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

FORM 10-Q

(Mark One)

☒

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

For the quarterly period ended June 28, 2019

☐

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

For the transition period from to

Commission file number 001-15885

MATERION CORPORATION

(Exact name of Registrant as specified in charter)

Ohio	**34-1919973**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

6070 Parkland Blvd., Mayfield Heights, Ohio 44124
(Address of principal executive offices) (Zip Code)

Registrant's telephone number, including area code:
(216)-486-4200

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, no par value	MTRN	New York Stock Exchange

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

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

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

Large accelerated filer ☑ Accelerated filer ☐

Non-accelerated filer ☐ Smaller reporting company ☐

Emerging growth company ☐

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

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

Number of Shares of Common Stock, without par value, outstanding at June 28, 2019: 20,399,425.

PART 1 - FINANCIAL INFORMATION

Item 1. Financial Statements

Materion Corporation and Subsidiaries
Consolidated Statements of Income
(Unaudited)

(Thousands, except per share amounts)	Second Quarter Ended June 28, 2019	Second Quarter Ended June 29, 2018	Six Months Ended June 28, 2019	Six Months Ended June 29, 2018
Net sales	$ 297,843	$ 309,085	$ 599,284	$ 612,552
Cost of sales	228,249	247,247	460,378	492,434
Gross margin	69,594	61,838	138,906	120,118
Selling, general, and administrative expense	39,891	38,473	79,955	76,935
Research and development expense	4,062	3,860	7,802	7,503
Other—net	2,891	4,313	7,012	7,237
Operating profit	22,750	15,192	44,137	28,443
Interest expense—net	500	667	966	1,397
Other non-operating expense—net	3,112	437	3,357	879
Income before income taxes	19,138	14,088	39,814	26,167
Income tax expense	3,598	2,944	7,368	4,459
Net income	$ 15,540	$ 11,144	$ 32,446	$ 21,708
Basic earnings per share:				
Net income per share of common stock	$ 0.76	$ 0.55	$ 1.60	$ 1.08
Diluted earnings per share:				
Net income per share of common stock	$ 0.75	$ 0.54	$ 1.57	$ 1.05
Weighted-average number of shares of common stock outstanding:				
Basic	20,383	20,221	20,326	20,178
Diluted	20,666	20,593	20,635	20,583

See notes to these consolidated financial statements.

Materion Corporation and Subsidiaries
Consolidated Statements of Comprehensive Income
(Unaudited)

(Thousands)	Second Quarter Ended June 28, 2019	Second Quarter Ended June 29, 2018	Six Months Ended June 28, 2019	Six Months Ended June 29, 2018
Net income	**$ 15,540**	$ 11,144	**$ 32,446**	$ 21,708
Other comprehensive income (loss):				
Foreign currency translation adjustment	**339**	(944)	**(164)**	169
Derivative and hedging activity, net of tax	**(1,000)**	1,763	**(73)**	1,088
Pension and post-employment benefit adjustment, net of tax	**13,953**	1,296	**14,493**	2,574
Other comprehensive income	**13,292**	2,115	**14,256**	3,831
Comprehensive income	**$ 28,832**	$ 13,259	**$ 46,702**	$ 25,539

See notes to these consolidated financial statements.

Materion Corporation and Subsidiaries
Consolidated Balance Sheets

	(Unaudited)	
(Thousands)	June 28, 2019	Dec. 31, 2018
Assets		
Current assets		
Cash and cash equivalents	**$ 74,856**	$ 70,645
Accounts receivable	**142,327**	130,538
Inventories, net	**213,329**	214,871
Prepaid and other current assets	**23,904**	23,299
Total current assets	**454,416**	439,353
Deferred income taxes	**1,052**	5,616
Property, plant, and equipment	**913,325**	898,251
Less allowances for depreciation, depletion, and amortization	**(669,861)**	(647,233)
Property, plant, and equipment—net	**243,464**	251,018
Operating lease, right-of-use asset	**26,788**	—
Intangible assets	**5,213**	6,461
Other assets	**15,280**	7,236
Goodwill	**90,633**	90,657
Total Assets	**$ 836,846**	$ 800,341
Liabilities and Shareholders' Equity		
Current liabilities		
Short-term debt	**$ 847**	$ 823
Accounts payable	**41,658**	49,622
Salaries and wages	**36,250**	47,501
Other liabilities and accrued items	**38,482**	33,301
Income taxes	**1,971**	2,615
Unearned revenue	**5,829**	5,918
Total current liabilities	**125,037**	139,780
Other long-term liabilities	**11,419**	14,764
Operating lease liabilities	**21,118**	—
Finance lease liabilities	**18,325**	15,221
Retirement and post-employment benefits	**30,663**	38,853
Unearned income	**30,354**	32,563
Long-term income taxes	**3,093**	2,993
Deferred income taxes	**383**	195
Long-term debt	**1,669**	2,066
Shareholders' equity		
Serial preferred stock (no par value; 5,000 authorized shares, none issued)	**—**	—
Common stock (no par value; 60,000 authorized shares, issued shares of 27,148 at June 28 and December 31)	**245,785**	234,704
Retained earnings	**576,211**	548,374
Common stock in treasury	**(187,224)**	(175,426)
Accumulated other comprehensive loss	**(43,978)**	(58,234)
Other equity	**3,991**	4,488
Total shareholders' equity	**594,785**	553,906
Total Liabilities and Shareholders' Equity	**$ 836,846**	$ 800,341

See the notes to these consolidated financial statements.

Materion Corporation and Subsidiaries
Consolidated Statements of Cash Flows
(Unaudited)

	Six Months Ended	
	June 28,	June 29,
(Thousands)	**2019**	2018
Cash flows from operating activities:		
Net income	**$ 32,446**	$ 21,708
Adjustments to reconcile net income to net cash provided by (used in) operating activities:		
Depreciation, depletion, and amortization	**22,607**	18,349
Amortization of deferred financing costs in interest expense	**472**	514
Stock-based compensation expense (non-cash)	**3,541**	2,164
Deferred income tax expense	**4,578**	429
Pension curtailment charge	**3,296**	—
Changes in assets and liabilities:		
Decrease (increase) in accounts receivable	**(11,778)**	(12,060)
Decrease (increase) in inventory	**1,306**	10,428
Decrease (increase) in prepaid and other current assets	**(588)**	4,928
Increase (decrease) in accounts payable and accrued expenses	**(18,813)**	(14,189)
Increase (decrease) in unearned revenue	**(88)**	2,132
Increase (decrease) in interest and taxes payable	**(1,130)**	2,084
Domestic pension plan contributions	**(3,000)**	(13,000)
Other-net	**(2,803)**	5,817
Net cash provided by operating activities	**30,046**	29,304
Cash flows from investing activities:		
Payments for purchase of property, plant, and equipment	**(13,833)**	(17,153)
Payments for mine development	**(1,591)**	(3,425)
Proceeds from sale of property, plant, and equipment	**15**	27
Net cash used in investing activities	**(15,409)**	(20,551)
Cash flows from financing activities:		
Repayment of long-term debt	**(397)**	(383)
Principal payments under finance lease obligations	**(599)**	(425)
Cash dividends paid	**(4,368)**	(4,137)
Repurchase of common stock	**(199)**	—
Payments of withholding taxes for stock-based compensation awards	**(4,763)**	(2,765)
Net cash used in financing activities	**(10,326)**	(7,710)
Effects of exchange rate changes	**(100)**	8
Net change in cash and cash equivalents	**4,211**	1,051
Cash and cash equivalents at beginning of period	**70,645**	41,844
Cash and cash equivalents at end of period	**$ 74,856**	$ 42,895

See notes to these consolidated financial statements.

Materion Corporation and Subsidiaries
Consolidated Statements of Shareholders' Equity
(Unaudited)

	Common Shares		Shareholders' Equity					
(Thousands, except per share amounts)	**Common Shares**	**Common Shares Held in Treasury**	**Common Stock**	**Retained Earnings**	**Common Stock in Treasury**	**Accumulated Other Comprehensive Income (Loss)**	**Other Equity**	**Total**
Balance at March 29, 2019	20,354	(6,794)	$ 241,480	$ 562,941	$ (184,812)	$ (57,270)	$ 4,538	$ 566,877
Net income	—	—	—	15,540	—	—	—	15,540
Other comprehensive income (loss)	—	—	—	—	—	9,996	—	9,996
Pension curtailment	—	—	—	—	—	3,296	—	3,296
Cash dividends declared ($0.11 per share)	—	—	—	(2,243)	—	—	—	(2,243)
Stock-based compensation activity	55	55	4,287	(27)	(2,266)	—	—	1,994
Payments of withholding taxes for stock-based compensation awards	(12)	(12)	—	—	(785)	—	—	(785)
Repurchase of shares	—	—	—	—	—	—	—	—
Directors' deferred compensation	2	2	18	—	639	—	(547)	110
Balance at June 28, 2019	20,399	(6,749)	$ 245,785	$ 576,211	$ (187,224)	$ (43,978)	$ 3,991	$ 594,785
Balance at March 30, 2018	20,191	(6,958)	$ 227,694	$ 545,093	$ (171,574)	$ (101,221)	$ 4,337	$ 504,329
Net income	—	—	—	11,144	—	—	—	11,144
Other comprehensive income (loss)	—	—	—	—	—	1,540	—	1,540
Tax Cuts and Jobs Act Reclassification	—	—	—	(575)	—	575	—	—
Cumulative effect of accounting change	—	—	—	—	—	—	—	—
Cash dividends declared ($0.105 per share)	—	—	—	(2,125)	—	—	—	(2,125)
Stock-based compensation activity	55	55	3,020	(14)	(1,613)	—	—	1,393
Payments of withholding taxes for stock-based compensation awards	(11)	(11)	—	—	(632)	—	—	(632)
Directors' deferred compensation	1	2	49	—	(6)	—	49	92
Balance at June 29, 2018	20,236	(6,912)	$ 230,763	$ 553,523	$ (173,825)	$ (99,106)	$ 4,386	$ 515,741

	Common Shares		Shareholders' Equity					
(Thousands, except per share amounts)	Common Shares	Common Shares Held in Treasury	Common Stock	Retained Earnings	Common Stock in Treasury	Accumulated Other Comprehensive Income (Loss)	Other Equity	Total
Balance at December 31, 2018	20,242	(6,906)	$ 234,704	$ 548,374	$ (175,426)	$ (58,234)	$ 4,488	$ 553,906
Net income	—	—	—	32,446	—	—	—	32,446
Other comprehensive income (loss)	—	—	—	—	—	10,960	—	10,960
Pension curtailment	—	—	—	—	—	3,296	—	3,296
Cumulative effect of accounting change	—	—	—	(179)	—	—	—	(179)
Cash dividends declared ($0.215 per share)	—	—	—	(4,368)	—	—	—	(4,368)
Stock-based compensation activity	247	247	11,046	(62)	(7,443)	—	—	3,541
Payments of withholding taxes for stock-based compensation awards	(87)	(87)	—	—	(4,763)	—	—	(4,763)
Repurchase of shares	(5)	(5)	—	—	(199)	—	—	(199)
Directors' deferred compensation	2	2	35	—	607	—	(497)	145
Balance at June 28, 2019	20,399	(6,749)	$ 245,785	$ 576,211	$ (187,224)	$ (43,978)	$ 3,991	$ 594,785
Balance at December 31, 2017	20,107	(7,042)	$ 223,484	$ 536,116	$ (166,128)	$ (102,937)	$ 4,446	$ 494,981
Net income	—	—	—	21,708	—	—	—	21,708
Other comprehensive income (loss)	—	—	—	—	—	3,256	—	3,256
Tax Cuts and Jobs Act Reclassification	—	—	—	(575)	—	575	—	—
Cumulative effect of accounting change	—	—	—	425	—	—	—	425
Cash dividends declared ($0.205 per share)	—	—	—	(4,137)	—	—	—	(4,137)
Stock-based compensation activity	181	181	7,220	(14)	(5,042)	—	—	2,164
Payments of withholding taxes for stock-based compensation awards	(53)	(53)	—	—	(2,765)	—	—	(2,765)
Directors' deferred compensation	1	2	59	—	110	—	(60)	109
Balance at June 29, 2018	20,236	(6,912)	$ 230,763	$ 553,523	$ (173,825)	$ (99,106)	$ 4,386	$ 515,741

See notes to these consolidated financial statements.

Note A — Accounting Policies

Basis of Presentation: In management's opinion, the accompanying consolidated financial statements of Materion Corporation and its subsidiaries (referred to herein as the Company, our, we, or us) contain all of the adjustments necessary to present fairly the financial position, results of operations, and cash flows for the interim periods reported. All adjustments were of a normal and recurring nature. Certain amounts in prior periods have been reclassified to conform to the 2019 consolidated financial statement presentation.

These consolidated financial statements should be read in conjunction with the consolidated financial statements and related notes included in the Company's 2018 Annual Report on Form 10-K. The interim period results are not necessarily indicative of the results to be expected for the full year.

New Pronouncements Adopted: In February 2016, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) 2016-02 (Topic 842), *Leases*, which eliminates the off-balance-sheet accounting for leases. This guidance requires lessees to report their operating leases as both an asset and liability on the balance sheet and disclose key information about leasing arrangements. The Company adopted this guidance as of January 1, 2019 using the modified retrospective method and applied it retrospectively through a cumulative-effect adjustment to retained earnings. The Company applied the transitional package of practical expedients allowed by the standard to not reassess the identification, classification, and initial direct costs of leases commencing before this ASU's effective date; however, the Company did not elect the hindsight transitional practical expedient. The Company also applied the practical expedient to not separate lease and non-lease components to new leases as well as existing leases through transition. The Company made an accounting policy election not to apply recognition requirements of the guidance to short-term leases.

Results for reporting periods beginning after January 1, 2019 are presented under Topic 842, while prior period amounts are not adjusted and continue to be reported in accordance with legacy generally accepted accounting principles.

The Company recorded a net reduction to opening retained earnings of $0.2 million as of January 1, 2019 due to the cumulative impact of adopting Topic 842, with the impact primarily related to derecognition of a built-to-suit lease. Refer to Note H for additional disclosures relating to the Company's leasing arrangements.

In August 2017, the FASB issued ASU 2017-12, *Derivatives and Hedging (Topic 815): Targeted Improvements to Accounting for Hedging Activities*, which amends and simplifies existing guidance to allow companies to more accurately present the economic effects of risk management activities in the financial statements. The Company adopted this guidance as of January 1, 2019, and the adoption did not have a material effect on the Company’s consolidated financial statements.

New Pronouncements Issued: In June 2016, the FASB issued ASU 2016-13, *Financial Instruments - Credit Losses*. This ASU requires an entity to change its accounting approach in determining impairment of certain financial instruments, including trade receivables, from an “incurred loss” to a “current expected credit loss” model. The standard will be effective for fiscal years beginning after December 15, 2019, including interim periods within such fiscal years. Early adoption is permitted. The Company is currently assessing the effect that this ASU will have on its financial position, results of operations, and disclosures.

No other recently issued or effective ASUs had, or are expected to have, a material effect on the Company's results of operations, financial condition, or liquidity.

Note B — Segment Reporting

The Company has the following reportable segments: Performance Alloys and Composites, Advanced Materials, Precision Coatings, and Other. The Company’s reportable segments represent components of the Company for which separate financial information is available that is utilized on a regular basis by the Chief Executive Officer, the Company's Chief Operating Decision Maker, in determining how to allocate the Company’s resources and evaluate performance.

Performance Alloys and Composites produces strip and bulk form alloy products, strip metal products with clad inlay and overlay metals, beryllium-based metals, beryllium, and aluminum metal matrix composites, in rod, sheet, foil, and a variety of customized forms, beryllia ceramics, and bulk metallic glass materials.

Advanced Materials produces advanced chemicals, microelectric packaging, precious metal, non-precious metal, and specialty metal products, including vapor deposition targets, frame lid assemblies, clad and precious metal preforms, high temperature braze materials, and ultra-fine wire.

Precision Coatings produces thin film coatings, optical filter materials, sputter-coated, and precision-converted thin film materials.

The Other reportable segment includes unallocated corporate costs and assets.

(Thousands)	Performance Alloys and Composites	Advanced Materials	Precision Coatings	Other	Total
Second Quarter 2019					
Net sales	**$ 135,231**	**$ 133,238**	**$ 29,374**	**$ —**	**$ 297,843**
Intersegment sales	**6**	**19,260**	**—**	**—**	**19,266**
Operating profit (loss)	**19,328**	**6,139**	**3,937**	**(6,654)**	**22,750**
Second Quarter 2018					
Net sales	$ 129,765	$ 150,324	$ 28,996	$ —	$ 309,085
Intersegment sales	3	11,400	—	—	11,403
Operating profit (loss)	12,309	5,572	2,233	(4,922)	15,192
First Six Months 2019					
Net sales	**$ 262,344**	**$ 277,263**	**$ 59,677**	**$ —**	**$ 599,284**
Intersegment sales	**15**	**36,473**	**—**	**—**	**36,488**
Operating profit (loss)	**38,286**	**13,219**	**6,014**	**(13,382)**	**44,137**
First Six Months 2018					
Net sales	$ 248,001	$ 303,869	$ 60,682	$ —	$ 612,552
Intersegment sales	31	23,052	—	—	23,083
Operating profit (loss)	22,170	11,470	5,608	(10,805)	28,443

In the second quarter of 2019, the Company recategorized its end markets based on the ongoing refinement of its go-to-market strategy. The changes reflect new processes designed to enable the Company to better serve global customers and growth markets.

The following table disaggregates revenue for each segment by end market for the second quarter and first six months of 2019 and 2018, respectively:

(Thousands)	Performance Alloys and Composites	Advanced Materials	Precision Coatings	Other	Total
Second Quarter 2019					
End Market					
Semiconductor	$ 1,303	$ 100,758	$ 93	$ —	$ 102,154
Industrial	28,585	7,704	3,842	—	40,131
Aerospace and Defense	26,046	1,125	4,750	—	31,921
Consumer Electronics	22,663	500	4,430	—	27,593
Automotive	16,564	1,669	365	—	18,598
Energy	11,303	16,027	—	—	27,330
Telecom and Data Center	18,244	713	—	—	18,957
Other	10,523	4,742	15,894	—	31,159
Total	$ 135,231	$ 133,238	$ 29,374	$ —	$ 297,843
Second Quarter 2018					
End Market					
Semiconductor	$ 1,299	$ 118,525	$ 428	$ —	$ 120,252
Industrial	28,974	7,951	3,171	—	40,096
Aerospace and Defense	25,964	1,010	4,960	—	31,934
Consumer Electronics	16,150	174	5,021	—	21,345
Automotive	23,236	1,804	469	—	25,509
Energy	9,825	12,069	—	—	21,894
Telecom and Data Center	17,784	566	—	—	18,350
Other	6,533	8,225	14,947	—	29,705
Total	$ 129,765	$ 150,324	$ 28,996	$ —	$ 309,085

(Thousands)	Performance Alloys and Composites	Advanced Materials	Precision Coatings	Other	Total
First Six Months 2019					
End Market					
Semiconductor	$ 3,268	$ 205,125	$ 205	$ —	$ 208,598
Industrial	55,015	15,635	7,992	—	78,642
Aerospace and Defense	53,120	2,618	9,622	—	65,360
Consumer Electronics	36,218	705	7,916	—	44,839
Automotive	37,277	3,023	587	—	40,887
Energy	22,397	38,190	—	—	60,587
Telecom and Data Center	35,836	914	—	—	36,750
Other	19,213	11,053	33,355	—	63,621
Total	$ 262,344	$ 277,263	$ 59,677	$ —	$ 599,284
First Six Months 2018					
End Market					
Semiconductor	$ 2,387	$ 226,842	$ 971	$ —	$ 230,200
Industrial	58,577	15,416	5,899	—	79,892
Aerospace and Defense	44,246	2,020	9,644	—	55,910
Consumer Electronics	31,455	626	9,291	—	41,372
Automotive	46,773	4,184	691	—	51,648
Energy	17,612	33,480	—	—	51,092
Telecom and Data Center	32,647	1,031	—	—	33,678
Other	14,304	20,270	34,186	—	68,760
Total	$ 248,001	$ 303,869	$ 60,682	$ —	$ 612,552

Intersegment sales are eliminated in consolidation.

Note C — Revenue Recognition

Net sales consist primarily of revenue from the sale of precious and non-precious specialty metals, beryllium and copper-based alloys, beryllium composites, and other products into numerous end markets. The Company requires an agreement with a customer that creates enforceable rights and performance obligations. The Company generally recognizes revenue, in an amount that reflects the consideration to which it expects to be entitled, upon satisfaction of a performance obligation, by transferring control over a product to the customer. Control over the product is generally transferred to the customer when the Company has a present right to payment, the customer has legal title, the customer has physical possession, the customer has the significant risks and rewards of ownership, and/or the customer has accepted the product.

Transaction Price Allocated to Future Performance Obligations: Accounting Standards Codification (ASC) 606, *Revenue from Contracts with Customers,* requires that the Company disclose the aggregate amount of transaction price that is allocated to performance obligations that have not yet been satisfied at June 28, 2019. Remaining performance obligations include noncancelable purchase orders and customer contracts. The guidance provides certain practical expedients that limit this requirement. As such, the Company does not disclose the value of unsatisfied performance obligations for contracts with an original expected length of one year or less.

After considering the practical expedient at June 28, 2019, the aggregate amount of the transaction price allocated to remaining performance obligations was approximately $19.6 million.

Contract Balances: The timing of revenue recognition, billings, and cash collections resulted in the following contract assets and contract liabilities:

(Thousands)	**June 28, 2019**	December 31, 2018	$ change	% change
Accounts receivable, trade	**$ 132,493**	$ 124,498	$ 7,995	6 %
Unbilled receivables	**9,430**	4,619	4,811	104 %
Unearned revenue	**5,829**	5,918	(89)	(2)%

Accounts receivable, trade represents payments due from customers relating to the transfer of the Company's products and services. The Company believes that its receivables are collectible and appropriate allowances for doubtful accounts have been recorded. Impairment losses (bad debt) incurred relating to our receivables were immaterial during the second quarter and first six months of 2019.

Unbilled receivables represent expenditures on contracts, plus applicable profit margin, not yet billed. Unbilled receivables are normally billed and collected within one year. Billings made on contracts are recorded as a reduction of unbilled receivables.

Unearned revenue is recorded for consideration received from customers in advance of satisfaction of the related performance obligations. The Company recognized approximately $5.0 million of the unearned amounts as revenue during the first six months of 2019.

As a practical expedient, the Company does not adjust the promised amount of consideration for the effects of a significant financing component because the period between the transfer of a product or service to a customer and when the customer pays for that product or service will be one year or less. The Company does not include extended payment terms in its contracts with customers.

Note D — Other-net

Other-net expense for the second quarter and first six months of of 2019 and 2018 is summarized as follows:

	Second Quarter Ended		Six Months Ended	
(Thousands)	June 28, 2019	June 29, 2018	June 28, 2019	June 29, 2018
Metal consignment fees	**$ 2,225**	$ 2,588	**$ 5,316**	$ 5,017
Amortization of intangible assets	**368**	561	**758**	1,334
Foreign currency loss	**307**	1,230	**384**	1,219
Net loss (gain) on disposal of fixed assets	**118**	(3)	**142**	23
Rental income	**(29)**	(134)	**(58)**	(260)
Other items	**(98)**	71	**470**	(96)
Total	**$ 2,891**	$ 4,313	**$ 7,012**	$ 7,237

Note E — Income Taxes

The Company's effective tax rate for the second quarter of 2019 and 2018 was 18.8% and 20.9%, respectively, and 18.5% and 17.0% for the first six months of 2019 and 2018, respectively. The effective tax rate for each period is lower than the statutory tax rate primarily due to the impact of percentage depletion and the research and development credit. Additionally, the effective tax rate for the first six months of 2019 included a net discrete income tax benefit of $0.5 million, primarily related to excess tax benefits from stock-based compensation. The effective tax rate for the first six months of 2018 included a net discrete income tax benefit of $1.0 million, primarily related to Staff Accounting Bulletin (SAB) No. 118 adjustments.

Note F — Earnings Per Share (EPS)

The following table sets forth the computation of basic and diluted EPS:

	Second Quarter Ended		Six Months Ended	
(Thousands, except per share amounts)	**June 28, 2019**	June 29, 2018	**June 28, 2019**	June 29, 2018
Numerator for basic and diluted EPS:				
Net income	**$ 15,540**	$ 11,144	**$ 32,446**	$ 21,708
Denominator:				
Denominator for basic EPS:				
Weighted-average shares outstanding	**20,383**	20,221	**20,326**	20,178
Effect of dilutive securities:				
Stock appreciation rights	**76**	166	**92**	185
Restricted stock units	**76**	75	**77**	85
Performance-based restricted stock units	**131**	131	**140**	135
Diluted potential common shares	**283**	372	**309**	405
Denominator for diluted EPS:				
Adjusted weighted-average shares outstanding	**20,666**	20,593	**20,635**	20,583
Basic EPS	**$ 0.76**	$ 0.55	**$ 1.60**	$ 1.08
Diluted EPS	**$ 0.75**	$ 0.54	**$ 1.57**	$ 1.05

Securities totaling 84,509 and 65,112 for the quarters ended June 28, 2019 and June 29, 2018, respectively, and 144,154 and 65,112 for the six months ended June 28, 2019 and June 29, 2018, respectively, were excluded from the dilution calculation as their effect would have been anti-dilutive.

Note G — Inventories

Inventories on the Consolidated Balance Sheets are summarized as follows:

(Thousands)	**June 28, 2019**	December 31, 2018
Raw materials and supplies	**$ 38,425**	$ 33,182
Work in process	**190,428**	195,879
Finished goods	**32,062**	30,643
Subtotal	**$ 260,915**	$ 259,704
Less: LIFO reserve balance	**47,586**	44,833
Inventories	**$ 213,329**	$ 214,871

The liquidation of last in, first out (LIFO) inventory layers increased cost of sales by $0.1 million in the second quarter and first six months of both 2019 and 2018.

The Company maintains the majority of the precious metals and copper used in production on a consignment basis in order to reduce our exposure to metal price movements and to reduce our working capital investment. The notional value of off-balance sheet precious metals and copper was $295.7 million as of June 28, 2019 versus $316.1 million as of December 31, 2018.

Note H — Leases

The Company leases warehouse and manufacturing real estate, and manufacturing and computer equipment under operating leases with lease terms ranging up to 25 years. Several operating lease agreements contain options to extend the lease term and/or options for early termination. The lease term consists of the non-cancelable period of the lease, periods covered by options to extend the lease if the Company is reasonably certain to exercise the option, and periods covered by an option to terminate the lease if the Company is reasonably certain not to exercise the option. The weighted average remaining lease term for the Company's operating and finance leases as of June 28, 2019 was 5.09 years and 19.87 years, respectively.

The discount rate implicit within the leases is generally not determinable, and, therefore, the Company determines the discount rate based on its incremental borrowing rate. The incremental borrowing rate for leases is determined based on the lease term in which lease payments are made, adjusted for impacts of collateral. The weighted average discount rate used to measure the Company's operating and finance lease liabilities as of June 28, 2019 was 5.55% and 5.31%, respectively.

The components of operating and finance lease cost for the second quarter and first six months of 2019 were as follows:

(Thousands)	Second Quarter Ended June 28, 2019	Six Months Ended June 28, 2019
Components of lease expense		
Operating lease cost	$ 2,291	$ 5,003
Finance lease cost		
Amortization of right-of-use assets	354	710
Interest on lease liabilities	259	522
Total lease cost	$ 2,904	$ 6,235

Operating lease expense amounted to $2.3 million and $3.0 million during the second quarter of 2019 and 2018, respectively, and $5.0 million and $6.1 million during the first six months of 2019 and 2018, respectively. The Company straight-lines its expense of fixed payments for operating leases over the lease term and expenses the variable lease payments in the period incurred. These variable lease payments are not included in the calculation of right-of-use assets or lease liabilities.

Supplemental balance sheet information related to the Company's operating and finance leases as of June 28, 2019 was as follows:

(Thousands)		June 28, 2019
Supplemental balance sheet information		
Operating Leases		
Operating lease right-of-use assets	$	26,788
Other liabilities and accrued items		6,927
Operating lease liabilities		21,118
Finance Leases		
Property, plant, and equipment	$	26,330
Allowances for depreciation, depletion, and amortization		(3,140)
Finance lease assets, net	$	23,190
Other liabilities and accrued items	$	1,238
Finance lease liabilities		18,325
Total principal payable on finance leases	$	19,563

Future maturities of the Company's lease liabilities as of June 28, 2019 are as follows:

(Thousands)		Finance Leases		Operating Leases
2019	$	1,122	$	4,201
2020		2,244		7,618
2021		2,244		6,619
2022		2,244		4,727
2023		1,534		3,818
2024 and thereafter		22,414		5,148
Total lease payments		31,802		32,131
Less amount of lease payment representing interest		12,239		4,086
Total present value of lease payments	$	19,563	$	28,045

Supplemental cash flow information related to leases for the first six months of 2019 was as follows:

(Thousands)		Six Months Ended June 28, 2019
Supplemental cash flow information		
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows from operating leases	**$**	**7,710**
Operating cash flows from finance leases		**522**
Financing cash flows from finance leases		**599**

Note I — Pensions and Other Post-employment Benefits

The following is a summary of the net periodic benefit cost for the second quarter of 2019 and 2018 for the domestic pension plans (which include the defined benefit pension plan and the supplemental retirement plans) and the domestic retiree medical plan.

	Pension Benefits		Other Benefits	
	Second Quarter Ended		Second Quarter Ended	
(Thousands)	June 28, 2019	June 29, 2018	June 28, 2019	June 29, 2018
Components of net periodic benefit cost (benefit)				
Service cost	**$ 1,418**	$ 1,674	**$ 18**	$ 28
Interest cost	**1,347**	2,397	**99**	99
Expected return on plan assets	**(2,167)**	(3,697)	**—**	—
Amortization of prior service benefit	**122**	(30)	**(375)**	(374)
Amortization of net loss (gain)	**627**	1,959	**(23)**	—
Pension curtailment charge	**3,296**	—	**—**	—
Net periodic benefit cost (benefit)	**$ 4,643**	$ 2,303	**$ (281)**	$ (247)

	Pension Benefits		Other Benefits	
	Six Months Ended		Six Months Ended	
(Thousands)	June 28, 2019	June 29, 2018	June 28, 2019	June 29, 2018
Components of net periodic benefit cost (benefit)				
Service cost	**$ 2,758**	$ 3,348	**$ 35**	$ 56
Interest cost	**2,904**	4,794	**199**	198
Expected return on plan assets	**(4,290)**	(7,394)	**—**	—
Amortization of prior service benefit	**242**	(61)	**(749)**	(749)
Amortization of net loss (gain)	**1,431**	3,919	**(46)**	—
Pension curtailment charge	**3,296**	—	**—**	—
Net periodic benefit cost (benefit)	**$ 6,341**	$ 4,606	**$ (561)**	$ (495)

The Company made contributions to the domestic defined benefit pension plan of $3.0 million and $13.0 million in the six months of 2019 and 2018, respectively.

The Company reports the service cost component of net periodic benefit cost in the same line item as other compensation costs in operating expenses and the non-service cost components of net periodic benefit cost in Other non-operating expenses.

In May 2019, the Company's Board of Directors approved changes to the U.S. defined benefit pension plan. The Company will freeze the pay and service amounts used to calculate pension benefits for active participants in the pension plan as of January 1, 2020. The Company recognized a non-cash pre-tax pension curtailment charge of $3.3 million associated with the plan amendment during the second quarter of 2019.

Note J — Accumulated Other Comprehensive Income (Loss)

Changes in the components of accumulated other comprehensive income, including the amounts reclassified, for the second quarter of 2019 and 2018 and first six months of 2019 and 2018 are as follows:

	Gains and Losses on Cash Flow Hedges						
(Thousands)	**Foreign Currency**	**Precious Metals**	**Copper**	**Total**	**Pension and Post-Employment Benefits**	**Foreign Currency Translation**	**Total**
Balance at March 29, 2019	$ 1,663	$ (24)	$ 189	$ 1,828	$ (54,003)	$ (5,095)	$ (57,270)
Other comprehensive income before reclassifications	(269)	(563)	(580)	(1,412)	14,224	339	13,151
Amounts reclassified from accumulated other comprehensive income	(46)	(1)	163	116	3,781	—	3,897
Net current period other comprehensive income (loss) before tax	(315)	(564)	(417)	(1,296)	18,005	339	17,048
Deferred taxes	(72)	(130)	(94)	(296)	4,052	—	3,756
Net current period other comprehensive income (loss) after tax	(243)	(434)	(323)	(1,000)	13,953	339	13,292
Balance at June 28, 2019	$ 1,420	$ (458)	$ (134)	$ 828	$ (40,050)	$ (4,756)	$ (43,978)
Balance at March 30, 2018	$ 326	$ (238)	$ —	$ 88	$ (98,314)	$ (2,995)	$ (101,221)
Other comprehensive income (loss) before reclassifications	871	635	—	1,506	—	(944)	562
Amounts reclassified from accumulated other comprehensive income	42	23	—	65	1,622	—	1,687
Net current period other comprehensive income (loss) before tax	913	658	—	1,571	1,622	(944)	2,249
Deferred taxes	(343)	151	—	(192)	326	—	134
Net current period other comprehensive income (loss) after tax	1,256	507	—	1,763	1,296	(944)	2,115
Balance at June 29, 2018	$ 1,582	$ 269	$ —	$ 1,851	$ (97,018)	$ (3,939)	$ (99,106)

	Gains and Losses on Cash Flow Hedges						
(Thousands)	Foreign Currency	Precious Metals	Copper	Total	Pension and Post-Employment Benefits	Foreign Currency Translation	Total
Balance at December 31, 2018	$ 1,263	$ 79	$ (441)	$ 901	$ (54,543)	$ (4,592)	$ (58,234)
Other comprehensive income before reclassifications	248	(636)	304	(84)	14,224	(164)	13,976
Amounts reclassified from accumulated other comprehensive income	(44)	(62)	92	(14)	4,441	—	4,427
Net current period other comprehensive income (loss) before tax	204	(698)	396	(98)	18,665	(164)	18,403
Deferred taxes	47	(161)	89	(25)	4,172	—	4,147
Net current period other comprehensive income (loss) after tax	157	(537)	307	(73)	14,493	(164)	14,256
Balance at June 28, 2019	$ 1,420	$ (458)	$ (134)	$ 828	$ (40,050)	$ (4,756)	$ (43,978)
Balance at December 31, 2017	$ 959	$ (196)	$ —	$ 763	$ (99,592)	$ (4,108)	$ (102,937)
Other comprehensive income (loss) before reclassifications	(327)	444	—	117	—	169	286
Amounts reclassified from accumulated other comprehensive income	419	159	—	578	3,248	—	3,826
Net current period other comprehensive income (loss) before tax	92	603	—	695	3,248	169	4,112
Deferred taxes	(531)	138	—	(393)	674	—	281
Net current period other comprehensive income (loss) after tax	623	465	—	1,088	2,574	169	3,831
Balance at June 29, 2018	$ 1,582	$ 269	$ —	$ 1,851	$ (97,018)	$ (3,939)	$ (99,106)

Reclassifications from accumulated other comprehensive income of gains and losses on foreign currency cash flow hedges are recorded in Net sales in the Consolidated Statements of Income. Reclassifications from accumulated other comprehensive income of gains and losses on precious metal cash flow hedges are recorded in Cost of sales in the Consolidated Statements of Income. Refer to Note M for additional details on cash flow hedges.

Reclassifications from accumulated other comprehensive income for pension and post-employment benefits are included in the computation of the net periodic pension and post-employment benefit expense. Refer to Note I for additional details on pension and post-employment expenses.

Note K — Stock-based Compensation Expense

Stock-based compensation expense, which includes awards settled in shares and in cash, was $3.5 million and $6.2 million in the second quarter and first six months of 2019, respectively, compared to $2.7 million and $5.2 million in same periods of 2018.

The Company granted 73,461 stock appreciation rights (SARs) to certain employees during the first six months of 2019. The weighted-average exercise price per share and weighted-average fair value per share of the SARs granted during the six months ended June 28, 2019 were $58.30 and $17.76, respectively. The Company estimated the fair value of the SARs using the following weighted-average assumptions in the Black-Scholes model:

Risk-free interest rate	2.47%
Dividend yield	0.7%
Volatility	31.7%
Expected term (in years)	5.2

The Company granted 63,665 stock-settled restricted stock units (RSUs) to certain employees and 11,048 stock-settled RSUs to non-employee directors during the first six months of 2019. The Company measures the fair value of stock-settled RSUs based on the closing market price of a share of Materion common stock on the date of the grant. The weighted-average fair value per share was $58.30 and $68.79 for stock-settled RSUs granted to employees and non-employee directors, respectively, during the six months ended June 28, 2019. RSUs are expensed over the vesting period of three years for employees and one year for non-employee directors.

The Company granted stock-settled performance-based restricted stock units (PRSUs) to certain employees in the first six months of 2019. The weighted-average fair value of the stock-settled PRSUs was $69.84 per share and will be expensed over the vesting period of three years. The final payout to the employees for all PRSUs will be based upon the Company’s return on invested capital and the total return to shareholders over the vesting period relative to a peer group’s performance over the same period.

At June 28, 2019, unamortized compensation cost related to the unvested portion of all stock-based awards was approximately $13.6 million, and is expected to be recognized over the remaining vesting period of the respective grants.

Note L — Fair Value of Financial Instruments

The Company measures and records financial instruments at fair value. A fair value hierarchy is used for those instruments measured at fair value that distinguishes between assumptions based on market data (observable inputs) and the Company’s assumptions (unobservable inputs). The hierarchy consists of three levels:

Level 1 — Quoted market prices in active markets for identical assets and liabilities;

Level 2 — Inputs other than Level 1 inputs that are either directly or indirectly observable; and

Level 3 — Unobservable inputs developed using estimates and assumptions developed by the Company, which reflect those that a market participant would use.

The following table summarizes the financial instruments measured at fair value in the Consolidated Balance Sheets as of June 28, 2019 and December 31, 2018:

	Total Carrying Value in the Consolidated Balance Sheets		Quoted Prices in Active Markets for Identical Assets (Level 1)		Significant Other Observable Inputs (Level 2)		Significant Unobservable Inputs (Level 3)	
(Thousands)	**2019**	2018	**2019**	2018	**2019**	2018	**2019**	2018
Financial Assets								
Deferred compensation investments	**$ 3,121**	$ 2,156	**$ 3,121**	$ 2,156	**$ —**	$ —	**$ —**	$ —
Foreign currency forward contracts	**119**	246	**—**	—	**119**	246	**—**	—
Precious metal swaps	**—**	237	**—**	—	**—**	237	**—**	—
Copper swaps	**9**	—	**—**	—	**9**	—	**—**	—
Total	**$ 3,249**	$ 2,639	**$ 3,121**	$ 2,156	**$ 128**	$ 483	**$ —**	$ —
Financial Liabilities								
Deferred compensation liability	**$ 3,121**	$ 2,156	**$ 3,121**	$ 2,156	**$ —**	$ —	**$ —**	$ —
Foreign currency forward contracts	**121**	432	**—**	—	**121**	432	**—**	—
Precious metal swaps	**596**	135	**—**	—	**596**	135	**—**	—
Copper swaps	**182**	569	**—**	—	**182**	569	**—**	—
Total	**$ 4,020**	$ 3,292	**$ 3,121**	$ 2,156	**$ 899**	$ 1,136	**$ —**	$ —

The Company uses a market approach to value the assets and liabilities for financial instruments in the table above. Outstanding contracts are valued through models that utilize market observable inputs, including both spot and forward prices, for the same underlying currencies and metals. The carrying values of the other working capital items and debt in the Consolidated Balance Sheets approximate fair values as of June 28, 2019 and December 31, 2018.

Note M — Derivative Instruments and Hedging Activity

The Company uses derivative contracts to hedge portions of its foreign currency exposures and uses derivatives to hedge a portion of its precious metal and copper exposures. The objectives and strategies for using derivatives in these areas are as follows:

Foreign Currency. The Company sells a portion of its products to overseas customers in their local currencies, primarily the euro and yen. The Company secures foreign currency derivatives, mainly forward contracts and options, to hedge these anticipated sales transactions. The purpose of the hedge program is to protect against the reduction in the dollar value of foreign currency sales from adverse exchange rate movements. Should the dollar strengthen significantly, the decrease in the translated value of the foreign currency sales should be partially offset by gains on the hedge contracts. Depending upon the methods used, hedge contracts may limit the benefits from a weakening U.S. dollar.

The use of forward contracts locks in a firm rate and eliminates any downside risk from an adverse rate movement as well as any benefit from a favorable rate movement. The Company may from time to time choose to hedge with options or a tandem of options, known as a collar. These hedging techniques can limit or eliminate the downside risk but can allow for some or all of the benefit from a favorable rate movement to be realized. Unlike a forward contract, a premium is paid for an option; collars, which are a combination of a put and call option, may have a net premium but can be structured to be cash neutral. The Company will primarily hedge with forward contracts due to the relationship between the cash outlay and the level of risk.

The use of foreign currency derivative contracts is governed by policies approved by the Audit Committee of the Board of Directors. A team consisting of senior financial managers reviews the estimated exposure levels, as defined by budgets, forecasts, and other internal data, and determines the timing, amounts, and instruments to use to hedge that exposure within the confines of the policy. Management analyzes the effective hedged rates and the actual and projected gains and losses on the hedging transactions against the program objectives, targeted rates, and levels of risk assumed. Hedge contracts are typically layered in at different times for a specified exposure period in order to minimize the impact of rate movements.

Precious Metals. The Company maintains the majority of its precious metal production requirements on consignment in order to reduce its working capital investment and the exposure to metal price movements. When a precious metal product is fabricated and ready for shipment to the customer, the metal is purchased out of consignment at the current market price. The price paid by the Company forms the basis for the price charged to the customer. This methodology allows for changes in either direction in the market prices of the precious metals used by the Company to be passed through to the customer, and reduces the impact changes in prices could have on the Company's margins and operating profit. The consigned metal is owned by financial institutions that charge the Company a financing fee based upon the current value of the metal on hand.

In certain instances, a customer may want to establish the price for the precious metal at the time the sales order is placed rather than at the time of shipment. Setting the sales price at a different date than when the material would be purchased potentially creates an exposure to movements in the market price of the metal. Therefore, in these limited situations, the Company may elect to enter into a forward contract to purchase precious metal. The forward contract allows the Company to purchase metal at a fixed price on a specific future date. The price in the forward contract serves as the basis for the price to be charged to the customer. By doing so, the selling price and purchase price are matched, and the Company's price exposure is reduced.

The Company refines precious metal-containing materials for its customers and typically will purchase the refined metal from the customer at current market prices. In limited circumstances, the customer may want to fix the price to be paid at the time of the order as opposed to when the material is refined. The customer may also want to fix the price for a set period of time. The Company may then elect to enter into a hedge contract, either a forward contract or a swap, to fix the price for the estimated quantity of metal to be purchased, thereby reducing the exposure to adverse movements in the price of the metal.

In certain circumstances, the Company also refines metal from the customer and may retain a portion of the refined metal as payment. The Company may elect to enter into a forward contract to sell precious metal to reduce the Company's price exposure.

The Company may from time to time elect to purchase precious metal and hold in inventory rather than on consignment due to potential credit line limitations or other factors. These purchases are typically held for a short duration. A forward contract will be secured at the time of the purchase to fix the price to be used when the metal is transferred back to the consignment line, thereby limiting any price exposure during the time when the metal was owned.

Copper. We also use copper in our production processes. When possible, fluctuations in the purchase price of copper are passed on to customers in the form of price adders or reductions. While over time our price exposure to copper is generally in balance, there can be a lag between the change in our cost and the pass-through to our customers, resulting in higher or lower margins in a given period. To mitigate this impact, we hedge a portion of this pricing risk.

The Company will only enter into a derivative contract if there is an underlying identified exposure. Contracts are typically held until maturity. The Company does not engage in derivative trading activities and does not use derivatives for speculative purposes. The Company only uses currency hedge contracts that are denominated in the same currency as the underlying exposure and precious metal hedge contracts denominated in the same metal as the underlying exposure.

All derivatives are recorded on the balance sheet at fair value. If the derivative is designated and effective as a cash flow hedge, changes in the fair value of the derivative are recognized in other comprehensive income (OCI) until the hedged item is recognized in earnings. If a derivative is not a hedge, changes in the fair value are adjusted through income. The fair values of the outstanding derivatives are recorded on the balance sheet as assets (if the derivatives are in a gain position) or liabilities (if the derivatives are in a loss position). The fair values will also be classified as short-term or long-term depending upon their maturity dates.

The following table summarizes the notional amount and the fair value of the Company’s outstanding derivatives not designated as hedging instruments (on a gross basis) and balance sheet classification as of June 28, 2019 and December 31, 2018:

	June 28, 2019		December 31, 2018	
(Thousands)	**Notional Amount**	**Fair Value**	Notional Amount	Fair Value
Foreign currency forward contracts - euro				
Prepaid expenses	**$ 2,421**	**$ 27**	$ 8,767	$ 244
Other liabilities and accrued items	**3,836**	**52**	8,771	249

These outstanding foreign currency derivatives were related to intercompany loans. Other-net included no foreign currency impact relating to these derivatives during both the second quarter and the first six months of 2019 and included $1.6 million and $1.1 million of foreign currency gains during the second quarter and first six months of 2018, respectively.

The following table summarizes the notional amount and the fair value of the Company’s outstanding derivatives designated as cash flow hedges (on a gross basis) and balance sheet classification as of June 28, 2019 and December 31, 2018:

	June 28, 2019		December 31, 2018	
(Thousands)	**Notional Amount**	**Fair Value**	Notional Amount	Fair Value
Prepaid expenses				
Foreign currency forward contracts - yen	**$ 1,465**	**$ 9**	$ —	$ —
Foreign currency forward contracts - euro	**7,475**	**83**	725	2
Precious metal swaps	**—**	**—**	4,533	237
Copper swaps	**977**	**9**	—	—
Total	**9,917**	**101**	5,258	239
Other liabilities and accrued items				
Foreign currency forward contracts - yen	**2,065**	**35**	1,264	17
Foreign currency forward contracts - euro	**7,459**	**34**	19,158	166
Precious metal swaps	**6,828**	**573**	2,864	135
Copper swaps	**4,359**	**182**	11,170	569
Total	**20,711**	**824**	34,456	887
Other long-term liabilities				
Precious metal swaps	**697**	**23**	—	—
Total	**$ 31,325**	$ 746	$ 39,714	$ 648

All of these contracts were designated and effective as cash flow hedges. The Company expects to relieve substantially the entire balance in OCI as of June 28, 2019 to the Consolidated Statements of Income within the next 15-month period. Refer to Note J for additional OCI details.

The following table summarizes the amounts reclassified from accumulated other comprehensive income relating to the hedging relationship of the Company's outstanding derivatives designated as cash flow hedges and income statement classification as of the second quarter and first six months of of 2019:

		Second Quarter Ended	Six Months ended
(Thousands)		**June 28, 2019**	**June 28, 2019**
Hedging relationship	**Line item**		
Foreign currency forward contracts	Net sales	(46)	(44)
Precious metal swaps	Cost of sales	(1)	(62)
Copper swaps	Cost of sales	163	92
Total		$ 116	$ (14)

Note N — Contingencies

Legal Proceedings. For information regarding legal proceedings relating to *Chronic Beryllium Disease Claims*, refer to Note S ("Contingencies and Commitments") in the Company's 2018 Annual Report on Form 10-K.

Other Litigation. The Company is party to several pending legal proceedings and claims arising in the normal course of business. The Company records a liability when it is both probable that a liability has been incurred and the amount of the loss can be reasonably estimated. In the event the Company determines that a loss is not probable, but is reasonably possible, and it becomes possible to develop what the Company believes to be a reasonable range of possible loss, then the Company will include disclosure related to such matters. To the extent there is a reasonable possibility that the losses could exceed any amounts accrued, the Company will adjust the accrual in the period the determination is made, disclose an estimate of the additional loss or range of loss, indicate that the estimate is immaterial with respect to its financial statements as a whole or, if the amount of such adjustment cannot be reasonably estimated, disclose that an estimate cannot be made.

Environmental Proceedings. The Company has an active environmental compliance program and records reserves for the probable cost of identified environmental remediation projects. The reserves are established based upon analyses conducted by the Company's engineers and outside consultants and are adjusted from time to time based upon ongoing studies, the difference between actual and estimated costs, and other factors. The reserves may also be affected by rulings and negotiations with regulatory agencies. The undiscounted reserve balance was $6.2 million and $6.5 million at June 28, 2019 and December 31, 2018, respectively. Environmental projects tend to be long-term, and the final actual remediation costs may differ from the amounts currently recorded.

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

OVERVIEW

We are an integrated producer of high-performance advanced engineered materials used in a variety of electrical, electronic, thermal, and structural applications. Our products are sold into numerous end markets, including semiconductor, industrial, aerospace and defense, automotive, consumer electronics, energy, and telecom and data center.

RESULTS OF OPERATIONS

Second Quarter

(Thousands, except per share data)	Second Quarter Ended			
	June 28, 2019	June 29, 2018	$ Change	% Change
Net sales	**$ 297,843**	$ 309,085	$ (11,242)	(4)%
Value-added sales	**194,896**	189,902	4,994	3 %
Gross margin	**69,594**	61,838	7,756	13 %
Gross margin as a % of value-added sales	**36%**	33%	N/A	N/A
Selling, general, and administrative (SG&A) expense	**39,891**	38,473	1,418	4 %
SG&A expense as a % of value-added sales	**20%**	20%	N/A	N/A
Research and development (R&D) expense	**4,062**	3,860	202	5 %
R&D expense as a % of value-added sales	**2%**	2%	N/A	N/A
Other—net	**2,891**	4,313	(1,422)	(33)%
Operating profit	**22,750**	15,192	7,558	50 %
Interest expense—net	**500**	667	(167)	(25)%
Other non-operating expense—net	**3,112**	437	2,675	612 %
Income before income taxes	**19,138**	14,088	5,050	36 %
Income tax expense	**3,598**	2,944	654	22 %
Net income	**$ 15,540**	$ 11,144	$ 4,396	39 %
Diluted earnings per share	**$ 0.75**	$ 0.54	$ 0.21	39 %

N/A = Not Applicable

Net sales of $297.8 million in the second quarter of 2019 decreased $11.2 million from $309.1 million recorded in the second quarter of 2018. Net sales growth in our Performance Alloys and Composites and Precision Coatings segments was more than offset by decreased net sales in our Advanced Materials segment driven by a lower mix of precious metal-containing products and the mix of customer-supplied material. The change in precious metal and copper prices unfavorably impacted net sales during the second quarter of 2019 by $0.8 million.

Value-added sales is a non-GAAP financial measure that removes the impact of pass-through metal costs and allows for analysis without the distortion of the movement or volatility in metal prices and changes in mix due to customer-supplied material. Internally, we manage our business on this basis, and a reconciliation of net sales, the most directly comparable GAAP financial measure, to value-added sales is included herein. Value-added sales of $194.9 million in the second quarter of 2019 increased $5.0 million, or 3%, compared to the second quarter of 2018. The increase in value-added sales was primarily driven by commercial excellence initiatives and stronger demand in the energy, industrial, and consumer electronics end markets.

Gross margin in the second quarter of 2019 was $69.6 million, or $7.8 million higher than the $61.8 million gross margin recorded during the second quarter of 2018. Gross margin expressed as a percentage of value-added sales increased to 36% in the second quarter of 2019 from 33% in the second quarter of 2018 primarily due to a combination of higher sales volume and improved sales mix from both an end market and product perspective and improved manufacturing performance.

SG&A expense was $39.9 million in the second quarter of 2019, compared to $38.5 million recorded in the second quarter of 2018. The increase in SG&A expense for the second quarter of 2019 was primarily driven by investments to execute strategic initiatives. Expressed as a percentage of value-added sales, SG&A expense was 20% in the second quarter of both 2019 and 2018.

R&D expense consists primarily of direct personnel costs for pre-production evaluation and testing of new products, prototypes, and applications. R&D expense was flat as a percentage of value-added sales at approximately 2% in the second quarter of both 2019 and 2018.

Other-net was $2.9 million of expense in the second quarter of 2019, or a $1.4 million decrease from the second quarter of 2018. The decrease in Other-net was primarily due to less foreign exchange losses recognized in the second quarter of 2019 compared to the second quarter of 2018. Refer to Note D to the Consolidated Financial Statements for details of the major components within Other-net.

Interest expense-net was $0.5 million and $0.7 million in the second quarter of 2019 and 2018, respectively.

Other non-operating expense-net includes components of pension and post-retirement expense other than service costs and a non-cash pre-tax pension curtailment charge of $3.3 million associated with the pension plan amendment to freeze the pay and service amounts used to calculate pension benefits during the second quarter of 2019. Refer to Note I to the Consolidated Financial Statements for details of the components of net periodic benefit costs.

Income tax expense for the second quarter of 2019 was $3.6 million compared to $2.9 million in the second quarter of 2018. The effective tax rate for the second quarter of 2019 was 18.8% compared to an effective tax rate of 20.9% in the prior-year period. The effective tax rate for each period is lower than the statutory tax rate primarily due to the impact of percentage depletion and the research and development credit.

Six Months

	Six Months Ended			
(Thousands, except per share data)	**June 28, 2019**	June 29, 2018	$ Change	% Change
Net sales	**$ 599,284**	$ 612,552	$ (13,268)	(2)%
Value-added sales	**382,577**	371,215	11,362	3 %
Gross margin	**138,906**	120,118	18,788	16 %
Gross margin as a % of value-added sales	**36%**	32%	N/A	N/A
SG&A expense	**79,955**	76,935	3,020	4 %
SG&A expense as a % of value-added sales	**21%**	21%	N/A	N/A
R&D expense	**7,802**	7,503	299	4 %
R&D expense as a % of value-added sales	**2%**	2%	N/A	N/A
Other—net	**7,012**	7,237	(225)	(3)%
Operating profit	**44,137**	28,443	15,694	55 %
Interest expense—net	**966**	1,397	(431)	(31)%
Other non-operating expense—net	**3,357**	879	2,478	282 %
Income before income taxes	**39,814**	26,167	13,647	52 %
Income tax expense	**7,368**	4,459	2,909	65 %
Net income	**$ 32,446**	$ 21,708	$ 10,738	49 %
Diluted earnings per share	**$ 1.57**	$ 1.05	$ 0.52	50 %

N/A = Not Applicable

Net sales of $599.3 million in the first six months of 2019 decreased $13.3 million from $612.6 million recorded in the first six months of 2018. Net sales growth in our Performance Alloys and Composites segment was more than offset by decreased net sales in our Advanced Materials and Precision Coatings segments primarily driven by lower mix of precious metal-containing products and the mix of customer-supplied material. The change in precious metal and copper prices unfavorably impacted net sales during the first half of 2019 by $5.0 million.

Value-added sales of $382.6 million in the first half of 2019 increased $11.4 million, or 3%, compared to the first half of 2018. The increase in value-added sales was primarily driven by commercial excellence initiatives and stronger demand in the aerospace and defense, energy, telecom and data center, and industrial end markets.

Gross margin in the first half of 2019 was $138.9 million, or $18.8 million higher than the $120.1 million gross margin recorded during the first half of 2018. Gross margin expressed as a percentage of value-added sales increased to 36% in the first six months of 2019 from 32% in the first six months of 2018 primarily due to a combination of improved sales mix from both an end market and product perspective and improved manufacturing performance.

SG&A expense was $80.0 million in the first six months of 2019, compared to $76.9 million recorded in the first six months of 2018. The increase in SG&A expense for the first half of 2019 was primarily driven by investments to execute strategic initiatives for commercial excellence and variable costs associated with driving top-line and profit growth. Expressed as a percentage of value-added sales, SG&A expense was 21% in the first half of both 2019 and 2018.

R&D expense was flat as a percentage of value-added sales at approximately 2% in the first half of both 2019 and 2018.

Other-net was $7.0 million of expense in the first six months of 2019, or a $0.2 million decrease from the first six months of 2018. Refer to Note D to the Consolidated Financial Statements for details of the major components within Other-net.

Interest expense-net was $1.0 million and $1.4 million in the first six months of 2019 and 2018, respectively.

Other non-operating expense-net includes components of pension and post-retirement expense other than service costs and a non-cash pre-tax pension curtailment charge of $3.3 million associated with the pension plan amendment to freeze the pay and service amounts used to calculate pension benefits. Refer to Note I to the Consolidated Financial Statements for details of the components of net periodic benefit costs.

Income tax expense for the first six months of 2019 was $7.4 million, compared to $4.5 million in the first six months of 2018. The effective tax rate for the first half of 2019 was 18.5% compared to an effective tax rate of 17.0% in the prior-year period. The effective tax rate for each period is lower than the statutory tax rate primarily due to the impact of percentage depletion and the research and development credit. Additionally, the effective tax rate for 2019 included a net discrete income tax benefit of $0.5 million, primarily related to excess tax benefits from stock-based compensation. The effective tax rate for 2018 included a net discrete income tax benefit of $1.0 million, primarily related to Staff Accounting Bulletin No. 118 adjustments.

Value-Added Sales - Reconciliation of Non-GAAP Financial Measure

A reconciliation of net sales to value-added sales, a non-GAAP financial measure, for each reportable segment and for the total Company for the second quarter and first six months of 2019 and 2018 is as follows:

	Second Quarter Ended		Six Months Ended	
(Thousands)	**June 28, 2019**	June 29, 2018	**June 28, 2019**	June 29, 2018
Net sales				
Performance Alloys and Composites	**$ 135,231**	$ 129,765	**$ 262,344**	$ 248,001
Advanced Materials	**133,238**	150,324	**277,263**	303,869
Precision Coatings	**29,374**	28,996	**59,677**	60,682
Other	**—**	—	**—**	—
Total	**$ 297,843**	$ 309,085	**$ 599,284**	$ 612,552
Less: pass-through metal costs				
Performance Alloys and Composites	**$ 19,988**	$ 19,615	**$ 37,500**	$ 37,552
Advanced Materials	**74,931**	93,057	**161,449**	188,319
Precision Coatings	**6,285**	5,603	**14,051**	13,648
Other	**1,743**	908	**3,707**	1,818
Total	**$ 102,947**	$ 119,183	**$ 216,707**	$ 241,337
Value-added sales				
Performance Alloys and Composites	**$ 115,243**	$ 110,150	**$ 224,844**	$ 210,449
Advanced Materials	**58,307**	57,267	**115,814**	115,550
Precision Coatings	**23,089**	23,393	**45,626**	47,034
Other	**(1,743)**	(908)	**(3,707)**	(1,818)
Total	**$ 194,896**	$ 189,902	**$ 382,577**	$ 371,215

The cost of gold, silver, platinum, palladium, and copper can be quite volatile. Our pricing policy is to directly pass the cost of these metals on to the customer in order to mitigate the impact of metal price volatility on our results from operations. Trends and comparisons of net sales are affected by movements in the market prices of these metals, but changes in net sales due to metal price movements may not have a proportionate impact on our profitability.

Internally, management reviews net sales on a value-added basis. Value-added sales is a non-GAAP financial measure that deducts the value of the pass-through metal costs from net sales. Value-added sales allow management to assess the impact of differences in net sales between periods, segments, or markets, and analyze the resulting margins and profitability without the distortion of movements in pass-through metal costs. The dollar amount of gross margin and operating profit is not affected by the value-added sales calculation. We sell other metals and materials that are not considered direct pass-throughs, and these costs are not deducted from net sales when calculating value-added sales. Non-GAAP financial measures, such as value-added sales, have inherent limitations and should not be considered in isolation, or as a substitute for analyses of results as reported under GAAP.

Our net sales are also affected by changes in the use of customer-supplied metal. When we manufacture a precious metal product, the customer may purchase metal from us or may elect to provide its own metal, in which case we process the metal on a toll basis and the metal value does not flow through net sales or cost of sales. In either case, we generally earn our margin based upon our fabrication efforts. The relationship of this margin to net sales can change depending upon whether or not the product was made from our metal or the customer's metal. The use of value-added sales removes the potential distortion in the comparison of net sales caused by changes in the level of customer-supplied metal.

By presenting information on net sales and value-added sales, it is our intention to allow users of our financial statements to review our net sales with and without the impact of the pass-through metals.

Segment Results

The Company consists of four reportable segments: Performance Alloys and Composites, Advanced Materials, Precision Coatings, and Other. The Other reportable segment includes unallocated corporate costs.

Performance Alloys and Composites

Second Quarter

	Second Quarter Ended			
(Thousands)	**June 28, 2019**	June 29, 2018	$ Change	% Change
Net sales	**$ 135,231**	$ 129,765	$ 5,466	4%
Value-added sales	**115,243**	110,150	5,093	5%
Operating profit	**19,328**	12,309	7,019	57%

Net sales from the Performance Alloys and Composites segment of $135.2 million in the second quarter of 2019 were 4% higher than net sales of $129.8 million in the second quarter of 2018. Improved sales mix more than offset the unfavorable impact of pass-through metal prices of approximately $0.6 million.

Value-added sales of $115.2 million in the second quarter of 2019 were 5% higher than value-added sales of $110.2 million in the second quarter of 2018. The increase in value-added sales was driven by performance improvements in commercial execution in the end markets of consumer electronics, energy, and telecom and data center.

Performance Alloys and Composites generated operating profit of $19.3 million in the second quarter of 2019 compared to $12.3 million in the second quarter of 2018. The increase in operating profit was primarily due to favorable product mix and improved manufacturing performance.

Six Months

	Six Months Ended			
(Thousands)	**June 28, 2019**	June 29, 2018	$ Change	% Change
Net sales	**$ 262,344**	$ 248,001	$ 14,343	6%
Value-added sales	**224,844**	210,449	14,395	7%
Operating profit	**38,286**	22,170	16,116	73%

Net sales from the Performance Alloys and Composites segment of $262.3 million in the first six months of 2019 were 6% higher than net sales of $248.0 million in the first six months of 2018. Improved sales mix more than offset the unfavorable impact of pass-through metal prices of approximately $2.1 million.

Value-added sales of $224.8 million in the first six months of 2019 were 7% higher than value-added sales of $210.4 million in the first six months of 2018. The increase in value-added sales was driven by performance improvements in commercial execution in the end markets of aerospace and defense, energy, and telecom and data center.

Performance Alloys and Composites generated operating profit of $38.3 million in the first six months of 2019 compared to $22.2 million in the first six months of 2018. The increase in operating profit was primarily due to favorable product mix and improved manufacturing performance.

Advanced Materials

Second Quarter

	Second Quarter Ended			
(Thousands)	**June 28, 2019**	June 29, 2018	$ Change	% Change
Net sales	**$ 133,238**	$ 150,324	(17,086)	(11)%
Value-added sales	**58,307**	57,267	1,040	2 %
Operating profit	**6,139**	5,572	567	10 %

Net sales from the Advanced Materials segment of $133.2 million in the second quarter of 2019 were 11% lower than net sales of $150.3 million in the second quarter of 2018. The decline in net sales was due to the lower mix of precious metal-containing products and the mix of customer-supplied material, as well as the impact of unfavorable pass-through metal prices of $1.4 million.

Value-added sales of $58.3 million in the second quarter of 2019 were 2% higher than value-added sales of $57.3 million in the second quarter of 2018. Value-added sales into the industrial and energy end markets contributed to the year-over-year increase, and more than offset softer demand in the semiconductor end market.

The Advanced Materials segment generated operating profit of $6.1 million in the second quarter of 2019 compared to $5.6 million in the second quarter of 2018. Increased operating profit in the second quarter of 2019, compared to 2018, was the result of cost savings realized primarily from restructuring actions taken in the fourth quarter of 2018, partially offset by reduced manufacturing yields.

Advanced Materials

Six Months

	Six Months Ended			
(Thousands)	**June 28, 2019**	June 29, 2018	$ Change	% Change
Net sales	**$ 277,263**	$ 303,869	(26,606)	(9)%
Value-added sales	**115,814**	115,550	264	— %
Operating profit	**13,219**	11,470	1,749	15 %

Net sales from the Advanced Materials segment of $277.3 million in the first six months of 2019 were 9% lower than net sales of $303.9 million in the first six months of 2018. The decline in net sales was due to the lower mix of precious metal-containing products and the mix of customer-supplied material, as well as the impact of unfavorable pass-through metal prices of $5.3 million.

Value-added sales of $115.8 million in the first six months of 2019 were up slightly, compared to value-added sales of $115.6 million in the first six months of 2018. Increased value-added sales into the industrial end market were offset by decreased value-added sales into the semiconductor end market.

The Advanced Materials segment generated operating profit of $13.2 million in the first six months of 2019 compared to $11.5 million in the first six months of 2018. Increased operating profit in the first six months of 2019, compared to 2018, was the result of cost savings realized primarily from restructuring actions taken in the fourth quarter of 2018, partially offset by reduced manufacturing yields.

Precision Coatings

Second Quarter

	Second Quarter Ended			
	June 28,	June 29,	$	%
(Thousands)	**2019**	2018	Change	Change
Net sales	**$ 29,374**	$ 28,996	378	1 %
Value-added sales	**23,089**	23,393	(304)	(1)%
Operating profit	**3,937**	2,233	1,704	76 %

Net sales from the Precision Coatings segment of $29.4 million in the second quarter of 2019 increased 1% compared to net sales of $29.0 million in the second quarter of 2018 primarily due to the favorable impact of pass-through precious metal prices of $1.2 million, partially offset by reduced sales volume.

Value-added sales of $23.1 million in the second quarter of 2019 decreased 1% compared to value-added sales of $23.4 million in the second quarter of 2018. Increased value-added sales into the industrial end market of $0.6 million were more than offset by decreased value-added sales into the consumer electronics and semiconductor end markets.

The Precision Coatings segment generated operating profit of $3.9 million in the second quarter of 2019, compared to an operating profit of $2.2 million in the second quarter of 2018. The increase in operating profit was driven by favorable mix and improved manufacturing performance, compared to the second quarter last year.

Six Months

	Six Months Ended			
	June 28,	June 29,	$	%
(Thousands)	**2019**	2018	Change	Change
Net sales	**$ 59,677**	$ 60,682	(1,005)	(2)%
Value-added sales	**45,626**	47,034	(1,408)	(3)%
Operating profit	**6,014**	5,608	406	7 %

Net sales from the Precision Coatings segment of $59.7 million in the first six months of 2019 decreased 2% compared to net sales of $60.7 million in the first six months of 2018 due to decreased sales volume, partially offset by a $2.4 million favorable impact of pass-through precious metal prices.

Value-added sales of $45.6 million in the first six months of 2019 decreased 3% compared to value-added sales of $47.0 million in the first six months of 2018. Value-added sales into the consumer electronics, semiconductor, and other end markets decreased $3.4 million, while sales into the industrial end market increased $2.1 million.

The Precision Coatings segment generated operating profit of $6.0 million in the first six months of 2019, compared to an operating profit of $5.6 million in the first six months of 2018. The increase in operating profit was driven by favorable mix and improved manufacturing performance, compared to the first half of last year.

Other

Second Quarter

	Second Quarter Ended			
	June 28,	June 29,	$	%
(Thousands)	**2019**	2018	Change	Change
Net sales	**$ —**	$ —	—	—%
Value-added sales	**(1,743)**	(908)	(835)	92%
Operating loss	**(6,654)**	(4,922)	(1,732)	35%

The Other reportable segment in total includes unallocated corporate costs.

Corporate costs of $6.6 million in the second quarter of 2019 increased $1.7 million as compared to $4.9 million in the second quarter of 2018. Corporate costs accounted for 3% of Company value-added sales in the second quarter of both 2019 and 2018. The increase in corporate costs in the second quarter of 2019, compared to the second quarter of 2018, is reflective of investments to execute strategic initiatives and variable costs associated with improved financial performance.

Six Months

	Six Months Ended			
	June 28,	June 29,	$	%
(Thousands)	**2019**	2018	Change	Change
Net sales	**$ —**	$ —	—	—%
Value-added sales	**(3,707)**	(1,818)	(1,889)	104%
Operating loss	**(13,382)**	(10,805)	(2,577)	24%

Corporate costs of $13.4 million in the first half of 2019 increased $2.6 million as compared to $10.8 million in the first half of 2018. Corporate costs accounted for 3% of Company value-added sales in the first half of both 2019 and 2018. The increase in corporate costs in the first half of 2019, compared to the first half of 2018, is reflective of investments to execute strategic initiatives and variable costs associated with improved financial performance.

FINANCIAL POSITION

Cash Flow

A summary of cash flows provided by (used in) operating, investing, and financing activities is as follows:

	Six Months Ended		
	June 28,	June 29,	$
(Thousands)	**2019**	2018	Change
Net cash provided by operating activities	**$ 30,046**	$ 29,304	$ 742
Net cash used in investing activities	**(15,409)**	(20,551)	5,142
Net cash used in financing activities	**(10,326)**	(7,710)	(2,616)
Effects of exchange rate changes	**(100)**	8	(108)
Net change in cash and cash equivalents	**$ 4,211**	$ 1,051	$ 3,160

Net cash provided by operating activities totaled $30.0 million in the first six months of 2019 versus $29.3 million in the comparable prior-year period. Working capital requirements used cash of $29.3 million during the first six months of 2019 compared to a use of $15.8 million in the first six months of 2018. Cash flows used for accounts receivable were $0.3 million lower than the prior-year period. Three-month trailing days sales outstanding was approximately 43 days at June 28, 2019 and 41 days at December 31, 2018. Inventory reduction initiatives generated a cash flow benefit of $1.3 million in the first six months of 2019 compared to a benefit of $10.4 million in first six months of 2018, related primarily to our Performance Alloys and Composites business. Cash flows used for accounts payable and accrued expenses were $18.8 million compared to the prior-year period use of cash of $14.2 million due to higher incentive compensation payments tied to improved financial performance.

Net cash used in investing activities was $15.4 million in the first half of 2019 compared to $20.6 million in the prior-year period due to lower levels of capital spending.

Capital expenditures are made primarily for new product development, replacing and upgrading equipment, infrastructure investments, and implementing information technology initiatives. For the full year 2019, the Company expects payments for p roperty, plant, and equipment to be approximately $30.0 million and mine development expenditures to be less than $5.0 million.

Net cash used in financing activities totaled $10.3 million in the first half of 2019 versus $7.7 million used in financing activities in the comparable prior-year period. The increase in cash used is primarily due to higher payments of withholding taxes for stock-based compensation awards.

Liquidity

We believe cash flow from operations plus the available borrowing capacity and our current cash balance are adequate to support operating requirements, capital expenditures, projected pension plan contributions, the current dividend and share repurchase program, environmental remediation projects, and strategic acquisitions. At June 28, 2019, cash and cash equivalents held by our foreign operations totaled $17.8 million. We do not expect restrictions on repatriation of cash held outside of the United States to have a material effect on our overall liquidity, financial condition, or results of operations for the foreseeable future.

A summary of key data relative to our liquidity, including outstanding debt, cash, and available borrowing capacity, as of June 28, 2019 and December 31, 2018 is as follows:

(Thousands)		June 28, 2019		December 31, 2018
Cash and cash equivalents	$	74,856	$	70,645
Total outstanding debt		2,637		3,041
Net cash	$	72,219	$	67,604
Available borrowing capacity	$	316,828	$	275,488

Net cash is a non-GAAP financial measure. We are providing this information because we believe it is more indicative of our overall financial position. It is also a measure our management uses to assess financing and other decisions. We believe that based on our typical cash flow generated from operations, we can support a higher leverage ratio in future periods.

The available borrowing capacity in the table above represents the additional amounts that could be borrowed under our revolving credit facility and other secured lines existing as of the end of each period depicted. The applicable debt covenants have been taken into account when determining the available borrowing capacity, including the covenant that restricts the borrowing capacity to a multiple of the twelve-month trailing earnings before interest, income taxes, depreciation and amortization, and other adjustments.

The Company's revolving credit agreement (Credit Agreement) expires in 2020 and is secured by substantially all of the assets of the Company and its direct subsidiaries, with the exception of non-mining real property and certain other assets. The Credit Agreement allows us to borrow money at a premium over LIBOR or prime rate and at varying maturities. The premium resets quarterly according to the terms and conditions available under the agreement. The Credit Agreement includes restrictive covenants relating to restrictions on additional indebtedness, acquisitions, dividends, and stock repurchases. In addition, the Credit Agreement includes covenants subject to a maximum leverage ratio and a minimum fixed charge coverage ratio. We were in compliance with all of our debt covenants as of June 28, 2019 and December 31, 2018. Cash on hand does not affect the covenants or the borrowing capacity under our debt agreements.

Portions of our business utilize off-balance sheet consignment arrangements to finance metal requirements. Expansion of business volumes and/or higher metal prices can put pressure on the consignment line limitations from time to time. The available and unused capacity under the metal financing lines expiring in September 2019 totaled approximately $154.3 million as of June 28, 2019 and $133.9 million as of December 31, 2018. The availability is determined by Board approved levels and actual line capacity.

In January 2014, our Board of Directors approved a plan to repurchase up to $50.0 million of our common stock. The timing of the share repurchases will depend on several factors, including market and business conditions, our cash flow, debt levels, and other investment opportunities. There is no minimum quantity requirement to repurchase our common stock for a given year, and the repurchases may be discontinued at any time. In the first six months of 2019, we repurchased 4,500 shares of our common stock for $0.2 million. We did not repurchase any of our common shares during the second quarter of 2019. Since the approval of the repurchase plan, we have purchased 1,096,264 shares at a total cost of $34.9 million.

We paid cash dividends of $2.3 million and $4.4 million on our common stock in the second quarter and first six months of 2019, respectively. We intend to pay a quarterly dividend on an ongoing basis, subject to a determination that the dividend remains in the best interest of our shareholders.

OFF-BALANCE SHEET ARRANGEMENTS AND CONTRACTUAL OBLIGATIONS

We maintain the majority of the precious metals and copper we use in production on a consignment basis in order to reduce our exposure to metal price movements and to reduce our working capital investment. The notional value of off-balance sheet precious metals and copper was $295.7 million as of June 28, 2019, versus $316.1 million as of December 31, 2018. We were in compliance with all of the covenants contained in the consignment agreements as of June 28, 2019 and December 31, 2018. For additional information on our contractual obligations, refer to our 2018 Annual Report on Form 10-K.

CRITICAL ACCOUNTING POLICIES

The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires the inherent use of estimates and management's judgment in establishing those estimates. For additional information regarding critical accounting policies, please refer to our 2018 Annual Report on Form 10-K.

Impairment of Goodwill and Long-Lived Assets

Goodwill is reviewed annually for impairment or more frequently if impairment indicators arise. The Company conducts its annual goodwill impairment assessment as of first day of the fourth quarter, which was September 29, 2018.

Goodwill is assigned to the reporting unit, which is the operating segment level or one level below the operating segment. Goodwill within the Advanced Materials segment totaled $50.3 million as of December 31, 2018. Within the Precision Coatings segment, goodwill totaled $17.9 million and $20.6 million relating to the Precision Optics and Large Area Coatings (LAC) reporting units, respectively, as of December 31, 2018. The remaining $1.9 million was related to the Beryllium reporting unit within the Performance Alloys and Composites segment.

For the purpose of the goodwill impairment assessment, we have the option to perform a qualitative assessment (commonly referred to as "step zero") to determine whether further quantitative analysis for impairment of goodwill or indefinite-lived intangible assets is necessary. At the September 29, 2018 annual assessment date, we opted to bypass step zero and proceeded to perform a "step one" quantitative assessment for each of our reporting units. The results of the step one indicated that no goodwill impairment existed.

As of September 29, 2018, the Company determined that the fair value of LAC reporting unit exceeded the carrying value by approximately 50 percent, which indicated no impairment at that time. The sales growth assumption for LAC was based on expected future orders. A key input into our valuation analysis is our sales growth assumptions which can be impacted by increased competition, pricing pressures, and contract negotiations with new and existing customers. These factors impact both the timing and magnitude of sales of our products. Precious metal prices, particularly palladium used by our LAC reporting unit and its customer base, have fluctuated significantly in recent years. Palladium price movements have increased competitive pricing pressure in the LAC business. The key risk with the precious metal pricing volatility is the possibility that rising prices could deter our customers from purchasing our products, which would adversely affect our net sales and operating profit. If this sales volume decrease does materialize, and if we are unable to replace this volume with other sales growth, the Company may determine in connection with future impairment tests that some or all the carrying value of LAC's goodwill may be impaired due to our inability to recover from competitive pricing pressures within the medical end market of LAC. Accordingly, based on current market prices, there is an increased risk of impairment related to our LAC reporting unit. An impairment, the amount of the carrying value in excess of fair value, could be material and would reduce the Company's profitability in the period of the impairment charge.

Forward-looking Statements

Portions of the narrative set forth in this document that are not statements of historical or current facts are forward-looking statements. Our actual future performance may materially differ from that contemplated by the forward-looking statements as a result of a variety of factors. These factors include, in addition to those mentioned elsewhere herein:

- Actual net sales, operating rates, and margins for 2019;
- The global economy, including the impact of tariffs and trade agreements;
- The impact of any U.S. Federal Government shutdowns and sequestrations;
- The condition of the markets which we serve, whether defined geographically or by segment, with the major market segments being: semiconductor, industrial, aerospace and defense, automotive, energy, consumer electronics, and telecom and data center;
- Changes in product mix and the financial condition of customers;
- Our success in developing and introducing new products and new product ramp-up rates;
- Our success in passing through the costs of raw materials to customers or otherwise mitigating fluctuating prices for those materials, including the impact of fluctuating prices on inventory values;
- Our success in identifying acquisition candidates and in acquiring and integrating such businesses;
- The impact of the results of acquisitions on our ability to fully achieve the strategic and financial objectives related to these acquisitions;
- Our success in implementing our strategic plans and the timely and successful completion and start-up of any capital projects;
- Other financial and economic factors, including the cost and availability of raw materials (both base and precious metals), physical inventory valuations, metal financing fees, tax rates, exchange rates, pension costs and required cash contributions and other employee benefit costs, energy costs, regulatory compliance costs, the cost and availability of insurance, credit availability, and the impact of the Company’s stock price on the cost of incentive compensation plans;
- The uncertainties related to the impact of war, terrorist activities, and acts of God;
- Changes in government regulatory requirements and the enactment of new legislation that impacts our obligations and operations;
- The conclusion of pending litigation matters in accordance with our expectation that there will be no material adverse effects; and
- The risk factors set forth in Part 1, Item 1A of our 2018 Annual Report on Form 10-K.

Item 3. Quantitative and Qualitative Disclosures about Market Risk

For information regarding market risks, refer to Item 7A. Quantitative and Qualitative Disclosures About Market Risk in our 2018 Annual Report on Form 10-K. There have been no material changes in our market risks since the inclusion of this discussion in our 2018 Annual Report on Form 10-K.

Item 4. Controls and Procedures

a) Evaluation of Disclosure Controls and Procedures

The Company carried out an evaluation under the supervision and with participation of the Company's management, including the chief executive officer and chief financial officer, of the effectiveness of the design and operation of disclosure controls and procedures as of June 28, 2019 pursuant to Rule 13a-15(b) and 15d-15(b) under the Securities Exchange Act of 1934, as amended (Exchange Act). Based on that evaluation, management, including the chief executive officer and chief financial officer, concluded that disclosure controls and procedures are effective as of June 28, 2019.

b) Changes in Internal Control over Financial Reporting

There have been no changes in the Company's internal control over financial reporting that occurred during the quarter ended June 28, 2019 that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

As a result of the adoption of the new lease guidance on January 1, 2019, the Company implemented new processes and controls around its leasing arrangements. These changes included creating new accounting policies, implementing a new software solution, and gathering information necessary for disclosures.

PART II OTHER INFORMATION

Item 1. Legal Proceedings

Our subsidiaries and our holding company are subject, from time to time, to a variety of civil and administrative proceedings arising out of our normal operations, including, without limitation, product liability claims, health, safety, and environmental claims, and employment-related actions. Among such proceedings are cases alleging that plaintiffs have contracted, or have been placed at risk of contracting, beryllium sensitization or chronic beryllium disease or other lung conditions as a result of exposure to beryllium (beryllium cases). The plaintiffs in beryllium cases seek recovery under negligence and various other legal theories and demand compensatory and often punitive damages, in many cases of an unspecified sum. Spouses of some plaintiffs claim loss of consortium.

The information presented in the Legal Proceedings section of Note N ("Contingencies") of the Notes to Consolidated Financial Statements (Unaudited) is incorporated herein by reference.

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

The following table presents information with respect to repurchases of common stock made by us during the three months ended June 28, 2019.

Period	Total Number of Shares Purchased (1)	Average Price Paid per Share (1)	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs (2)	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs (2)
March 30 through May 3, 2019	2,542	$ 44.97	—	$ 15,081,991
May 4 through May 31, 2019	9,686	67.54	—	15,081,991
June 1 through June 28, 2019	256	63.81	—	15,081,991
Total	12,484	$ 62.87	—	$ 15,081,991

(1) Includes 2,542, 9,686, and 256 shares surrendered to the Company in April, May, and June, respectively, by employees to satisfy tax withholding obligations on equity awards issued under the Company's stock incentive plan.

(2) On January 14, 2014, we announced that our Board of Directors had authorized the repurchase of up to $50.0 million of our common stock. We did not repurchase any shares under this program during the second quarter of 2019. As of June 28, 2019, $15.1 million may still be purchased under the program.

Item 4. Mine Safety Disclosures

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 (17 CFR 229.104) is included in Exhibit 95 to this quarterly report on Form 10-Q.

Item 6. Exhibits

31.1	Certification of Chief Executive Officer required by Rule 13a-14(a) or 15d-14(a)*
31.2	Certification of Chief Financial Officer required by Rule 13a-14(a) or 15d-14(a)*
32	Certifications of Chief Executive Officer and Chief Financial Officer required by 18 U.S.C. Section 1350*
95	Mine Safety Disclosure Pursuant to Section 1503(a) of the Dodd-Frank Wall Street Reform and Consumer Protection Act for the period ended June 28, 2019*
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	XBRL Taxonomy Extension Schema Document*
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document*
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document*
101.LAB	XBRL Taxonomy Extension Label Linkbase Document*
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document*

*Submitted electronically herewith.

SIGNATURES

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.

MATERION CORPORATION

Dated: July 25, 2019

/s/ Joseph P. Kelley

Joseph P. Kelley
Vice President, Finance and Chief Financial Officer
(Principal Financial and Accounting Officer)

Exhibit 31.1

CERTIFICATIONS

I, Jugal K. Vijayvargiya, certify that:

1) I have reviewed this quarterly report on Form 10-Q of Materion Corporation (the “registrant”);

2) Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3) Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4) The registrant’s other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c) evaluated the effectiveness of the registrant’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d) disclosed in this report any change in the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter (the registrant’s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting; and

5) The registrant’s other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant’s auditors and the audit committee of the registrant’s board of directors (or persons performing the equivalent functions):

   a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant’s ability to record, process, summarize and report financial information; and

   b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant’s internal control over financial reporting.

/s/ Jugal K. Vijayvargiya

Dated: July 25, 2019

Jugal K. Vijayvargiya
President and Chief Executive Officer

Exhibit 31.2

CERTIFICATIONS

I, Joseph P. Kelley, certify that:

1) I have reviewed this quarterly report on Form 10-Q of Materion Corporation (the “registrant”);

2) Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3) Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4) The registrant’s other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c) evaluated the effectiveness of the registrant’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d) disclosed in this report any change in the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter (the registrant’s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting; and

5) The registrant’s other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant’s auditors and the audit committee of the registrant’s board of directors (or persons performing the equivalent functions):

   a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant’s ability to record, process, summarize and report financial information; and

   b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant’s internal control over financial reporting.

/s/ Joseph P. Kelley

Dated: July 25, 2019

Joseph P. Kelley
Vice President, Finance and Chief Financial Officer

Exhibit 32

Certification Pursuant to
18 U.S.C. Section 1350,
As Adopted Pursuant to
Section 906 of the Sarbanes-Oxley Act of 2002

Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, in connection with the filing of the Quarterly Report on Form 10-Q of Materion Corporation (the "Company") for the quarter ended June 28, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), each of the undersigned officers of the Company certifies that, to such officer's knowledge:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m or 78o(d)), and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company as of the dates and for the periods expressed in the Report.

Dated: July 25, 2019

/s/ Jugal K. Vijayvargiya

Jugal K. Vijayvargiya
President and Chief Executive Officer

/s/ Joseph P. Kelley

Joseph P. Kelley
Vice President, Finance and Chief Financial Officer

Exhibit 95

Materion Corporation

Mine Safety Disclosure Pursuant to Section 1503(a) of the Dodd-Frank Wall Street Reform and Consumer Protection Act for the Fiscal Quarter Ended June 28, 2019

Materion Natural Resources Inc., a wholly owned subsidiary, operates a beryllium mining complex in the State of Utah which is regulated by both the U.S. Mine Safety and Health Administration ("MSHA") and state regulatory agencies. We endeavor to conduct our mining and other operations in compliance with all applicable federal, state and local laws and regulations. We present information below regarding certain mining safety and health citations which MSHA has levied with respect to our mining operations.

Section 1503(a) of the Dodd-Frank Wall Street Reform and Consumer Protection Act ("Section 1503(a)") requires the Company to present certain information regarding mining safety in its periodic reports filed with the Securities and Exchange Commission.

The following table reflects citations, orders and notices issued to Materion Natural Resources Inc. by MSHA during the fiscal quarter ended June 28, 2019 (the "Reporting Period") and contains certain additional information as required by Section 1503(a) and Item 104 of Regulation S-K, including information regarding mining-related fatalities, proposed assessments from MSHA and legal actions ("Legal Actions") before the Federal Mine Safety and Health Review Commission, an independent adjudicative agency that provides administrative trial and appellate review of legal disputes arising under the Mine Act.

Included below is the information required by Section 1503(a) with respect to the beryllium mining complex (MSHA Identification Number 4200706) for the Reporting Period:

(A)	Total number of alleged 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 Materion Natural Resources Inc. received a citation from MSHA	0
(B)	Total number of orders issued under Section 104(b) of the Mine Act	0
(C)	Total number of citations and orders for alleged unwarrantable failure by Materion Natural Resources Inc. to comply with mandatory health or safety standards under Section 104(d) of the Mine Act	0
(D)	Total number of alleged flagrant violations under Section 110(b)(2) of the Mine Act	0
(E)	Total number of imminent danger orders issued under Section 107(a) of the Mine Act	0
(F)	Total dollar value of proposed assessments from MSHA under the Mine Act	$242
(G)	Total number of mining-related fatalities	0
(H)	Received notice from MSHA of a pattern of violations under Section 104(e) of the Mine Act	No
(I)	Received notice from MSHA of the potential to have a pattern of violations under Section 104(e) of the Mine Act	No
(J)	Total number of Legal Actions pending as of the last day of the Reporting Period	0
(K)	Total number of Legal Actions instituted during the Reporting Period	0
(L)	Total number of Legal Actions resolved during the Reporting Period	0