncertain pending completion of the phased remediation decision process, we have estimated that the Company's share of the cost of the encapsulation and limited soil removal described above would approximate \$0.4 million, which has been accrued as of September 29, 2019.

MINERALS TECHNOLOGIES INC. AND SUBSIDIARY COMPANIES
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

The Company is evaluating options for upgrading the wastewater treatment facilities at its Adams, Massachusetts plant. This work has been undertaken pursuant to an administrative Consent Order originally issued by the Massachusetts Department of Environmental Protection (“DEP”) on June 18, 2002. This order was amended on June 1, 2009 and on June 2, 2010. The amended Order includes the investigation by January 1, 2022 of options for ensuring that the facility’s wastewater treatment ponds will not result in unpermitted discharge to groundwater. Additional requirements of the amendment include the submittal by July 1, 2022 of a plan for closure of a historic lime solids disposal area. Preliminary engineering reviews completed in 2005 indicate that the estimated cost of wastewater treatment upgrades to operate this facility beyond 2024 may be between \$6 million and \$8 million. The Company estimates that the remaining remediation costs would approximate \$0.4 million, which has been accrued as of September 29, 2019.

The Company and its subsidiaries are not party to any other material pending legal proceedings, other than routine litigation incidental to their businesses.

Note 16. Segment and Related Information

The Company has four reportable segments: Performance Materials, Specialty Minerals, Refractories and Energy Services. See Note 1 to the Condensed Consolidated Financial Statements. Segment information for the three and nine-month periods ended September 29, 2019 and September 30, 2018 is as follows:

(millions of dollars)	Three Months Ended		Nine Months Ended	
	Sep. 29, 2019	Sep. 30, 2018	Sep. 29, 2019	Sep. 30, 2018
Net Sales				
Performance Materials	\$ 207.3	\$ 219.5	\$ 621.9	\$ 621.3
Specialty Minerals	143.1	146.3	432.6	446.8
Refractories	73.4	79.1	224.7	234.0
Energy Services	25.5	19.2	71.6	58.0
Total	\$ 449.3	\$ 464.1	\$ 1,350.8	\$ 1,360.1
Income from Operations				
Performance Materials	\$ 26.9	\$ 31.8	\$ 73.9	\$ 87.6
Specialty Minerals	21.7	25.0	63.7	74.2
Refractories	10.2	11.5	29.4	34.6
Energy Services	2.0	1.1	5.3	3.3
Total	\$ 60.8	\$ 69.4	\$ 172.3	\$ 199.7

A reconciliation of the totals reported for the operating segments to the applicable line items in the condensed consolidated financial statements is as follows:

(millions of dollars)	Three Months Ended		Nine Months Ended	
	Sep. 29, 2019	Sep. 30, 2018	Sep. 29, 2019	Sep. 30, 2018
Income from operations for reportable segments	\$ 60.8	\$ 69.4	\$ 172.3	\$ 199.7
Acquisition related transaction and integration costs	—	(0.3)	—	(1.7)
Litigation expenses	(5.6)	—	(5.6)	—
Unallocated corporate expenses	(1.7)	(0.9)	(5.7)	(4.4)
Consolidated income from operations	53.5	68.2	161.0	193.6
Non-operating deductions, net	(12.6)	(16.2)	(38.7)	(38.0)
Income from operations before tax and equity in earnings	\$ 40.9	\$ 52.0	\$ 122.3	\$ 155.6

MINERALS TECHNOLOGIES INC. AND SUBSIDIARY COMPANIES
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

The Company's sales by product category are as follows:

(millions of dollars)	Three Months Ended		Nine Months Ended	
	Sep. 29, 2019	Sep. 30, 2018	Sep. 29, 2019	Sep. 30, 2018
Metalcasting	\$ 69.0	\$ 77.8	\$ 218.0	\$ 245.8
Household, Personal Care & Specialty Products	94.1	97.4	280.4	256.4
Environmental Products	27.1	26.3	72.0	64.2
Building Materials	17.1	18.0	51.5	54.9
Performance Materials	207.3	219.5	621.9	621.3
Paper PCC	90.2	93.1	271.9	284.6
Specialty PCC	17.7	16.9	53.1	51.2
Ground Calcium Carbonate	23.0	23.0	70.1	70.7
Talc	12.2	13.3	37.5	40.3
Specialty Minerals	143.1	146.3	432.6	446.8
Refractory Products	61.3	66.7	184.3	195.7
Metallurgical Products	12.1	12.4	40.4	38.3
Refractories	73.4	79.1	224.7	234.0
Energy Services	25.5	19.2	71.6	58.0
Total	\$ 449.3	\$ 464.1	\$ 1,350.8	\$ 1,360.1

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and Board of Directors
Minerals Technologies Inc.:

Results of Review of Interim Financial Information

We have reviewed the condensed consolidated balance sheet of Minerals Technologies Inc. and subsidiaries (the Company) as of September 29, 2019, the related condensed consolidated statements of income and comprehensive income for the three-month and nine-month periods ended September 29, 2019 and September 30, 2018, the related condensed consolidated statements of changes in shareholder's equity and cash flows for the nine-month periods ended September 29, 2019 and September 30, 2018, and the related notes (collectively, the consolidated interim financial information). Based on our reviews, we are not aware of any material modifications that should be made to the consolidated interim financial information for it to be in conformity with U.S. generally accepted accounting principles.

We have previously audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheet of the Company as of December 31, 2018, and the related consolidated statements of income and comprehensive income, shareholders' equity, and cash flows for the year then ended (not presented herein); and in our report dated February 15, 2019, we expressed an unqualified opinion on those consolidated financial statements. In our opinion, the information set forth in the accompanying condensed consolidated balance sheet as of December 31, 2018, is fairly stated, in all material respects, in relation to the consolidated balance sheet from which it has been derived.

Basis for Review Results

This consolidated interim financial information is the responsibility of the Company's management. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our reviews in accordance with the standards of the PCAOB. A review of consolidated interim financial information consists principally of applying analytical procedures and making inquiries of persons responsible for financial and accounting matters. It is substantially less in scope than an audit conducted in accordance with the standards of the PCAOB, the objective of which is the expression of an opinion regarding the financial statements taken as a whole. Accordingly, we do not express such an opinion.

/s/ KPMG LLP

New York, New York
November 1, 2019

ITEM 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

Executive Summary

Our consolidated sales for the third quarter of 2019 were \$449.3 million, as compared with \$464.1 million in the prior year. Income from operations was \$53.5 million and represented 11.9% of sales, as compared with \$68.2 million and 14.7% of sales in the prior year. Included in income from operations for the third quarter of 2019 were litigation expenses of \$5.6 million associated with the bankruptcy of Novinda Corp. Net income was \$38.0 million, as compared to \$41.9 million in the third quarter of 2018. Diluted earnings in the quarter ended September 29, 2019 were \$1.08 per share compared with \$1.18 per share in 2018.

Our balance sheet continues to be strong. Cash, cash equivalents and short-term investments were \$214.5 million as of September 29, 2019. We repaid \$69 million of our debt in the first nine months of 2019 and repurchased \$21 million in treasury shares. Our intention continues to be to maintain a balanced approach to capital deployment, by using excess cash flow for investments in growth, debt reduction and selective share repurchases.

Outlook

Looking forward, we remain cautious about the state of the global economy and the impact it will have on our product lines.

The Company will continue to focus on innovation and new product development and other opportunities for sales growth in 2019 from its existing businesses, as follows:

- Increase our presence and gain penetration of our bentonite-based foundry customers for the Metalcasting industry in emerging markets, such as China and India.
- Increase our presence and market share in global pet care products, particularly in emerging markets.
- Deploy new products in pet care such as lightweight litter.
- Increase our presence and market share in Asia and in the global powdered detergent market.
- Continue the development of our proprietary Enersol® products for agricultural applications worldwide.
- Pursue opportunities for our products in environmental and building and construction markets in the Middle East, Asia Pacific and South America regions.
- Increase our presence and market share for geosynthetic clay liners within the Environmental Products product line.
- Develop multiple high-filler technologies under the FulFill® platform of products, to increase the fill rate in freesheet paper and continue to progress with commercial discussions and full-scale paper machine trials.
- Develop products and processes for waste management and recycling opportunities to reduce the environmental impact of the paper mill, reduce energy consumption and improve the sustainability of the papermaking process, including our NewYield® and ENVIROFIL® products.
- Further penetration into the packaging segment of the paper industry.
- Increase our sales of PCC for paper by further penetration of the markets for paper filling at both freesheet and groundwood mills, particularly in emerging markets.
- Expand the Company's PCC coating product line using the satellite model.
- Promote the Company's expertise in crystal engineering, especially in helping papermakers customize PCC morphologies for specific paper applications.
- Expand PCC produced for paper filling applications by working with industry partners to develop new methods to increase the ratio of PCC for fiber substitutions.
- Develop unique calcium carbonate and talc products used in the manufacture of novel biopolymers, a new market opportunity.
- Deploy new talc and GCC products in paint, coating and packaging applications.
- Deploy value-added formulations of refractory materials that not only reduce costs but improve performance.
- Deploy our laser measurement technologies into new applications.
- Expand our refractory maintenance model to other steel makers globally.
- Increase our presence and market penetration in offshore produced water and offshore filtration and well testing within the Energy Services segment.
- Deploy operational excellence principles into all aspects of the organization, including system infrastructure and lean principles.
- Continue to explore selective acquisitions to fit our core competencies in minerals and fine particle technology.

However, there can be no assurance that we will achieve success in implementing any one or more of these opportunities.

Results of Operations

Three months ended September 29, 2019 as compared with three months ended September 30, 2018

Consolidated Income Statement Review

(millions of dollars)	Three Months Ended		% Growth
	Sep. 29, 2019	Sep. 30, 2018	
Net sales	\$ 449.3	\$ 464.1	(3)%
Cost of sales	338.1	344.9	(2)%
Production margin	111.2	119.2	(7)%
Production margin %	24.7%	25.7%	
Marketing and administrative expenses	46.9	45.4	3%
Research and development expenses	5.2	5.0	4%
Acquisition related transaction and integration costs	—	0.3	(100)%
Litigation expenses	5.6	—	*
Restructuring and other items, net	—	0.3	(100)%
Income from operations	53.5	68.2	(22)%
Operating margin %	11.9%	14.7%	
Interest expense, net	(11.0)	(11.7)	(6)%
Non-cash pension settlement charge	—	(3.6)	*
Other non-operating income (deductions), net	(1.6)	(0.9)	78%
Total non-operating deductions, net	(12.6)	(16.2)	(22)%
Income from operations before tax and equity in earnings	40.9	52.0	(21)%
Provision for taxes on income	2.6	9.7	(73)%
Effective tax rate	6.4%	18.7%	
Equity in earnings of affiliates, net of tax	0.8	0.6	33%
Net income	39.1	42.9	(9)%
Net income attributable to non-controlling interests	1.1	1.0	10%
Net income attributable to Minerals Technologies Inc.	\$ 38.0	\$ 41.9	(9)%

Net Sales

(millions of dollars)	Three Months Ended Sep. 29, 2019			Three Months Ended Sep. 30, 2018		
	Net Sales	% of Total Sales	% Growth	Net Sales	% of Total Sales	% Growth
U.S.	\$ 243.6	54.2%	(1)%	\$ 244.9	52.8%	
International	205.7	45.8%	(6)%	219.2	47.2%	
Total sales	\$ 449.3	100.0%	(3)%	\$ 464.1	100.0%	
Performance Materials Segment	\$ 207.3	46.1%	(6)%	\$ 219.5	47.3%	
Specialty Minerals Segment	143.1	31.8%	(2)%	146.3	31.5%	
Refractories Segment	73.4	16.3%	(7)%	79.1	17.0%	
Energy Services Segment	25.5	5.7%	33%	19.2	4.1%	
Total sales	\$ 449.3	100.0%	(3)%	\$ 464.1	100.0%	

Worldwide net sales decreased to \$449.3 million in the third quarter from \$464.1 million in the prior year. Foreign exchange had an unfavorable impact on sales of approximately \$3.8 million or 1%.

Net sales in the United States decreased to \$243.6 million from \$244.9 million in the prior year. International sales decreased 6% to \$205.7 million from \$219.2 million in the prior year.

Operating Costs and Expenses

Cost of sales decreased 2% to \$338.1 million and represented 75.3% of sales as compared with \$344.9 million and 74.3% of sales in the prior year. This decrease in cost of sales was due primarily to lower volumes. Gross margin was 24.7% of sales as compared with 25.7% in the prior year. The decrease in gross margin percentage was primarily due to an unfavorable product mix.

Marketing and administrative costs were \$46.9 million and 10.4% of sales compared to \$45.4 million and 9.8% of sales in the prior year.

Research and development expenses were \$5.2 million, as compared with \$5.0 million in the prior year, and represented 1.2% of sales compared with 1.1% of sales.

The Company recorded \$5.6 million related to ongoing litigation associated with the bankruptcy of Novinda Corp. for the three months ended September 29, 2019.

The Company recorded charges of \$0.3 million and \$0.3 million for restructuring costs and acquisition related transaction and integration costs, respectively during the three months ended September 30, 2018.

Income from Operations

The Company recorded income from operations of \$53.5 million as compared to \$68.2 million in the prior year. Operating income during the three months ended September 29, 2019 includes a \$5.6 million charge related to ongoing litigation associated with the bankruptcy of Novinda Corp. Operating income during the three months ended September 30, 2018 includes \$0.3 million of restructuring costs and \$0.3 million of acquisition related transaction and integration costs.

Other Non-Operating Income (Deductions)

In the third quarter of 2019, non-operating deductions were \$12.6 million as compared with \$16.2 million in the prior year. Included in non-operating deductions for the three months ended September 30, 2018 was a non-cash pension settlement charge of \$3.6 million associated with some of our pension plans in the U.S.

Provision for Taxes on Income

Provision for taxes on income was \$2.6 million and \$9.7 million for the three months ended September 29, 2019 and September 30, 2018, respectively. The effective tax rate was 6.4% and 18.7% for the three months ended September 29, 2019 and September 30, 2018, respectively. The lower effective tax rate was primarily due to a tax benefit resulting from the expiration of a tax statute of limitations.

Consolidated Net Income Attributable to MTI Shareholders

Consolidated net income was \$38.0 million for the three months ended September 29, 2019, as compared with \$41.9 million in the prior year.

Segment Review

The following discussions highlight the operating results for each of our four segments.

Performance Materials Segment	Three Months Ended		% Growth
	Sep. 29, 2019	Sep. 30, 2018	
	(millions of dollars)		
Net Sales			
Metalcasting	\$ 69.0	\$ 77.8	(11)%
Household, Personal Care & Specialty Products	94.1	97.4	(3)%
Environmental Products	27.1	26.3	3%
Building Materials	17.1	18.0	(5)%
Total net sales	<u>\$ 207.3</u>	<u>\$ 219.5</u>	<u>(6)%</u>
Income from operations	\$ 26.9	\$ 31.8	
% of net sales	13.0%	14.5%	

Net sales in the Performance Materials segment decreased 6% to \$207.3 million from \$219.5 million in the prior year. Sales in Metalcasting decreased primarily due to weaker demand in automotive, heavy truck and agricultural equipment in the U.S. and parts of Asia. This was partially offset by increased Metalcasting sales in China and Thailand, reflecting continued market penetration. Household, Personal Care & Specialty Products sales decreased 3% , as growth in our pet litter products globally was offset by lower sales in fabric care, personal care and specialty products. In the third quarter of 2019, the Company combined its Basic Minerals product line with its Household, Personal Care & Specialty Products product line, Environmental Products sales increased 3% driven by higher volumes of our geosynthetic clay liners and specialty liners, including our higher value RESISTEX® products. Building Materials sales decreased 5% primarily due to lower volumes in waterproofing materials.

Income from operations was \$26.9 million and 13.0% of sales as compared to \$31.8 million and 14.5% of sales in the prior year. Operating income and margins were affected by the lower Metalcasting sales and overall product mix.

Specialty Minerals Segment	Three Months Ended		% Growth
	Sep. 29, 2019	Sep. 30, 2018	
	(millions of dollars)		
Net Sales			
Paper PCC	\$ 90.2	\$ 93.1	(3)%
Specialty PCC	17.7	16.9	5%
PCC Products	<u>\$ 107.9</u>	<u>\$ 110.0</u>	<u>(2)%</u>
Ground Calcium Carbonate	\$ 23.0	\$ 23.0	0%
Talc	12.2	13.3	(8)%
Processed Minerals Products	<u>\$ 35.2</u>	<u>\$ 36.3</u>	<u>(3)%</u>
Total net sales	<u>\$ 143.1</u>	<u>\$ 146.3</u>	<u>(2)%</u>
Income from operations	\$ 21.7	\$ 25.0	(13)%
% of net sales	15.2%	17.1%	

Worldwide sales in the Specialty Minerals segment were \$143.1 million, as compared with \$146.3 million in the prior year, a decrease of 2%.

Worldwide net sales of PCC, which is primarily used in the manufacturing process of the paper industry, decreased 2% to \$107.9 million from \$110.0 million in the prior year. Paper PCC sales decreased 3% to \$90.2 million from \$93.1 million, primarily due to previously announced customer paper machine shutdowns, including the closure of a U.S. paper mill in the first quarter of 2019 and lower volumes in Europe. This was partially offset by Paper PCC sales in Asia, which grew 11% driven by the ramp up of a new satellite and capacity additions in the region. Sales of Specialty PCC increased to \$17.7 million from \$16.9 million in the prior year, primarily due to a demand-driven expansions.

Net sales of Processed Minerals products decreased 3% to \$35.2 million, primarily due to lower sales in the automotive and construction markets. Ground Calcium Carbonate sales remained flat at \$23.0 for the three month periods ending September 29, 2019 and September 30, 2018. Talc sales decreased 8% to \$12.2 million as compared with \$13.3 million in the prior year.

Income from operations for Specialty Minerals was \$21.7 million as compared with \$25.0 million in the prior year. The decrease in operating income was primarily due to previously announced paper machine shutdowns in North America and lower volumes, partially offset by higher pricing.

	Three Months Ended		% Growth
	Sep. 29, 2019	Sep. 30, 2018	
	(millions of dollars)		
Refractories Segment			
Net Sales			
Refractory Products	\$ 61.3	\$ 66.7	(8)%
Metallurgical Products	12.1	12.4	(2)%
Total net sales	<u>\$ 73.4</u>	<u>\$ 79.1</u>	<u>(7)%</u>
Income from operations	\$ 10.2	\$ 11.5	(11)%
% of net sales	13.9%	14.5%	

Net sales in the Refractories segment decreased 7% to \$73.4 million from \$79.1 million in the prior year driven by lower Refractory sales in Europe and North America. Sales of refractory products and systems to steel and other industrial applications decreased to \$61.3 million. Sales of metallurgical products decreased 2% to \$12.1 million.

Income from operations was \$10.2 million and 13.9% of sales as compared with \$11.5 million and 14.5% of sales in the prior year.

	Three Months Ended		% Growth
	Sep. 29, 2019	Sep. 30, 2018	
	(millions of dollars)		
Energy Services Segment			
Net Sales			
	\$ 25.5	\$ 19.2	33%
Income from operations	\$ 2.0	\$ 1.1	82%
% of net sales	7.8%	5.7%	

Net sales in the Energy Services segment increased 33% to \$25.5 million from \$19.2 million in the prior year, primarily driven by higher well testing and filtration activity in the Gulf of Mexico and increased equipment sales and filtration activity in the Asia Pacific region.

Operating income was \$2.0 million as compared with \$1.1 million in the prior year.

Nine months ended September 29, 2019 as compared with nine months ended September 30, 2018

Consolidated Income Statement Review

(millions of dollars)	Nine Months Ended		% Growth
	Sep. 29, 2019	Sep. 30, 2018	
Net sales	\$ 1,350.8	\$ 1,360.1	(1)%
Cost of sales	1,017.9	1,011.5	1%
Production margin	332.9	348.6	(5)%
Production margin %	24.6%	25.6%	
Marketing and administrative expenses	138.2	135.1	2%
Research and development expenses	14.9	17.5	(15)%
Acquisition related transaction and integration costs	—	1.7	*
Litigation expenses	5.6	—	*
Restructuring and other items, net	13.2	0.7	*
Income from operations	161.0	193.6	(17)%
Operating margin %	11.9%	14.2%	
Interest expense, net	(33.3)	(33.9)	(2)%
Non-cash pension settlement charge	—	(3.6)	*
Other non-operating income (deductions), net	(5.4)	(0.5)	*
Total non-operating deductions, net	(38.7)	(38.0)	2%
Income from operations before tax and equity in earnings	122.3	155.6	(21)%
Provision for taxes on income	17.0	29.3	(42)%
Effective tax rate	13.9%	18.8%	
Equity in earnings of affiliates, net of tax	1.4	2.9	(52)%
Net income	106.7	129.2	(17)%
Net income attributable to non-controlling interests	3.0	3.3	(9)%
Net income attributable to Minerals Technologies Inc.	\$ 103.7	\$ 125.9	(18)%

* Not meaningful

Net Sales

(millions of dollars)	Nine Months Ended Sep. 29, 2019			Nine Months Ended Sep. 30, 2018		
	Net Sales	% of Total Sales	% Growth	Net Sales	% of Total Sales	% Growth
U.S.	\$ 728.6	53.9%	—	\$ 726.2	53.4%	
International	622.2	46.1%	(2)%	633.9	46.6%	
Total sales	\$ 1,350.8	100.0%	(1)%	\$ 1,360.1	100.0%	
Performance Materials Segment	\$ 621.9	46.0%	—	\$ 621.3	45.7%	
Specialty Minerals Segment	432.6	32.0%	(3)%	446.8	32.9%	
Refractories Segment	224.7	16.6%	(4)%	234.0	17.2%	
Energy Services Segment	71.6	5.3%	23%	58.0	4.3%	
Total sales	\$ 1,350.8	100.0%	(1)%	\$ 1,360.1	100.0%	

Total sales decreased \$9.3 million or 1% from the previous year to \$1,350.8 million. Foreign exchange had an unfavorable impact on sales of approximately \$29.6 million or 2%.

Net sales in the United States increased to \$728.6 million from \$726.2 million in the prior year. International sales decreased to \$622.2 million from \$633.9 million in the prior year.

Operating Costs and Expenses

Cost of sales increased 1% from the prior year and was 75.4% of sales, as compared with 74.4% in the prior year. Gross margin decreased to 24.6% of sales as compared with 25.6% of sales in the prior year. The decrease in gross margin percentage was primarily attributable to an unfavorable product mix and higher raw material and logistics costs across all segments.

Marketing and administrative costs were \$138.2 million and 10.2% of sales compared to \$135.1 million and 9.9% of sales in the prior year. Included in marketing and administrative costs for the nine months ended September 29, 2019 was bad debt expense of \$2.5 million relating to a refractories customer bankruptcy in the U.K.

Research and development expenses were \$14.9 million and represented 1.1% of sales for the nine months ended September 29, 2019 as compared with \$17.5 million and 1.3% of sales in the prior year.

The Company recorded \$5.6 million related to ongoing litigation associated with the bankruptcy of Novinda Corp. for the nine months ended September 29, 2019.

The Company recorded \$1.7 million of acquisition related integration costs for the nine months ended September 30, 2018.

The Company recorded a \$13.2 million charge for the write-down of assets and other restructuring costs during the nine months ended September 29, 2019 due to the current demand environment and to improve profitability. The Company recorded a \$0.7 million charge for restructuring costs during the nine months ended September 30, 2018.

Income from Operations

The Company recorded income from operations of \$161.0 million as compared to \$193.6 million in the prior year. Operating income was 11.9% of sales in the first nine months of 2019 as compared with 14.2% in the prior year. Operating income during the nine months ended September 29, 2019 includes a \$13.2 million charge for the write-down of assets and severance-related costs and \$5.6 million related to ongoing litigation associated with the bankruptcy of Novinda Corp. Operating income during the nine months ended September 30, 2018 includes \$0.7 million of restructuring costs and \$1.7 million of acquisition related integration costs.

Other Non-Operating Income (Deductions)

The Company recorded non-operating deductions of \$38.7 million for the nine months ended September 29, 2019, as compared with \$38.0 million in the prior year. The \$38.7 million in the current year is comprised primarily of \$33.3 million of net interest expense. The \$38.0 million recorded in the prior year included \$33.9 million of net interest expense. Included in non-operating deductions for the nine months ended September 30, 2018 was a non-cash pension settlement charge of \$3.6 million associated with some of our pension plans in the U.S.

Provision for Taxes on Income

Provision for taxes was \$17.0 million as compared to \$29.3 million in the prior year. The effective tax rate was 13.9% as compared to 18.8% in the prior year. The lower effective tax rate was primarily due to discrete items related to restructuring charges and tax benefits resulting from the expiration of a tax statute of limitations.

Consolidated Net Income Attributable to MTI Shareholders

Consolidated net income was \$103.7 million during the nine months ended September 29, 2019, as compared with \$125.9 million in the prior year.

Segment Review

The following discussions highlight the operating results for each of our four segments.

	Nine Months Ended		% Growth
	Sep. 29, 2019	Sep. 30, 2018	
	(millions of dollars)		
Performance Materials Segment			
Net Sales			
Metalcasting	\$ 218.0	\$ 245.8	(11)%
Household, Personal Care & Specialty Products	280.4	256.4	9%
Environmental Products	72.0	64.2	12%
Building Materials	51.5	54.9	(6)%
Total net sales	<u>\$ 621.9</u>	<u>\$ 621.3</u>	<u>—</u>
Income from operations	\$ 73.9	\$ 87.6	
% of net sales	11.9%	14.1%	

Net sales in the Performance Materials segment increased slightly to \$621.9 million from \$621.3 million in the prior year. Sales in Metalcasting decreased 11% to \$218.0 million due to weaker demand in U.S. automotive, heavy truck and agricultural equipment as well as in China. Household, Personal Care & Specialty Products increased 9%, primarily driven by higher pet care revenue, including \$33.7 million from the acquisition of Sivomatic. In the third quarter of 2019, the Company combined its Basic Minerals product line with its Household, Personal Care & Specialty Products product line. Environmental Products sales rose 12% due to a large international project and higher volumes of our geosynthetic clay liners and specialty liners. These sales increases were partially offset by 6% lower sales in Building Materials, primarily due to the difference in the magnitude of waterproofing projects compared to the prior year.

Income from operations was \$73.9 million and 11.9% of sales as compared to \$87.6 million and 14.1% of sales in the prior year. Included in income from operations for the nine month period ended September 29, 2019 were \$7.0 million of restructuring and impairment costs. While pricing actions more than offset higher raw material costs, operating income and margins were affected by the lower Metalcasting sales and unfavorable product mix.

	Nine Months Ended		% Growth
	Sep. 29, 2019	Sep. 30, 2018	
	(millions of dollars)		
Specialty Minerals Segment			
Net Sales			
Paper PCC	\$ 271.9	\$ 284.6	(4)%
Specialty PCC	53.1	51.2	4%
PCC Products	<u>\$ 325.0</u>	<u>\$ 335.8</u>	<u>(3)%</u>
Ground Calcium Carbonate	\$ 70.1	\$ 70.7	(1)%
Talc	37.5	40.3	(7)%
Processed Minerals Products	<u>\$ 107.6</u>	<u>\$ 111.0</u>	<u>(3)%</u>
Total net sales	<u>\$ 432.6</u>	<u>\$ 446.8</u>	<u>(3)%</u>
Income from operations	\$ 63.7	\$ 74.2	(14)%
% of net sales	14.7%	16.6%	

Worldwide sales in the Specialty Minerals segment were \$432.6 million, as compared with \$446.8 million in the prior year, a decrease of 3%.

Worldwide net sales of PCC products, which are primarily used in the manufacturing process of the paper industry, decreased 3% to \$325.0 million from \$335.8 million in the prior year. Paper PCC sales decreased 4% to \$271.9 million from \$284.6 million in the prior year due to previously announced customer paper machine shutdowns in North America, including the closure of a U.S. paper mill in the first quarter of 2019 and lower volumes in Europe. Specialty PCC products increased 4%, primarily due to a demand-driven expansions.

Net sales of Processed Minerals products decreased 3% to \$107.6 million from \$111.0 million in the prior year. Ground Calcium Carbonate sales decreased 1% primarily due to lower volumes in the construction market.

Income from operations was \$63.7 million and 14.7% of net sales as compared to \$74.2 million and 16.6% of sales in the prior year. Included in income from operations for the nine month period ended September 29, 2019 were \$2.5 million of restructuring and impairment costs.

	Nine Months Ended		% Growth
	Sep. 29, 2019	Sep. 30, 2018	
	(millions of dollars)		
Refractories Segment			
Net Sales			
Refractory Products	\$ 184.3	\$ 195.7	(6)%
Metallurgical Products	40.4	38.3	5%
Total net sales	<u>\$ 224.7</u>	<u>\$ 234.0</u>	<u>(4)%</u>
Income from operations	\$ 29.4	\$ 34.6	(15)%
% of net sales	13.1%	14.8%	

Net sales in the Refractories segment decreased 4% to \$224.7 million from \$234.0 million in the prior year. Sales of refractory products and systems to steel and other industrial applications decreased 6% to \$184.3 million from \$195.7 million in the prior year due to lower volumes. This was partially offset by higher sales in the Metallurgical Products product line, which increased 5% to \$40.4 million.

Income from operations was \$29.4 million and 13.1% of sales as compared with \$34.6 million and 14.8% of sales. Included in income from operations for the nine month period ended September 29, 2019 were \$0.8 million of restructuring costs and a \$2.5 million bad debt reserve relating to a customer bankruptcy.

	Nine Months Ended		% Growth
	Sep. 29, 2019	Sep. 30, 2018	
	(millions of dollars)		
Energy Services Segment			
Net Sales			
	\$ 71.6	\$ 58.0	23%
Income from operations	\$ 5.3	\$ 3.3	61%
% of net sales	7.4%	5.7%	

Net sales in the Energy Services segment increased 23% to \$71.6 million from \$58.0 million in the prior year, primarily driven by higher filtration activity in the North Sea and the Gulf of Mexico and increased equipment sales and filtration activity in the Asia Pacific region.

Income from operations during the nine months ended September 29, 2019 was \$5.3 million and represented 7.4% of sales. Included in income from operations for the nine month period ended September 29, 2019 were \$1.8 million of restructuring and impairment costs. Income from operations was \$3.3 million and 5.7% of sales during the nine months ended September 30, 2018, which included \$0.4 million of restructuring costs.

Liquidity and Capital Resources

Cash provided from operations during the nine months ended September 29, 2019, was approximately \$159 million. Cash flows provided from operations during 2019 were principally used to repay debt, fund capital expenditures, repurchase shares and to pay the Company's dividend to common shareholders. The aggregate maturities of long-term debt are as follows: remainder of 2019 - \$1.1 million; 2020 - \$2.1 million; 2021 - \$202.3 million; 2022 - \$0.2 million; 2023 - \$0.0 million; thereafter - \$658.0 million.

On May 9, 2014, in connection with the acquisition of AMCOL International Corporation (“AMCOL”), the Company entered into a credit agreement providing for the \$1.560 billion senior secured term loan facility (the “Term Facility”) and a \$200 million senior secured revolving credit facility (the “Revolving Facility” and, together with the Term Facility, the “Facilities”).

On June 23, 2015, the Company entered into an amendment (the “First Amendment”) to the credit agreement to reprice the \$1.378 billion then outstanding on the Term Facility. As amended, the Term Facility had a \$1.078 billion floating rate tranche and a \$300 million fixed rate tranche. On February 14, 2017, the Company entered into an amendment (the “Second Amendment”) to the credit agreement to reprice the \$788 million floating rate tranche then outstanding, which extended the maturity and lowered the interest costs by 75 basis points. On April 18, 2018, the Company entered into an amendment (the “Third Amendment”) to the credit agreement to refinance the Revolving Facility. As amended, the Revolving Facility has been increased to \$300 million in aggregate commitments. Following the amendments, the loans outstanding under the floating rate tranche of the Term Facility will mature on February 14, 2024, the loans outstanding under the fixed rate tranche of the Term Facility will mature on May 9, 2021 and the loans outstanding (if any) and commitments under the Revolving Facility will mature and terminate, as the case may be, on April 18, 2023. Loans under the floating rate tranche of the Term Facility bear interest at a rate equal to an adjusted LIBOR rate (subject to a floor of 0.75%) plus an applicable margin equal to 2.25% per annum. Loans under the fixed rate tranche of the Term Facility bear interest at a rate of 4.75%. Loans under the Revolving Facility bear interest at a rate equal to an adjusted LIBOR rate plus an applicable margin equal to 1.625% per annum. Such rates are subject to decrease by up to 25 basis points in the event that, and for so long as, the Company’s net leverage ratio (as defined in the credit agreement) is less than certain thresholds. The floating rate tranche of the Term Facility was issued at par and the fixed rate tranche of the Term Facility was issued at a 0.25% discount in connection with the First Amendment. The variable rate tranche of the Term Facility was issued at a 0.25% discount in connection with the Second Amendment. The variable rate tranche has a 1% required amortization per year. The Company will pay certain fees under the credit agreement, including customary annual administration fees. The obligations of the Company under the Facilities are unconditionally guaranteed jointly and severally by, subject to certain exceptions, all material domestic subsidiaries of the Company (the “Guarantors”) and secured, subject to certain exceptions, by a security interest in substantially all of the assets of the Company and the Guarantors.

During the first nine months of 2019, the Company repaid \$65.0 million on its Term Facility.

The credit agreement contains certain customary affirmative and negative covenants that limit or restrict the ability of the Company and its restricted subsidiaries to enter into certain transactions or take certain actions. In addition, the credit agreement contains a financial covenant that requires the Company, if on the last day of any fiscal quarter loans or letters of credit were outstanding under the Revolving Facility (excluding up to \$15 million of letters of credit), to maintain a maximum net leverage ratio (as defined in the credit agreement) of, initially, 5.25 to 1.00 for the four fiscal quarter periods preceding such day. Such maximum net leverage ratio requirement is subject to decrease during the duration of the facility to a minimum level (when applicable) of 3.50 to 1.00. In connection with the Sivomatic acquisition, the Company incurred \$113.0 million of short-term debt under the Revolving Facility. As of September 29, 2019, there were \$100 million in outstanding loans and \$10.2 million in letters of credit outstanding under the Revolving Facility. The Company is in compliance with all the covenants associated with the Revolving Facility as of the end of the period covered by this report.

As part of the Sivomatic acquisition, the Company assumed \$10.7 million in long term debt, recorded at fair value, consisting of two term loans, one of which matures in 2020 and the other of which matures in 2022. In the first nine month of 2019, the Company repaid \$1.7 million on these loans.

The Company has a committed loan facility in Japan. As of September 29, 2019, \$4.7 million was outstanding under this loan facility. Principal will be repaid in accordance with the payment schedule ending in 2021. The Company repaid \$0.5 million on this facility during the first nine months of 2019.

As of September 29, 2019, the Company had \$41.2 million in uncommitted short-term bank credit lines, of which approximately \$3.0 million was in use. The credit lines are primarily outside the U.S. and are generally one year in term at competitive market rates at large, well-established institutions. The Company typically uses its available credit lines to fund working capital requirements or local capital spending needs. We anticipate that capital expenditures for 2019 should be between \$70 million and \$80 million, principally related to the construction of PCC plants and other opportunities that meet our strategic growth objectives. We expect to meet our other long-term financing requirements from internally generated funds, committed and uncommitted bank credit lines and, where appropriate, project financing of certain satellite plants.

On April 5, 2016, the Company entered into a floating to fixed interest rate swap for an initial aggregate notional amount of \$300 million to limit exposure to interest rate increases related to a portion of the Company’s floating rate indebtedness. This swap agreement hedges a portion of contractual floating rate interest through its expiration in May 2021. As a result of the agreement, the Company’s effective fixed interest rate on the notional amount floating rate indebtedness will be 4.25%. The fair value of this instrument at September 29, 2019 was an asset of \$0.5 million.

During the second quarter of 2018, the Company entered into a floating to fixed interest rate swap for a notional amount of \$150 million. Additionally, the Company entered into a cross currency rate swap with a total notional value of \$150 million to exchange monthly fixed-rate interest payments in U.S. dollars for monthly fixed-rate interest rate payments in Euros. These swaps mature in May 2023. As a result of these swaps, the Company's effective fixed interest rate on the notional floating rate indebtedness will be 2.5%. The combined fair value of these instruments at September 29, 2019 was an asset of \$6.8 million.

On September 21, 2017, the Company's Board of Directors authorized the Company's management to repurchase, at its discretion, up to \$150 million of the Company's shares over a two-year period commencing October 1, 2017. As of September 29, 2019, 734,591 shares were repurchased under this program for \$42.7 million, or an average price of approximately \$58.11 per share. This program is now completed.

On October 23, 2019, the Company's Board of Directors authorized the Company's management to repurchase, at its discretion, up to \$75 million of the Company's shares over a one -year period.

The Company is required to make future payments under various contracts, including debt agreements and lease agreements. The Company also has commitments to fund its pension plans and provide payments for other postretirement benefit plans. During the nine months ended September 29, 2019, there were no material changes in the Company's contractual obligations. For an in-depth discussion of the Company's contractual obligations, see "Liquidity and Capital Resources" in "Management's Discussion and Analysis of Financial Condition and Results of Operations" in the Company's Annual Report on Form 10-K for the year ended December 31, 2018.

Cautionary Statement for "Safe Harbor" Purposes under the Private Securities Litigation Reform Act of 1995

The Private Securities Litigation Reform Act of 1995 provides a safe harbor for forward-looking statements made by or on behalf of the Company. This report contains statements that the Company believes may be "forward-looking statements" within the meaning of Section 21E of the Securities Exchange Act of 1934, particularly statements relating to the Company's objectives, plans or goals, future actions, future performance or results of current and anticipated products, sales efforts, expenditures, and financial results. From time to time, the Company also provides forward-looking statements in other publicly-released materials, both written and oral. Forward-looking statements provide current expectations and forecasts of future events such as new products, revenues and financial performance, and are not limited to describing historical or current facts. They can be identified by the use of words such as "believes," "expects," "plans," "intends," "anticipates," and other words and phrases of similar meaning.

Forward-looking statements are necessarily based on assumptions, estimates and limited information available at the time they are made. A broad variety of risks and uncertainties, both known and unknown, as well as the inaccuracy of assumptions and estimates, can affect the realization of the expectations or forecasts in these statements. Many of these risks and uncertainties are difficult to predict or are beyond the Company's control. Consequently, no forward-looking statement can be guaranteed. Actual future results may vary materially. Significant factors affecting the expectations and forecasts are set forth under "Item 1A — Risk Factors" in the Company's Annual Report on Form 10-K for the year ended December 31, 2018, and in Exhibit 99 to this Quarterly Report on Form 10-Q.

The Company undertakes no obligation to update any forward-looking statements to reflect events or circumstances that arise after the date hereof. Investors should refer to the Company's subsequent filings under the Securities Exchange Act of 1934 for further disclosures.

Recently Issued Accounting Standards

Changes to accounting principles generally accepted in the United States of America (U.S. GAAP) are established by the Financial Accounting Standards Board (FASB) in the form of accounting standards updates (ASUs) to the FASB's Accounting Standards Codification. The Company considers the applicability and impact of all ASUs. All recently issued ASUs were assessed and determined to be either not applicable or are expected to have minimal impact on our consolidated financial position and results of operations.

Recently Adopted Accounting Standards

On January 1, 2019, the Company adopted the provisions of ASU 2016-02, "Leases", which requires lessees to recognize most leases on-balance sheet. The Company has adopted this new standard under the modified retrospective transition method, using the effective date as our date of initial application. As such, financial information and required disclosures will not be provided for dates prior to January 1, 2019. The new standard provides a number of optional practical expedients in transition. We have elected the 'package of practical expedients', which permits us not to reassess under the new standard our prior conclusions about lease identification, lease classification and initial direct costs. The new standard also provides practical expedients for an entity's ongoing accounting. We have elected the short-term lease recognition exemption for all leases that qualify. On adoption, we recognized additional operating liabilities of \$61.4 million with corresponding right-of-use assets of \$50.5 million based on the present value of the remaining lease payments under existing operating leases. As of December 31, 2018, we had \$10.9 million in deferred charges related to some of our real estate leases that were recorded against the right of use asset as part of the transition. The adoption of this standard did not have a material impact on the Company's financial statements.

On January 1, 2019, the Company adopted the provisions of ASU 2018-02, "Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income", which allows a reclassification from accumulated other comprehensive income to retained earnings for stranded tax effects resulting from the U.S. Tax Cuts and Jobs Act. As a result, the Company reclassified \$10.9 million from "Accumulated other comprehensive loss" to "Retained earnings" on the Condensed Consolidated Balance Sheets as of September 29, 2019.

Critical Accounting Policies

Our discussion and analysis of our financial condition and results of operations are based upon our consolidated financial statements, which have been prepared in accordance with U.S. generally accepted accounting principles. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities.

On an ongoing basis, we evaluate our estimates and assumptions, including those related to revenue recognition, valuation of long-lived assets, goodwill and other intangible assets, income taxes, including valuation allowances and pension plan assumptions. We base our estimates on historical experience and on other assumptions that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that cannot readily be determined from other sources. There can be no assurance that actual results will not differ from those estimates.

ITEM 3. Quantitative and Qualitative Disclosures about Market Risk

Market risk represents the risk of loss that may impact our financial position, results of operations or cash flows due to adverse changes in market prices and foreign currency and interest rates. We are exposed to market risk because of changes in foreign currency exchange rates as measured against the U.S. dollar. We do not anticipate that near-term changes in exchange rates will have a material impact on our future earnings or cash flows. However, there can be no assurance that a sudden and significant decline in the value of foreign currencies would not have a material adverse effect on our financial condition and results of operations. A portion of our long-term bank debt bears interest at variable rates; therefore, our results of operations would be affected by interest rate changes to the extent of such outstanding bank debt. An immediate 10 percent change in interest rates would have a material effect on our results of operations over the next fiscal year. A one-percent change in interest rates, inclusive of the impact of our interest rate derivatives, would result in \$4.1 million in incremental interest charges on an annual basis.

We do not enter into derivatives or other financial instruments for trading or speculative purposes. When appropriate, we enter into derivative financial instruments, such as forward exchange contracts, hedges and interest rate swaps, to mitigate the impact of foreign exchange rate movements and interest rate movements on our operating results. The counterparties are major financial institutions. Such forward exchange contracts, hedges and interest rate swaps would not subject us to additional risk from exchange rate or interest rate movements because gains and losses on these contracts would offset losses and gains on the assets, liabilities, and transactions being hedged.

On April 5, 2016, the Company entered into a floating to fixed interest rate swap for an initial aggregate notional amount of \$300 million to limit exposure to interest rate increases related to a portion of the Company's floating rate indebtedness. This swap agreement hedges a portion of contractual floating rate interest through its expiration in May 2021. As a result, the Company's effective fixed interest rate on the notional amount floating rate indebtedness will be 4.25% through May 2021. The fair value of this instrument at September 29, 2019 was an asset of \$0.5 million.

During the second quarter of 2018, the Company entered into a floating to fixed interest rate swap for a notional amount of \$150 million. Additionally, the Company entered into a cross currency rate swap with a total notional value of \$150 million to exchange monthly fixed-rate interest payments in U.S. dollars for monthly fixed-rate interest rate payments in Euros. These swaps mature in May 2023. As a result of these swaps, the Company's effective fixed interest rate on the notional floating rate indebtedness will be 2.5%. The combined fair value of these instruments at September 29, 2019 was an asset of \$6.8 million.

ITEM 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

As of the end of the period covered by this report, and under the supervision and with participation of the Company's management, including the Chief Executive Officer and the Chief Financial Officer, the Company carried out an evaluation of the effectiveness of the design and operation of the Company's disclosure controls and procedures, pursuant to Exchange Act Rule 13a-15(b). Based upon that evaluation, the Chief Executive Officer and Chief Financial Officer concluded that as of the end of the period covered by this report the Company's disclosure controls and procedures were effective.

Changes in Internal Control Over Financial Reporting

On January 1, 2019, the Company adopted the provisions of ASU No. 2016-02, "Leases (Topic 842)." Adoption of this standard did not have a material impact on the Company's financials, however, we implemented a new lease accounting system and implemented changes to our processes related to leases and related control activities.

During 2018, we closed on the acquisition of Sivomatic and we excluded Sivomatic from the scope of management's report on internal control over financial reporting for the year ended December 31, 2018. The process of integrating Sivomatic to our overall internal control over financial reporting has been completed and we will include it in scope for the year ending December 31, 2019.

There were no other changes in the Company's internal controls over financial reporting during the quarter ended September 29, 2019 that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

PART II – OTHER INFORMATION

Item 1. Legal Proceedings

The Company and its subsidiaries are the subject of various pending legal actions in the ordinary course of their businesses. Except as described below, none of such legal proceedings are material.

Silica and Asbestos Litigation

Certain of the Company's subsidiaries are among numerous defendants in a number of cases seeking damages for exposure to silica or to asbestos containing materials. The Company currently has three pending silica cases and 91 pending asbestos cases. To date, 1,493 silica cases and 61 asbestos cases have been dismissed, not including any lawsuits against AMCOL or American Colloid Company dismissed prior to our acquisition of AMCOL. Twenty nine and forty nine new asbestos cases were filed during the three and nine months ended September 29, 2019, respectively, and 9 additional asbestos cases were filed subsequent to the end of the third quarter. Two asbestos cases and no silica cases were dismissed during the first nine months of 2019. Most of these claims do not provide adequate information to assess their merits, the likelihood that the Company will be found liable, or the magnitude of such liability, if any. Additional claims of this nature may be made against the Company or its subsidiaries. At this time management anticipates that the amount of the Company's liability, if any, and the cost of defending such claims, will not have a material effect on its financial position or results of operations.

The Company has settled only one silica lawsuit, for a nominal amount, and no asbestos lawsuits to date (not including any that may have been settled by AMCOL prior to completion of the acquisition). We are unable to state an amount or range of amounts claimed in any of the lawsuits because state court pleading practices do not require identifying the amount of the claimed damage. The aggregate cost to the Company for the legal defense of these cases since inception continues to be insignificant. The majority of the costs of defense for these cases, excluding cases against AMCOL or American Colloid, are reimbursed by Pfizer Inc. pursuant to the terms of certain agreements entered into in connection with the Company's initial public offering in 1992. The Company is entitled to indemnification, pursuant to agreement, for sales prior to the initial public offering. Of the 91 pending asbestos cases, 76 of the non-AMCOL cases are subject to indemnification, in whole or in part, because the plaintiffs claim liability based on sales of products that occurred either entirely before the initial public offering, or both before and after the initial public offering. In nine of the eleven remaining non-AMCOL cases, the plaintiffs have not alleged dates of exposure sufficiently to determine indemnity obligations at this time, and in the remaining two non-AMCOL cases, exposure is alleged to have been after the Company's initial public offering in 1992. The remaining four cases involve AMCOL only, so no Pfizer indemnity is available. Our experience has been that the Company is not liable to plaintiffs in any of these lawsuits and the Company does not expect to pay any settlements or jury verdicts in these lawsuits.

Other Litigation

The Company is also the respondent in an arbitration requested by the Plan Administrator for the Bankruptcy Estate of Novinda Corp. ("Novinda"), a start-up company which declared bankruptcy in April 2016 and with which the Company had several relationships, including an equity and debt interest and a product supply relationship. On July 30, 2018, the Plan Administrator filed a Demand for Arbitration against the Company and certain of its officers, which demands damages (including fees, interest, and punitive damages) for the alleged destruction of Novinda's business. The arbitration is to occur in the fourth quarter of 2019. The Company has meritorious defenses for this matter and intends to defend itself vigorously. The Company is not able to reasonably estimate the amount, if any, of reasonably possible loss from this matter and has not recorded a loss contingency liability. We do not expect the outcome of this matter to have a material adverse effect on our financial position although, if determined adversely, it could materially impact results of operations in the period recorded. There can be no assurance as to the ultimate outcome of this matter. In advance of arbitration, the Company has recorded litigation expenses of \$5.6 million related to this matter as of September 29, 2019.

Environmental Matters

On April 9, 2003, the Connecticut Department of Environmental Protection issued an administrative consent order relating to our Canaan, Connecticut, plant where both our Refractories segment and Specialty Minerals segment have operations. We agreed to the order, which includes provisions requiring investigation and remediation of contamination associated with historic use of polychlorinated biphenyls ("PCBs") and mercury at a portion of the site. We have completed the required investigations and submitted several reports characterizing the contamination and assessing site-specific risks. We are awaiting regulators' approval of the risk assessment report, which will form the basis for a proposal by the Company concerning eventual remediation.

We believe that the most likely form of overall site remediation will be to leave the existing contamination in place (with some limited soil removal), encapsulate it, and monitor the effectiveness of the encapsulation. We anticipate that a substantial portion of the remediation cost will be borne by the United States based on its involvement at the site from 1942 – 1964, as historic documentation indicates that PCBs and mercury were first used at the facility at a time of U.S. government ownership for production of materials needed by the military. Pursuant to a Consent Decree entered on October 24, 2014, the United States paid the Company \$2.3 million in the 4th quarter of 2014 to resolve the Company's claim for response costs for investigation and initial remediation activities at this facility through October 24, 2014. Contribution by the United States to any future costs of investigation or additional remediation has, by agreement, been left unresolved. Though the cost of the likely remediation remains uncertain pending completion of the phased remediation decision process, we have estimated that the Company's share of the cost of the encapsulation and limited soil removal described above would approximate \$0.4 million, which has been accrued as of September 29, 2019.

The Company is evaluating options for upgrading the wastewater treatment facilities at its Adams, Massachusetts plant. This work has been undertaken pursuant to an administrative Consent Order originally issued by the Massachusetts Department of Environmental Protection (“DEP”) on June 18, 2002. This order was amended on June 1, 2009 and on June 2, 2010. The amended Order includes the investigation by January 1, 2022 of options for ensuring that the facility’s wastewater treatment ponds will not result in unpermitted discharge to groundwater. Additional requirements of the amendment include the submittal by July 1, 2022 of a plan for closure of a historic lime solids disposal area. Preliminary engineering reviews completed in 2005 indicate that the estimated cost of wastewater treatment upgrades to operate this facility beyond 2024 may be between \$6 million and \$8 million. The Company estimates that the remaining remediation costs would approximate \$0.4 million, which has been accrued as of September 29, 2019.

ITEM 1A. Risk Factors

For a description of Risk Factors, see Exhibit 99 attached to this report. There have been no material changes to our risk factors from those disclosed in our 2018 Annual Report on Form 10-K.

ITEM 2. Unregistered Sales of Equity Securities and Use of Proceeds

Period	<u>Total Number of Shares Purchased</u>	<u>Average Price Paid Per Share</u>	<u>Total Number of Shares Purchased as Part of the Publicly Announced Program</u>	<u>Dollar Value of Shares that May Yet be Purchased Under the Program</u>
July 1 - July 28	—	\$ —	513,323	\$ 118,309,499
July 29 - August 25	102,958	\$ 48.55	616,281	\$ 113,311,145
August 26 - September 29	118,310	\$ 50.70	734,591	\$ 107,313,058
Total	<u>221,268</u>	<u>\$ 49.70</u>		

On September 21, 2017, the Company’s Board of Directors authorized the Company’s management to repurchase, at its discretion, up to \$150 million of the Company’s shares over a two-year period commencing October 1, 2017. As of September 29, 2019, 734,591 shares were repurchased under this program for \$42.7 million, or an average price of approximately \$58.11 per share. This program is now complete.

On October 23, 2019, the Company’s Board of Directors authorized the Company’s management to repurchase, at its discretion, up to \$75 million of the Company’s shares over a one-year period.

ITEM 3. Default Upon Senior Securities

Not applicable.

ITEM 4. Mine Safety Disclosures

The information concerning mine safety violations or other regulatory matters required by Section 1503(a) of the Dodd-Frank Wall Street Reform and Consumer Protection Act and Item 104 of Regulation S-K is included in Exhibit 95 to this Quarterly Report on Form 10-Q.

ITEM 5. Other Information

None

ITEM 6. Exhibits

<u>Exhibit No.</u>	<u>Exhibit Title</u>
15	Letter Regarding Unaudited Interim Financial Information.
31.1	Rule 13a-14(a)/15d-14(a) Certification executed by the Company's principal executive officer.
31.2	Rule 13a-14(a)/15d-14(a) Certification executed by the Company's principal financial officer.
32	Section 1350 Certifications.
95	Information concerning Mine Safety Violations
99	Risk Factors
101.INS	XBRL Instance Document (the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document).
101.SCH	Inline XBRL Taxonomy Extension Schema
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase
104	Cover Page Interactive Data File (formatted as inline XBRL and contain in Exhibit 101).

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Minerals Technologies Inc.

By: /s/ **Matthew E. Garth**

Matthew E. Garth
Senior Vice President, Finance and Treasury,
Chief Financial Officer

November 1, 2019

ACCOUNTANTS' ACKNOWLEDGEMENT

The Board of Directors
Minerals Technologies Inc.:

Re: Registration Statement Nos. 333-160002, 33-59080, 333-62739, 333-138245 and 333-206244

With respect to the subject registration statements, we acknowledge our awareness of the use therein of our report dated November 1, 2019 related to our review of interim financial information.

Pursuant to Rule 436 under the Securities Act of 1933 (the Act), such report is not considered part of a registration statement prepared or certified by an independent registered public accounting firm, or a report prepared or certified by an independent registered public accounting firm within the meaning of Sections 7 and 11 of the Act.

/s/ KPMG LLP

New York, New York
November 1, 2019

RULE 13a-14(a)/15d-14(a) CERTIFICATION

I, Douglas T. Dietrich, certify that:

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

Date: November 1, 2019

By: /s/Douglas T. Dietrich
Douglas T. Dietrich
Chief Executive Officer

RULE 13a-14(a)/15d-14(a) CERTIFICATION

I, Matthew E. Garth, certify that:

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

Date: November 1, 2019

By: **/s/Matthew E. Garth**

Matthew E. Garth
Senior Vice President, Finance and Treasury,
Chief Financial Officer

SECTION 1350 CERTIFICATIONS

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of Section 1350 of Chapter 63 of Title 18, United States Code), each of the undersigned officers of Minerals Technologies Inc., a Delaware corporation (the "Company"), does hereby certify that:

The Quarterly Report on Form 10-Q for the quarter ended September 29, 2019 (the "Form 10-Q") of the Company fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, and information contained in the Form 10-Q fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: November 1, 2019

By: /s/Douglas T. Dietrich
Douglas T. Dietrich
Chief Executive Officer

Date: November 1, 2019

By: /s/Matthew E. Garth
Matthew E. Garth
Senior Vice President, Finance and Treasury,
Chief Financial Officer

The foregoing certification is being furnished solely pursuant to Exchange Act Rule 13a-14(b); is not deemed to be "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, or otherwise subject to the liability of that section; and is not deemed to be incorporated by reference into any filing under the Securities Act of 1933 or the Exchange Act of 1934.

Section 1503 of the Dodd-Frank Wall Street Reform and Consumer Protection Act and Item 104 of Regulation S-K contain certain reporting requirements regarding coal or other mine safety. The Company, through its subsidiaries Specialty Minerals Inc., Barretts Minerals Inc., and American Colloid Company, operates fourteen mines in the United States. The operation of our mines is subject to regulation by the federal Mine Safety and Health Administration ("MSHA") under the Federal Mine Safety and Health Act of 1977 (the "Mine Act"). MSHA inspects our mines on a regular basis and issues various citations and orders when it believes a violation has occurred under the Mine Act.

The following table sets forth the required information with respect to each mine for which we are the operator for the period July 1, 2019 to September 29, 2019:

Mine	Section 104(a)	Section 104(b)	Section 104(d)	Section 110(b)	Section 107(a)	Proposed	Fatalities
	S&S			(2)		Assessments	
	(A)	(B)	(C)	(D)	(E)	(F)	(G)
Lucerne Valley, CA 04-00219	0	0	0	0	0	\$ 0	0
Canaan, CT 06-00019	0	0	0	0	0	\$ 0	0
Adams, MA 19-00035	0	0	0	0	0	\$ 558	0
Barretts Mill, Dillon, MT 24-00157	0	0	0	0	0	\$ 2,531	0
Regal Mine, Dillon, MT 24-01994	0	0	0	0	0	\$ 0	0
Treasure Mine, Dillon, MT 24-00160	0	0	0	0	0	\$ 0	0
Belle/Colony Mine, WY 48-00888	0	0	0	0	0	\$ 1,241	0
Belle Fourche Mill, SD 39-00049	0	0	0	0	0	\$ 0	0
Colony East, WY 48-00594	0	0	0	0	0	\$ 1,531	0
Colony West, WY 48-00245	0	0	0	0	0	\$ 3,709	0
Gascoyne, ND 32-00459	0	0	0	0	0	\$ 242	0
Lovell, WY 48-00057	2	0	0	0	0	\$ 1,116	0
Sandy Ridge, AL 01-00093	0	0	0	0	0	\$ 423	0
Yellowtail, WY 48-00607	0	0	0	0	0	\$ 0	0

(A) The total number of violations of mandatory health or safety standards that could significantly and substantially contribute to the cause and effect of a mine safety or health hazard under section 104 of the Mine Act for which we received a citation from MSHA.

(B) The total number of orders issued under section 104(b) of the Mine Act.

(C) The total number of citations and orders for unwarrantable failure of the Company to comply with mandatory health or safety standards under section 104(d) of the Mine Act.

(D) The total number of flagrant violations under section 110(b)(2) of the Mine Act.

(E) The total number of imminent danger orders issued under section 107(a) of the Mine Act.

(F) The total dollar value of proposed assessments from MSHA under the Mine Act.

(G) The total number of mining-related fatalities, other than fatalities determined by MSHA to be unrelated to mining activity.

During the period July 1, 2019 to September 29, 2019, we did not receive any written notice from MSHA, with respect to any mine for which we are the operator, of (A) a pattern of violations of mandatory health or safety standards that are of such nature as could have significantly and substantially contributed to the cause and effect of mine health and safety hazards under section 104(e) of the Mine Act or (B) the potential to have such a pattern.

The following table sets forth the required information with respect to legal actions before the Federal Mine Safety and Health Review Commission involving each mine for which we are the operator for the period July 1, 2019 to September 29, 2019:

Mine	Legal Actions Pending as of Last Day of Period	Legal Actions Initiated During Period	Legal Actions Resolved During Period
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Lucerne Valley, CA	0	0	0
Canaan, CT	0	0	0
Adams, MA	0	0	0
Barretts Mill, Dillon, MT	0	0	0
Regal Mine, Dillon, MT	0	0	0
Treasure Mine, Dillon, MT	0	0	0
Belle/Colony Mine, WY	0	0	0
Belle Fourche Mill, SD	0	0	0
Colony East, WY	0	0	0
Colony West, WY	0	0	0
Gascoyne, ND	0	0	0
Lovell, WY	0	0	0
Sandy Ridge, AL	0	0	0
Yellowtail, WY	0	0	0

RISK FACTORS

Our business faces significant risks. Set forth below are all risks that we believe are material at this time. Our business, financial condition and results of operations could be materially adversely affected by any of these risks. These risks should be read in conjunction with the other information in the Company's Annual Report on Form 10-K for the year ended December 31, 2018, and this Quarterly Report on Form 10-Q.

Worldwide general economic, business, and industry conditions have had, and may continue to have, an adverse effect on the Company's results.

The global economic instability experienced in recent years had caused, among other things, declining consumer and business confidence, volatile raw material prices, instability in credit markets, high unemployment, fluctuating interest and exchange rates, and other challenges in the countries in which we operate. The Company's business and operating results had been and could once again be adversely affected by these global economic conditions. The Company's customers and potential customers may experience deterioration of their businesses, cash flow shortages, and difficulty obtaining financing. As discussed below, the industries we serve have in the past been adversely affected by the uncertain global economic climate due to the cyclical nature of their businesses. As a result, existing or potential customers may reduce or delay their growth and investments and their plans to purchase products and may not be able to fulfill their obligations in a timely fashion. Further, suppliers could experience similar conditions, which could affect their ability to fulfill their obligations to the Company. Adversity within capital markets may also impact the Company's results of operations by negatively affecting the amount of expense the Company records for its pension and other postretirement benefit plans. Actuarial valuations used to calculate income or expense for the plans reflect assumptions about financial market and other economic conditions – the most significant of which are the discount rate and the expected long-term rate of return on plan assets. Such actuarial valuations may change based on changes in key economic indicators. Global economic markets remain uncertain, and there can be no assurance that market conditions will improve in the near future. Future weakness in the global economy could materially and adversely affect our business and operating results.

Our customers' businesses are cyclical or have changing regional demands. Our operations are subject to these trends and we may not be able to mitigate these risks.

Our Performance Materials segment's sales are predominantly derived from the metalcasting market. The metalcasting market is dependent upon the demand for castings for automobile components, farm and construction equipment, oil and gas production equipment, power generation turbine castings, and rail car components. Many of these types of equipment are sensitive to fluctuations in demand during periods of recession or difficult economic conditions, which ultimately may affect the demand for our Performance Materials segment's products and services.

In the paper industry, which is served by our Paper PCC product line, production levels for uncoated freesheet within North America and Europe, our two largest markets are projected to continue to decrease. The reduced demand for premium writing paper products has also caused recent paper mill closures.

Our Refractories segment primarily serves the steel industry. European steel production continues to be affected by global volatility and overcapacity in the market. North American steel tariffs have stabilized current production in the United States, however, the tariffs are subject to change.

Demand for our Energy Services segment's products and services is affected by the level of exploration, development, and production activity of, and the corresponding capital spending by, oil and natural gas companies, which are heavily influenced by the benchmark price of these commodities. Oil and natural gas prices decreased significantly in 2014 and 2015, with West Texas Intermediate (WTI) oil spot prices declining from a high of \$108 per barrel in June 2014 to a low of \$26 per barrel in February 2016. This has caused oil and natural gas companies to reduce their capital expenditures and production and exploration activities. This has the effect of decreasing the demand and increasing competition for the services we provide. In addition, the performance of our Energy Services segment is affected by changes in technologies, locations of customers' targeted reserves, and competition in various geographic markets.

Our Environmental Products and Building Materials products sales are predominantly derived from the commercial construction and infrastructure markets. In addition, our Processed Minerals and Specialty PCC product lines are affected by the domestic building and construction markets, as well as the automotive market.

Demand for our products is subject to trends in these markets. During periods of economic slowdown, our customers often reduce their capital expenditures and defer or cancel pending projects. Such developments occur even amongst customers that are not experiencing financial difficulties. In addition, these trends could cause our customers to face liquidity issues or bankruptcy, which could deteriorate the aging of our accounts receivable, increase our bad debt exposure and possibly trigger impairment of assets or realignment of our businesses. The Company has taken steps to reduce its exposure to variations in its customers' businesses, including by diversifying its portfolio of products and services; through geographic expansion, and by structuring most of its long-term satellite PCC contracts to provide a degree of protection against declines in the quantity of product purchased, since the price per ton of PCC generally rises as the number of tons purchased declines. In addition, many of the Company's product lines lower its customers' costs of production or increase their productivity, which should encourage them to use its products. However, there can be no assurance that these efforts will mitigate the risks of our dependence on these industries. Continued weakness in the industries we serve has had, and may in the future have, an adverse effect on sales of our products and our results of operations. A continued or renewed economic downturn in one or more of the industries or geographic regions that the Company serves, or in the worldwide economy, could cause actual results of operations to differ materially from historical and expected results.

The Company's results could be adversely affected if it is unable to effectively achieve and implement its growth initiatives.

Sales and income growth of the Company depends upon a number of uncertain events, including the outcome of the Company's strategies of increasing its penetration into geographic markets such as Brazil, Russia, India and China as well as other Asian and Eastern European countries; increasing its penetration into product markets such as the market for papercoating pigments and the market for groundwood paper pigments; increasing sales to existing PCC customers by increasing the amount of PCC used per ton of paper produced; developing, introducing and selling new products such as the FulFill® family of products for the paper industry. Difficulties, delays or failure of any of these strategies could affect the future growth rate of the Company. Our strategy also anticipates growth through future acquisitions. However, our ability to identify and consummate any future acquisitions on terms that are favorable to us may be limited by the number of attractive acquisition targets, internal demands on our resources and our ability to obtain financing. Our success in integrating newly acquired businesses will depend upon our ability to retain key personnel, avoid diversion of management's attention from operational matters, and integrate general and administrative services. In addition, future acquisitions could result in the incurrence of additional debt, costs and contingent liabilities. Integration of acquired operations may take longer, or be more costly or disruptive to our business, than originally anticipated, and

it is also possible that expected synergies from future acquisitions may not materialize. We also may incur costs and divert management attention with regard to potential acquisitions that are never consummated.

Servicing the Company's debt will require a significant amount of cash. This could reduce the Company's flexibility to respond to changing business and economic conditions or fund capital expenditures or working capital needs. Our ability to generate cash depends on many factors beyond our control.

At September 29, 2019 the Company had outstanding borrowings of \$856 million pursuant to our senior secured credit facility. This financing will require a significant amount of cash to make interest payments. Further, the interest rate on a significant portion of our borrowings under our senior secured credit facility is based on LIBOR interest rates, which could result in higher interest expense in the event of an increase in interest rates. Our ability to pay interest on our debt and to satisfy our other debt obligations will depend in part upon our future financial and operating performance and upon our ability to renew or refinance borrowings. Prevailing economic conditions and financial, business, competitive, regulatory and other factors, many of which are beyond our control, will affect our ability to make these payments. We cannot guarantee that our business will generate sufficient cash flow from operations or that future borrowings will be available to us in an amount sufficient to enable us to fund our liquidity needs. If we are unable to generate sufficient cash flow to meet our debt service obligations, we will have to pursue one or more alternatives, such as reducing or delaying capital or other expenditures, refinancing debt, selling assets, or raising equity capital. Further, the requirement to make significant interest payments may reduce the Company's flexibility to respond to changing business and economic conditions or fund capital expenditure or working capital needs and may increase the Company's vulnerability to adverse economic conditions.

Our senior secured credit facility contains various covenants that limit our ability to take certain actions and our revolving credit facility, if used, also requires us to meet financial maintenance tests, failure to comply with which could have a material adverse effect on us.

The agreement governing our senior secured credit facility contains a number of significant covenants that, among other things, limit our ability to: incur additional debt or liens, consolidate or merge with any other person, alter the business we conduct, make investments, use the proceeds of asset sales or sale/leaseback transactions, enter into hedging arrangements, pay dividends or make certain other restricted payments, create dividend or other payment restrictions with respect to subsidiaries, and enter into transactions with affiliates. In addition, our revolving credit facility, if used, requires us to comply with specific financial ratios, including a maximum net leverage ratio, under which we are required to achieve specific financial results. Commencing with the second quarter of 2018, we had borrowings under our revolving credit facility, and are therefore required to comply with such financial ratios. Our ability to comply with these provisions may be affected by events beyond our control. A breach of any of these covenants would result in a default under the agreements. In the event of any default, our lenders could elect to declare all amounts borrowed under the agreements, together with accrued interest thereon, to be due and payable. In such an event, we cannot assure you that we would have sufficient assets to pay debt then outstanding under the agreements governing our debt. Any future refinancing of the senior secured credit facility is likely to contain similar restrictive covenants.

The Company's sales of PCC could be adversely affected by our failure to renew or extend long term sales contracts for our satellite operations.

The Company's sales of PCC to paper customers are typically pursuant to long-term evergreen agreements, initially ten years in length, with paper mills where the Company operates satellite PCC plants. Sales pursuant to these contracts represent a significant portion of our worldwide Paper PCC sales, which were \$378.5 million in 2018, or approximately 21% of the Company's net sales. The terms of many of these agreements have been extended or renewed in the past, often in connection with an expansion of the satellite plant. However, failure of a number of the Company's customers to renew or extend existing agreements on terms as favorable to the Company as those currently in effect, or at all, could have a substantial adverse effect on the Company's results of operations, and could also result in impairment of the assets associated with the PCC plant.

The Company's sales could be adversely affected by consolidation in customer industries, principally paper, foundry and steel.

Several consolidations in the paper industry have taken place in recent years and such consolidation could continue in the future. These consolidations could result in partial or total closure of some paper mills where the Company operates PCC satellites. Such closures would reduce the Company's sales of PCC, except to the extent that they resulted in shifting paper production and associated purchases of PCC to another location served by the Company. Similarly, consolidations have occurred in the foundry and steel industries. Such consolidations in the major industries we serve concentrate purchasing power in the hands of a smaller number of manufacturers, enabling them to increase pressure on suppliers, such as the Company. This increased pressure could have an adverse effect on the Company's results of operations in the future.

The Company is subject to stringent regulation in the areas of environmental, health and safety, and tax, and may incur unanticipated costs or liabilities arising out of claims for various legal, environmental and tax matters or product stewardship issues.

The Company's operations are subject to international, federal, state and local governmental environmental, health and safety, tax and other laws and regulations. We have expended, and may be required to expend in the future, substantial funds for compliance with such laws and regulations. In addition, future events, such as changes to or modifications of interpretations of existing laws and regulations, or enforcement policies, or further investigation or evaluation of the potential environmental impacts of operations or health hazards of certain products, may affect our mining rights or give rise to additional compliance and other costs that could have a material adverse effect on the Company. Further, certain of our customers are subject to various federal and international laws and regulations relating to environmental and health and safety matters, especially our Energy Services customers who are subject to drilling permits, waste water disposal and other regulations. To the extent that these laws and regulations affecting our customers change, demand for our products and services could also change and thereby affect our financial results. State, national, and international governments and agencies have been evaluating climate-related legislation and regulation that would restrict emissions of greenhouse gases in areas in which we conduct business, and some such legislation and regulation have already been enacted or adopted. Enactment of climate-related legislation or adoption of regulation that restrict emissions of greenhouse gases in areas in which we conduct business could have an adverse effect on our operations or demand for our products. Our manufacturing processes, particularly the manufacturing process for PCC, use a significant amount of energy and, should energy prices increase as a result of such legislation or regulation, we may not be able to pass these increased costs on to purchasers of our products. We cannot predict if or when currently proposed or additional laws and regulations regarding climate change or other environmental or health and safety concerns will be enacted or adopted.

The Company is also subject to income tax laws and regulations in the United States and various foreign jurisdictions. Significant judgment is required in evaluating and estimating our provision and accruals for these taxes. Our income tax liabilities are dependent upon the location of earnings among these different jurisdictions. Our income tax provision and income tax liabilities could be adversely affected by the jurisdictional mix of earnings, changes in valuation of deferred tax assets and liabilities and changes in tax treaties, laws and regulations, including the U.S. Tax Cuts and Jobs Act of 2017, which effected significant changes to the U.S. corporate income tax system.

The Company is currently a party in various litigation matters and tax and environmental proceedings and faces risks arising from various unasserted litigation matters, including, but not limited to, product liability, patent infringement, antitrust claims, and claims for third party property damage or personal injury stemming from alleged environmental torts. Failure to appropriately manage safety, human health, product liability and environmental risks associated with the Company's products and production processes could adversely impact the Company's employees and other stakeholders, the Company's reputation and its results of operations. Public perception of the risks associated with the Company's products and production processes could impact product acceptance and influence the regulatory environment in which the Company operates. While the Company has procedures and controls to manage these risks, carries liability insurance, which it believes to be appropriate to its businesses, and has provided reserves for current matters, which it believes to be adequate, an unanticipated liability, arising out of a current matter or proceeding or from the other risks described above, could have a material adverse effect on the Company's financial condition or results of operations.

Delays or failures in new product development could adversely affect the Company's operations.

The Company's future business success will depend in part upon its ability to maintain and enhance its technological capabilities, to respond to changing customer needs, and to successfully anticipate or respond to technological changes on a cost-effective and timely basis. The Company is engaged in a continuous effort to develop new products and processes in all of its product lines. Difficulties, delays or failures in the development, testing, production, marketing or sale of such new products could cause actual results of operations to differ materially from our expected results.

The Company's ability to compete is dependent upon its ability to defend its intellectual property against inappropriate disclosure and infringement.

The Company's ability to compete is based in part upon proprietary knowledge, both patented and unpatented. The Company's ability to achieve anticipated results depends in part on its ability to defend its intellectual property against inappropriate disclosure as well as against infringement. In addition, development by the Company's competitors of new products or technologies that are more effective or less expensive than those the Company offers could have a material adverse effect on the Company's financial condition or results of operations.

The Company's operations could be impacted by the increased risks of doing business abroad.

The Company does business in many areas internationally. Approximately 47% of our sales in 2018 were derived from outside the United States and we have significant production facilities which are located outside of the United States. We have in recent years expanded our operations in emerging markets, and we plan to continue to do so in the future, particularly in China, India, Brazil, the Middle East, and Eastern Europe. Some of our operations are located in areas that have experienced political or economic instability, including Indonesia, Malaysia, Nigeria, Egypt, Russia, Saudi Arabia, Turkey, Brazil, Thailand, China and South Africa. The UK's decision to exit the European Union (referred to as Brexit) has caused additional volatility in the markets and currency exchange rates. Market conditions and exchange rates could continue to be volatile in the near term as this decision is implemented. As the Company expands its operations overseas, it faces increased risks of doing business abroad, including inflation, fluctuation in interest rates, changes in applicable laws and regulatory requirements, export and import restrictions, tariffs, nationalization, expropriation, limits on repatriation of funds, civil unrest, terrorism, unstable governments and legal systems, and other factors. Many of these risks are beyond our control and can lead to sudden, and potentially prolonged, changes in demand for our products, difficulty in enforcing agreements, and losses in the realizability of our assets. Adverse developments in any of the areas in which we do business could cause actual results to differ materially from historical and expected results. In addition, a significant portion of our raw material purchases and sales outside the United States are denominated in foreign currencies, and liabilities for non-U.S. operating expenses and income taxes are denominated in local currencies. Accordingly, reported sales, net earnings, cash flows and fair values have been and, in the future, will be affected by changes in foreign currency exchange rates. Our overall success as a global business depends, in part, upon our ability to succeed in differing legal, regulatory, economic, social and political conditions. We cannot assure you that we will implement policies and strategies that will be effective in each location where we do business.

The Company's operations are dependent on the availability of raw materials and access to ore reserves at its mining operations. Increases in costs of raw materials, energy, or shipping could adversely affect our financial results.

The Company depends in part on having an adequate supply of raw materials for its manufacturing operations, particularly lime and carbon dioxide for the PCC product line, and magnesia and alumina for its Refractory operations. Purchase prices and availability of these critical raw materials are subject to volatility. At any given time, we may be unable to obtain an adequate supply of these critical raw materials on a timely basis, on price and other terms, or at all. While most such raw materials are readily available, the Company has purchased approximately 42% of its magnesia requirements from sources in China over the past five years. The price and availability of magnesia have fluctuated in the past and they may fluctuate in the future. Price increases for certain other of our raw materials, including petrochemical products, as well as increases in energy prices, have also affected our business. Our production processes consume a significant amount of energy, primarily electricity, diesel fuel, natural gas and coal. We use diesel fuel to operate our mining and processing equipment and our freight costs are heavily dependent upon fuel prices and surcharges. Energy costs also affect the cost of raw materials. On a combined basis, these factors represent a large exposure to petrochemical and energy products which may be subject to significant price fluctuations. The contracts pursuant to which we construct and operate our satellite PCC plants generally adjust pricing to reflect the pass-through of increases in costs resulting from inflation, including energy. However, there is a time lag before such price adjustments can be implemented. The Company and its customers will typically negotiate reasonable price adjustments in order to recover these escalating costs, but there can be no assurance that we will be able to recover increasing costs through such negotiations.

The Company also depends on having adequate access to ore reserves of appropriate quality at its mining operations. There are numerous uncertainties inherent in estimating ore reserves including subjective judgments and determinations that are based on available geological, technical, contract and economic information.

The Company relies on shipping bulk cargos of bentonite from the United States, Turkey and China to customers, as well as our own subsidiaries, and we are sensitive to our ability to recover these shipping costs. In the last few years, bulk cargo shipping rates have been very volatile, and, to a lesser extent, the availability of bulk cargo containers have been suspect. If we cannot secure our container requirements or offset additional shipping costs with price increases to customers, our profitability could be impacted. We are also subject to other shipping risks. In particular, rail service interruptions have affected our ability to ship, and the availability of rail service, and our ability to recover increased rail costs, may be beyond our control.

The Company operates in very competitive industries, which could adversely affect our profitability.

The Company has many competitors. Some of our principal competitors have greater financial and other resources than we have. Accordingly, these competitors may be better able to withstand economic downturns and changes in conditions within the industries in which we operate and may have significantly greater operating and financial flexibility than we do. We also face competition for some of our products from alternative products, and some of

the competition we face comes from competitors in lower-cost production countries like China and India. As a result of the competitive environment in the markets in which we operate, we currently face and will continue to face pressure on the sales prices of our products from competitors, which could reduce profit margins.

Production facilities are subject to operating risks and capacity limitations that may adversely affect the Company's financial condition or results of operations.

The Company is dependent on the continued operation of its production facilities. Production facilities are subject to hazards associated with the manufacturing, handling, storage, and transportation of chemical materials and products, including pipeline leaks and ruptures, explosions, fires, inclement weather and natural disasters, mechanical failure, unscheduled downtime, labor difficulties, transportation interruptions, and environmental risks. We maintain property, business interruption and casualty insurance but such insurance may not cover all risks associated with the hazards of our business and is subject to limitations, including deductibles and maximum liabilities covered. We may incur losses beyond the limits, or outside the coverage, of our insurance policies. Further, from time to time, we may experience capacity limitations in our manufacturing operations. In addition, if we are unable to effectively forecast our customers' demand, it could affect our ability to successfully manage operating capacity limitations. These hazards, limitations, disruptions in supply and capacity constraints could adversely affect financial results.

Operating results for some of our segments are seasonal.

Our Energy Services Segment and certain product lines within our Performance Materials segment are affected by seasonal weather patterns. A majority of our Energy Services revenues are derived from the Gulf of Mexico and surrounding states, which are susceptible to hurricanes that typically occur June 1st through November 30th. Actual or threatened hurricanes can result in volatile demand for services provided by our Energy Services segment. Our Environmental Products and Building Materials product lines within our Performance Materials segment are affected by weather patterns which determine the feasibility of construction activities. Typically, less construction activity occurs in winter months and thus this segment's revenues tend to be greatest in the second and third quarters when weather patterns in our geographic markets are more conducive to construction activities. Our Processed Minerals product line is subject to similar seasonal patterns.

Our operations are subject to cyber-attacks that could have a material adverse impact on our business, consolidated results of operations, and consolidated financial condition.

Our operations are becoming increasingly dependent on digital technologies and services. We use these technologies for internal purposes, including data storage, processing, and transmissions, as well as in our interactions with customers and suppliers. Digital technologies are subject to the risk of cyber-attacks. If our systems for protecting against cybersecurity risks prove not to be sufficient, we could be adversely affected by, among other things: loss of or damage to intellectual property, proprietary or confidential information, or customer, supplier, or employee data; interruption of our business operations; and increased costs required to prevent, respond to, or mitigate cybersecurity attacks. These risks could harm our reputation and our relationships with customers, suppliers, employees, and other third parties, and may result in claims against us. In addition, these risks could have a material adverse effect on our business, consolidated results of operations, and consolidated financial condition.