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 September 25, 2020

☐
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 September 25, 2020: 20,327,254.

PART 1 - FINANCIAL INFORMATION

Item 1. Financial Statements

Materion Corporation and Subsidiaries
Consolidated Statements of Income
(Unaudited)

(Thousands, except per share amounts)	Third Quarter Ended September 25, 2020	Third Quarter Ended September 27, 2019	Nine Months Ended September 25, 2020	Nine Months Ended September 27, 2019
Net sales	**$ 287,171**	$ 305,979	**$ 836,585**	$ 905,263
Cost of sales	**240,531**	240,748	**696,280**	701,126
Gross margin	**46,640**	65,231	**140,305**	204,137
Selling, general, and administrative expense	**35,696**	35,812	**99,292**	115,767
Research and development expense	**5,417**	5,262	**14,104**	13,064
Goodwill impairment charges	**—**	11,560	**9,053**	11,560
Asset impairment charges	**—**	2,581	**1,713**	2,581
Restructuring expense	**2,593**	785	**7,144**	785
Other—net	**2,221**	2,942	**4,143**	9,954
Operating profit	**713**	6,289	**4,856**	50,426
Other non-operating (income) expense—net	**(1,076)**	127	**(2,871)**	3,484
Interest expense—net	**1,334**	436	**2,839**	1,402
Income before income taxes	**455**	5,726	**4,888**	45,540
Income tax (benefit) expense	**(6,041)**	2,263	**(5,183)**	9,631
Net income	**$ 6,496**	$ 3,463	**$ 10,071**	$ 35,909
Basic earnings per share:				
Net income per share of common stock	**$ 0.32**	$ 0.17	**$ 0.50**	$ 1.76
Diluted earnings per share:				
Net income per share of common stock	**$ 0.32**	$ 0.17	**$ 0.49**	$ 1.74
Weighted-average number of shares of common stock outstanding:				
Basic	**20,325**	20,401	**20,342**	20,351
Diluted	**20,592**	20,677	**20,595**	20,645

See notes to these consolidated financial statements.

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

	Third Quarter Ended		Nine Months Ended	
(Thousands)	September 25, 2020	September 27, 2019	September 25, 2020	September 27, 2019
Net income	**$ 6,496**	$ 3,463	**$ 10,071**	$ 35,909
Other comprehensive income (loss):				
Foreign currency translation adjustment	**3,076**	(463)	**3,369**	(627)
Derivative and hedging activity, net of tax	**(315)**	82	**(822)**	9
Pension and post-employment benefit adjustment, net of tax	**29**	501	**134**	14,994
Other comprehensive income	**2,790**	120	**2,681**	14,376
Comprehensive income	**$ 9,286**	$ 3,583	**$ 12,752**	$ 50,285

See notes to these consolidated financial statements.

Materion Corporation and Subsidiaries
Consolidated Balance Sheets

(Thousands)	(Unaudited) September 25, 2020	Dec. 31, 2019
Assets		
Current assets		
Cash and cash equivalents	**$ 117,754**	$ 125,007
Accounts receivable, net	**150,454**	154,751
Inventories, net	**211,700**	190,390
Prepaid and other current assets	**24,515**	21,839
Total current assets	**504,423**	491,987
Deferred income taxes	**5,156**	1,666
Property, plant, and equipment	**987,902**	916,965
Less allowances for depreciation, depletion, and amortization	**(693,223)**	(684,689)
Property, plant, and equipment, net	**294,679**	232,276
Operating lease, right-of-use assets	**62,235**	23,413
Intangible assets	**54,449**	6,380
Other assets	**20,754**	17,937
Goodwill	**143,118**	79,011
Total Assets	**$ 1,084,814**	$ 852,670
Liabilities and Shareholders' Equity		
Current liabilities		
Short-term debt	**$ 122,216**	$ 868
Accounts payable	**56,524**	43,206
Salaries and wages	**24,853**	41,167
Other liabilities and accrued items	**42,238**	32,477
Income taxes	**1,435**	1,342
Unearned revenue	**4,360**	3,380
Total current liabilities	**251,626**	122,440
Other long-term liabilities	**10,057**	11,560
Operating lease liabilities	**56,891**	18,091
Finance lease liabilities	**20,540**	17,424
Retirement and post-employment benefits	**40,208**	32,466
Unearned income	**72,632**	32,891
Long-term income taxes	**3,365**	3,451
Deferred income taxes	**11,340**	2,410
Long-term debt	**6,374**	1,260
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 September 25 and December 31)	**257,019**	249,674
Retained earnings	**592,980**	589,888
Common stock in treasury	**(199,185)**	(186,845)
Accumulated other comprehensive loss	**(42,781)**	(45,462)
Other equity	**3,748**	3,422
Total shareholders' equity	**611,781**	610,677
Total Liabilities and Shareholders' Equity	**$ 1,084,814**	$ 852,670

See the notes to these consolidated financial statements.

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

	Nine Months Ended	
(Thousands)	**September 25, 2020**	September 27, 2019
Cash flows from operating activities:		
Net income	**$ 10,071**	$ 35,909
Adjustments to reconcile net income to net cash provided by (used in) operating activities:		
Depreciation, depletion, and amortization	**32,042**	31,955
Amortization of deferred financing costs in interest expense	**547**	720
Stock-based compensation expense (non-cash)	**3,989**	5,230
Deferred income tax (benefit) expense	**(5,187)**	5,725
Net pension curtailments and settlements	**94**	3,296
Impairment charges	**10,766**	14,141
Changes in assets and liabilities, net of acquired assets and liabilities:		
Decrease (increase) in accounts receivable	**13,899**	(36,146)
Decrease (increase) in inventory	**(9,883)**	22,089
Decrease (increase) in prepaid and other current assets	**(686)**	(416)
Increase (decrease) in accounts payable and accrued expenses	**(9,759)**	(14,114)
Increase (decrease) in unearned revenue	**(298)**	(728)
Increase (decrease) in interest and taxes payable	**143**	(1,499)
Increase (decrease) in unearned income due to customer prepayments	**40,385**	—
Domestic pension plan contributions	**—**	(4,500)
Other-net	**(6,679)**	(2,126)
Net cash provided by operating activities	**79,444**	59,536
Cash flows from investing activities:		
Payments for acquisition, net of cash acquired	**(130,715)**	—
Payments for purchase of property, plant, and equipment	**(46,285)**	(18,193)
Payments for mine development	**—**	(1,903)
Proceeds from settlement of currency exchange contract	**3,249**	—
Proceeds from sale of property, plant, and equipment	**35**	17
Net cash used in investing activities	**(173,716)**	(20,079)
Cash flows from financing activities:		
Short-term debt under revolving credit agreement, net	**120,000**	—
Repayment of long-term debt	**(16,357)**	(599)
Principal payments under finance lease obligations	**(1,440)**	(894)
Cash dividends paid	**(6,920)**	(6,612)
Repurchase of common stock	**(6,766)**	(199)
Payments of withholding taxes for stock-based compensation awards	**(2,212)**	(4,832)
Deferred financing costs	**—**	(2,018)
Net cash provided by (used in) financing activities	**86,305**	(15,154)
Effects of exchange rate changes	**714**	(422)
Net change in cash and cash equivalents	**(7,253)**	23,881
Cash and cash equivalents at beginning of period	**125,007**	70,645
Cash and cash equivalents at end of period	**$ 117,754**	$ 94,526

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 June 26, 2020	20,322	(6,826)	$ 256,756	$ 588,803	$ (198,726)	$ (45,571)	$ 3,678	$ 604,940
Net income	—	—	—	6,496	—	—	—	6,496
Other comprehensive income	—	—	—	—	—	2,790	—	2,790
Cash dividends declared ($0.115 per share)	—	—	—	(2,338)	—	—	—	(2,338)
Stock-based compensation activity	7	7	235	19	(231)	—	—	23
Payments of withholding taxes for stock-based compensation awards	(3)	(3)	—	—	(187)	—	—	(187)
Directors' deferred compensation	1	1	28	—	(41)	—	70	57
Balance at September 25, 2020	20,327	(6,821)	$ 257,019	$ 592,980	$ (199,185)	$ (42,781)	$ 3,748	$ 611,781
Balance at June 28, 2019	20,399	(6,749)	$ 245,785	$ 576,211	$ (187,224)	$ (43,978)	$ 3,991	$ 594,785
Net income	—	—	—	3,463	—	—	—	3,463
Other comprehensive income	—	—	—	—	—	120	—	120
Cash dividends declared ($0.11 per share)	—	—	—	(2,244)	—	—	—	(2,244)
Stock-based compensation activity	5	5	1,836	(21)	(126)	—	—	1,689
Payments of withholding taxes for stock-based compensation awards	(2)	(2)	—	—	(69)	—	—	(69)
Directors' deferred compensation	1	1	30	—	(45)	—	67	52
Balance at September 27, 2019	20,403	(6,745)	$ 247,651	$ 577,409	$ (187,464)	$ (43,858)	$ 4,058	$ 597,796

	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, 2019	20,404	(6,744)	$ 249,674	$ 589,888	$ (186,845)	$ (45,462)	$ 3,422	$ 610,677
Net income	—	—	—	10,071	—	—	—	10,071
Other comprehensive income	—	—	—	—	—	2,681	—	2,681
Cash dividends declared ($0.34 per share)	—	—	—	(6,920)	—	—	—	(6,920)
Stock-based compensation activity	117	117	7,272	(59)	(3,133)	—	—	4,080
Payments of withholding taxes for stock-based compensation awards	(39)	(39)	—	—	(2,212)	—	—	(2,212)
Repurchase of shares	(158)	(158)	—	—	(6,766)	—	—	(6,766)
Directors' deferred compensation	3	3	73	—	(229)	—	326	170
Balance at September 25, 2020	20,327	(6,821)	$ 257,019	$ 592,980	$ (199,185)	$ (42,781)	$ 3,748	$ 611,781
Balance at December 31, 2018	20,242	(6,906)	$ 234,704	$ 548,374	$ (175,426)	$ (58,234)	$ 4,488	$ 553,906
Net income	—	—	—	35,909	—	—	—	35,909
Other comprehensive income	—	—	—	—	—	11,080	—	11,080
Pension curtailment	—	—	—	—	—	3,296	—	3,296
Cumulative effect of accounting change	—	—	—	(179)	—	—	—	(179)
Cash dividends declared ($0.325 per share)	—	—	—	(6,612)	—	—	—	(6,612)
Stock-based compensation activity	252	252	12,882	(83)	(7,569)	—	—	5,230
Payments of withholding taxes for stock-based compensation awards	(89)	(89)	—	—	(4,832)	—	—	(4,832)
Repurchase of shares	(5)	(5)	—	—	(199)	—	—	(199)
Directors' deferred compensation	3	3	65	—	562	—	(430)	197
Balance at September 27, 2019	20,403	(6,745)	$ 247,651	$ 577,409	$ (187,464)	$ (43,858)	$ 4,058	$ 597,796

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 2020 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 2019 Annual Report on Form 10-K. The interim period results are not necessarily indicative of the results to be expected for the full year.

Business Combinations: The Company records assets acquired and liabilities assumed at the date of acquisition at their respective fair values. Any intangible assets acquired in a business combination are recognized and reported apart from goodwill. Goodwill represents the excess purchase price over the fair value of the tangible net assets and intangible assets acquired in a business combination. Acquisition-related expenses are recognized separately from the business combination and are expensed as incurred.

The amounts reflected in Note B to the Consolidated Financial Statements are the results of the preliminary purchase price allocation and will be updated upon completion of the final valuation. The Company is required to complete the purchase price allocation within 12 months of the acquisition date. If such completion of the allocation results in a change in the preliminary values, the measurement period adjustment will be recognized in the period in which the adjustment amount is determined.

New Pronouncements Adopted: In June 2016, the Financial Accounting Standards Board issued Accounting Standards Update (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 is effective for fiscal years beginning after December 15, 2019, including interim periods within such fiscal years. The Company adopted this guidance as of January 1, 2020, and the adoption did not have a material effect on the Company's consolidated financial statements. Accounts receivable were net of an allowance for credit losses of $0.7 million and $0.4 million at September 25, 2020 and December 31, 2019, respectively. The change in the allowance for credit losses includes expense and net write-offs, none of which is significant.

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 — Acquisition

On July 17, 2020, the Company acquired 100% of the capital stock of Optics Balzers AG (Optics Balzers), an industry leader in thin film optical coatings. The purchase price for Optics Balzers was $136.1 million, including the assumption of debt. The transaction was funded with cash on hand, including a portion of the $150.0 million borrowed under our revolving credit facility during the first half of 2020. This business will operate within the Precision Coatings segment, and the results of operations are included as of the date of acquisition. The combination of Materion and Optics Balzers creates a premier optical thin film coating solutions provider with a highly complementary geographic, product, and end market portfolio.

The preliminary purchase price allocation for the acquisition is as follows:

(Thousands)	**July 17, 2020**
Assets:	
Cash and cash equivalents	$ 5,390
Accounts receivable	8,594
Inventories	10,170
Prepaid and other current assets	937
Property, plant, and equipment	46,743
Operating lease, right-of-use assets	13,357
Intangible assets	48,600
Goodwill	71,510
Total assets acquired	$ 205,301
Liabilities:	
Short-term debt	$ 600
Accounts payable	2,851
Salaries and wages	4,392
Other liabilities and accrued items	4,178
Income taxes	61
Unearned revenue	1,259
Operating lease liabilities	12,355
Finance lease liabilities	2,574
Retirement and post-employment benefits	6,586
Unearned income	1,835
Long-term income taxes	181
Deferred income taxes	10,366
Long-term debt	21,958
Total liabilities assumed	$ 69,196
Net assets acquired	$ 136,105

Assets acquired and liabilities assumed are recognized at their respective fair values as of the acquisition date. These preliminary estimates are based on available information and will be revised during the measurement period, not to exceed 12 months, as third-party valuations are finalized, additional information becomes available, and as additional analysis is performed. Such revisions are not expected to have a material impact on the Company's results of operations and financial position.

The Company's consolidated financial statements include the results of operations of Optics Balzers from the acquisition date through September 25, 2020. The amount of Net sales and operating results attributable to the acquisition during this period were not material.

Acquisition-related transaction and integration costs totaled $4.7 million and $6.1 million in the third quarter and first nine months of 2020, respectively. These costs are included in selling, general, and administrative expense in the Consolidated Statements of Income.

As part of the acquisition, the Company recorded approximately $71.5 million of goodwill in its Precision Coatings segment. Goodwill was calculated as the excess of the purchase price over the estimated fair values of the tangible net assets and intangible assets acquired and primarily attributable to the synergies expected to arise after the acquisition dates. The goodwill is not expected to be deductible for U.S. tax purposes.

The following table reports the intangible assets by asset category and accumulated amortization from the closing date through September 25, 2020:

(Thousands)	Value at Acquisition	Accumulated Amortization	Weighted Average Life
Customer relationships	$ 39,300	$ (420)	18 years
Technology	4,200	(162)	5 years
Licenses and other	5,100	(196)	5 years
Total	$ 48,600	$ (778)	

Note C — 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
Third Quarter 2020					
Net sales	**$ 91,203**	**$ 165,582**	**$ 30,386**	**$ —**	**$ 287,171**
Intersegment sales	**—**	**6,602**	**—**	**—**	**6,602**
Operating profit (loss)	**721**	**5,920**	**1,421**	**(7,349)**	**713**
Third Quarter 2019					
Net sales	$ 130,704	$ 147,650	$ 27,625	$ —	$ 305,979
Intersegment sales	—	17,161	—	—	17,161
Operating profit (loss)	18,780	6,202	(11,198)	(7,495)	6,289
First Nine Months 2020					
Net sales	**$ 291,884**	**$ 475,855**	**$ 68,846**	**$ —**	**$ 836,585**
Intersegment sales	**2**	**24,790**	**—**	**—**	**24,792**
Operating profit (loss)	**13,756**	**15,075**	**(6,080)**	**(17,895)**	**4,856**
First Nine Months 2019					
Net sales	$ 393,048	$ 424,913	$ 87,302	$ —	$ 905,263
Intersegment sales	15	53,634	—	—	53,649
Operating profit (loss)	57,066	19,421	(5,184)	(20,877)	50,426

The following table disaggregates revenue for each segment by end market for the third quarter and first nine months of 2020 and 2019, respectively:

(Thousands)	Performance Alloys and Composites	Advanced Materials	Precision Coatings	Other	Total
Third Quarter 2020					
End Market					
Semiconductor	$ 983	$ 131,380	$ 1,008	$ —	$ 133,371
Industrial	21,630	9,967	4,976	—	36,573
Aerospace and Defense	14,740	1,687	4,867	—	21,294
Consumer Electronics	11,074	78	6,550	—	17,702
Automotive	14,077	1,477	1,059	—	16,613
Energy	5,825	16,693	—	—	22,518
Telecom and Data Center	10,452	500	—	—	10,952
Other	12,422	3,800	11,926	—	28,148
Total	$ 91,203	$ 165,582	$ 30,386	$ —	$ 287,171
Third Quarter 2019					
End Market					
Semiconductor	$ 1,220	$ 107,883	$ —	$ —	$ 109,103
Industrial	28,353	8,302	3,365	—	40,020
Aerospace and Defense	27,653	1,779	5,303	—	34,735
Consumer Electronics	18,399	395	5,613	—	24,407
Automotive	16,071	3,012	296	—	19,379
Energy	10,629	20,911	—	—	31,540
Telecom and Data Center	14,964	835	—	—	15,799
Other	13,415	4,533	13,048	—	30,996
Total	$ 130,704	$ 147,650	$ 27,625	$ —	$ 305,979

(Thousands)	Performance Alloys and Composites	Advanced Materials	Precision Coatings	Other	Total
First Nine Months 2020					
End Market					
Semiconductor	$ 3,426	$ 376,107	$ 1,251	$ —	$ 380,784
Industrial	68,801	26,748	10,647	—	106,196
Aerospace and Defense	46,898	4,764	14,095	—	65,757
Consumer Electronics	35,725	216	13,496	—	49,437
Automotive	48,656	4,743	1,083	—	54,482
Energy	16,844	49,488	—	—	66,332
Telecom and Data Center	33,027	2,158	—	—	35,185
Other	38,507	11,631	28,274	—	78,412
Total	$ 291,884	$ 475,855	$ 68,846	$ —	$ 836,585
First Nine Months 2019					
End Market					
Semiconductor	$ 4,489	$ 314,607	$ 205	$ —	$ 319,301
Industrial	83,368	23,934	11,358	—	118,660
Aerospace and Defense	80,774	4,397	14,924	—	100,095
Consumer Electronics	54,617	1,100	13,530	—	69,247
Automotive	53,348	6,035	882	—	60,265
Energy	33,026	59,136	—	—	92,162
Telecom and Data Center	50,800	1,749	—	—	52,549
Other	32,626	13,955	46,403	—	92,984
Total	$ 393,048	$ 424,913	$ 87,302	$ —	$ 905,263

Intersegment sales are eliminated in consolidation.

Note D — 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 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 September 25, 2020. Remaining performance obligations include non-cancelable 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 September 25, 2020, the aggregate amount of the transaction price allocated to remaining performance obligations was approximately $27.6 million.

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

(Thousands)	**September 25, 2020**	December 31, 2019	$ change	% change
Accounts receivable, trade	**$ 142,363**	$ 141,168	$ 1,195	1 %
Unbilled receivables	**8,364**	13,583	(5,219)	(38) %
Unearned revenue	**4,360**	3,380	980	29 %

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 third quarter and first nine months of 2020.

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 $3.2 million of the unearned amounts as revenue during the first nine months of 2020.

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 E — Other-net

Other-net for the third quarter and first nine months of 2020 and 2019 is summarized as follows:

	Third Quarter Ended		**Nine Months Ended**	
(Thousands)	**September 25, 2020**	September 27, 2019	**September 25 2020**	September 27, 2019
Metal consignment fees	**$ 2,317**	$ 1,936	**$ 6,583**	$ 7,252
Amortization of intangible assets	**907**	375	**1,201**	1,133
Foreign currency (gain) loss	**(1,029)**	469	**(3,577)**	853
Net loss on disposal of fixed assets	**19**	1	**74**	143
Other items	**7**	161	**(138)**	573
Total	**$ 2,221**	$ 2,942	**$ 4,143**	$ 9,954

Note F — Restructuring

During the third quarter of 2020, the Company concluded that it intends to close the Large Area Coatings (LAC) business (a reporting unit in the Precision Coatings segment) and as a result only the fixed assets of the LAC business are classified as held for sale. Any closure costs are expected to be immaterial. At September 25, 2020, fixed assets totaling $0.8 million were classified as held for sale and reflected within Prepaid and other current assets in the Consolidated Balance Sheet. No additional impairment charges were recorded during the third quarter of 2020.

In addition, in the third quarter of 2020, the Company completed cost reduction actions in order to align costs with commensurate business levels in its Precision Coatings segment. These actions were accomplished through elimination of vacant positions, consolidation of roles, and staff reductions. Costs associated with these actions totaled $0.4 million and included severance associated with approximately 28 employees and other related costs, all of which was paid during the third quarter of 2020.

During 2020, the Company initiated a restructuring plan in its Performance Alloys and Composites (PAC) segment to close its Warren, Michigan and Fremont, California locations. Costs associated with the plan totaled $2.2 million and $6.8 million in the third quarter and first nine months of 2020, respectively. In the third quarter of 2020, these costs included $0.4 million of severance and $1.6 million of facility and other related costs. Included in restructuring charges for the first nine months of 2020 was $1.8 million of severance associated with approximately 60 employees and $4.4 million of facility and other related costs.

Remaining severance payments of $1.1 million and facility costs of $0.4 million related to these initiatives are reflected within Salaries and wages and Other liabilities and accrued items, respectively, in the Consolidated Balance Sheets. The Company expects to incur additional costs related to these initiatives of approximately $2.5 million in the remainder of 2020.

In the third quarter of 2019, the Company initiated a restructuring plan in its LAC business to reduce headcount, idle certain machinery and equipment, and exit a facility in Windsor, Connecticut. Costs associated with this plan totaled $0.3 million and included severance and related costs for approximately 19 employees.

In addition, in the third quarter of 2019, the Company completed other cost reduction actions in order to align costs with commensurate business levels. These actions were accomplished through elimination of vacant positions, consolidation of roles, and staff reductions. Costs associated with these actions totaled $0.5 million within the Other segment and included severance associated with approximately seven employees and other related costs.

Note G — Income Taxes

The Company's effective tax rate for the third quarter of 2020 and 2019 was (1,327.7)% and 39.5%, respectively, and (106.0)% and 21.1% for the first nine months of 2020 and 2019, respectively.

The effective tax rate for the third quarter and first nine months of 2020 differed from the statutory tax rate primarily due to the impact of percentage depletion and the research and development credit, and the recognition of discrete tax benefits. The effective tax rate for the first nine months of 2020 included a net discrete income tax benefit of $3.8 million, primarily related to the release of a valuation allowance. The effective tax rate for the first nine months of 2019 included a net discrete income tax expense of $1.3 million, primarily related to an impairment of goodwill and return to provision tax expense adjustments.

On March 27, 2020, the Coronavirus Aid, Relief and Economic Security (CARES) Act was signed into law. The CARES Act, among other things, includes provisions relating to refundable payroll tax credits, deferment of employer social security payments, net operating loss carryback periods, alternative minimum tax credit refunds, and modifications to the net interest deduction limitations. While the Company continues to examine the impacts the CARES Act may have on its business, it does not expect it will have a material impact to its consolidated financial statements.

On July 9, 2020, the U.S. Treasury Department issued final tax regulations related to the foreign-derived intangible income and global intangible low-taxed income (GILTI) provisions. Also, on July 20, 2020, the U.S. Treasury Department released final tax regulations permitting a taxpayer to elect to exclude from its GILTI inclusion items of income subject to a high effective rate of foreign tax. The Company has determined the new legislation does not have a material impact to its consolidated financial statements.

Note H — Earnings Per Share (EPS)

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

(Thousands, except per share amounts)	Third Quarter Ended September 25, 2020	Third Quarter Ended September 27, 2019	Nine Months Ended September 25, 2020	Nine Months Ended September 27, 2019
Numerator for basic and diluted EPS:				
Net income	**$ 6,496**	$ 3,463	**$ 10,071**	$ 35,909
Denominator:				
Denominator for basic EPS:				
Weighted-average shares outstanding	**20,325**	20,401	**20,342**	20,351
Effect of dilutive securities:				
Stock appreciation rights	**46**	59	**39**	80
Restricted stock units	**77**	75	**90**	73
Performance-based restricted stock units	**144**	142	**124**	141
Diluted potential common shares	**267**	276	**253**	294
Denominator for diluted EPS:				
Adjusted weighted-average shares outstanding	**20,592**	20,677	**20,595**	20,645
Basic EPS	**$ 0.32**	$ 0.17	**$ 0.50**	$ 1.76
Diluted EPS	**$ 0.32**	$ 0.17	**$ 0.49**	$ 1.74

Adjusted weighted-average shares outstanding-diluted excludes securities totaling 114,335 and 70,562 for the quarters ended September 25, 2020 and September 27, 2019, respectively, and 164,447 and 127,759 for the nine months ended September 25, 2020 and September 27, 2019, respectively. These securities primarily related to restricted stock units and stock appreciation rights with fair market values and exercise prices greater than the average market price of the Company's common shares and were excluded from the dilution calculation as the effect would have been anti-dilutive.

Note I — Inventories

Inventories on the Consolidated Balance Sheets are summarized as follows:

(Thousands)	September 25, 2020	December 31, 2019
Raw materials and supplies	**$ 46,776**	$ 35,612
Work in process	**184,348**	177,780
Finished goods	**27,839**	25,506
Subtotal	**$ 258,963**	$ 238,898
Less: LIFO reserve balance	**47,263**	48,508
Inventories	**$ 211,700**	$ 190,390

The liquidation of last in, first out (LIFO) inventory layers did not impact cost of sales in the third quarter of 2020 and increased cost of sales by $0.1 million in the first nine months of 2020. LIFO liquidation decreased cost of sales by $0.5 million and $0.4 million in the third quarter and first nine months of 2019, respectively.

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 $382.8 million and $309.3 million as of September 25, 2020 and December 31, 2019, respectively.

Note J — Mine Development

Mine development costs at the Company's open pit surface mine include drilling, infrastructure, and other related costs to delineate an ore body, and the removal of overburden to initially expose an ore body. Historically, the Company's mine development costs involved the development of a new source of ore, and, as such, mine development costs incurred were capitalized during the pre-production phase of a mine and amortized into inventory as the ore was extracted. In the third quarter of 2020, the Company expanded a mine to further develop an ore body. Since the pre-production phase ended when ore was first extracted from this mine, the Company recognized approximately $7.3 million of mine development costs in the third quarter of 2020 as a component of cost of sales. The Company expects to incur additional period costs as a component of cost of sales related to mine development of approximately $6.0 million in the fourth quarter of 2020 related to the same mine.

Note K — Goodwill

A summary of changes in goodwill by reportable segment is as follows:

(Thousands)	Performance Alloys and Composites	Advanced Materials	Precision Coatings	Total
Balance at December 31, 2019	$ 1,899	$ 50,190	$ 26,922	$ 79,011
Acquisition	—	—	71,510	71,510
Impairment charge	—	—	(9,053)	(9,053)
Other	—	173	1,477	1,650
Balance at September 25, 2020	$ 1,899	$ 50,363	$ 90,856	$ 143,118

Goodwill is reviewed annually for impairment or more frequently if impairment indicators arise. The Company conducts its annual goodwill impairment assessment as of the first day of the fourth quarter, or more frequently under certain circumstances. Goodwill is assigned to the reporting unit, which is the operating segment level or one level below the operating segment.

In the first quarter of 2020, the Company recorded a $9.1 million impairment charge related to its LAC reporting unit.

The acquisition line represents the goodwill allocation during the measurement period subsequent to the applicable acquisition date. Refer to Note B for further discussion.

Note L — Customer Prepayments

The Company entered into an investment agreement with a customer to procure equipment to manufacture product for the customer. The customer will make prepayments to the Company in the amount of approximately $70 million in the aggregate to enable the Company to purchase and install certain equipment and make necessary infrastructure improvements to supply product to the customer. The Company will own the equipment and be responsible for operating and maintenance costs. The prepayment from the customer will be applied when commercial production of the product is sold and delivered to the customer in connection with a master supply agreement. Accordingly, as of September 25, 2020, $45.1 million of prepayments are classified as Unearned Income in the Consolidated Balance Sheet, of which $13.7 million were received during the third quarter of 2020, and the liability is expected to be settled as commercial shipments are made.

Note M — 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 September 25, 2020 was 12.98 years and 16.29 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 September 25, 2020 was 6.52% and 4.86%, respectively.

The components of operating and finance lease cost for the third quarter and first nine months of 2020 and 2019 were as follows:

	Third Quarter Ended		Nine Months Ended	
(Thousands)	**September 25, 2020**	September 27, 2019	**September 25, 2020**	September 27, 2019
Components of lease expense				
Operating lease cost	**$ 3,008**	$ 2,449	**$ 7,540**	$ 7,452
Finance lease cost				
Amortization of right-of-use assets	**601**	353	**1,302**	1,063
Interest on lease liabilities	**266**	256	**748**	778
Total lease cost	**$ 3,875**	$ 3,058	**$ 9,590**	$ 9,293

Operating lease expense amounted to $3.0 million and $7.5 million during the third quarter and first nine months of 2020, respectively, compared to $2.4 million and $7.5 million, respectively, during the same periods of 2019. 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 September 25, 2020 and December 31, 2019 was as follows:

(Thousands)	**September 25, 2020**	December 31, 2019
Supplemental balance sheet information		
Operating Leases		
Operating lease right-of-use assets	$ 62,235	$ 23,413
Other liabilities and accrued items	6,781	6,542
Operating lease liabilities	56,891	18,091
Finance Leases		
Property, plant, and equipment	$ 34,500	$ 26,069
Allowances for depreciation, depletion, and amortization	(7,045)	(3,570)
Finance lease assets, net	$ 27,455	$ 22,499
Other liabilities and accrued items	$ 2,700	$ 1,265
Finance lease liabilities	20,540	17,424
Total principal payable on finance leases	$ 23,240	$ 18,689

Future maturities of the Company's lease liabilities as of September 25, 2020 are as follows:

(Thousands)	**Finance Leases**	**Operating Leases**
2020	$ 935	$ 2,728
2021	3,735	10,275
2022	3,723	8,813
2023	2,455	8,371
2024	1,530	6,494
2025 and thereafter	22,372	58,992
Total lease payments	34,750	95,673
Less amount of lease payment representing interest	11,510	32,001
Total present value of lease payments	$ 23,240	$ 63,672

Supplemental cash flow information related to leases for the first nine months of 2020 and 2019 were as follows:

	Nine Months Ended	
(Thousands)	**September 25, 2020**	September 27, 2019
Supplemental cash flow information		
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows from operating leases	**$ 11,406**	$ 11,763
Operating cash flows from finance leases	**748**	778
Financing cash flows from finance leases	**1,440**	894

Note N — Pensions and Other Post-employment Benefits

The following is a summary of the net periodic benefit cost for the third quarter and first nine months of 2020 and 2019 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	
	Third Quarter Ended		Third Quarter Ended	
(Thousands)	September 25, 2020	September 27, 2019	September 25, 2020	September 27, 2019
Components of net periodic benefit (income) cost				
Service cost	$ —	$ 1,359	$ 14	$ 18
Interest cost	1,215	1,500	53	100
Expected return on plan assets	(2,206)	(2,134)	—	—
Amortization of prior service cost (benefit)	—	120	(374)	(374)
Amortization of net loss (gain)	284	762	(83)	(24)
Total net benefit (income) cost	$ (707)	$ 1,607	$ (390)	$ (280)

	Pension Benefits		Other Benefits	
	Nine Months Ended		Nine Months Ended	
(Thousands)	September 25, 2020	September 27, 2019	September 25, 2020	September 27, 2019
Components of net periodic benefit (income) cost				
Service cost	$ —	$ 4,117	$ 45	$ 53
Interest cost	3,644	4,404	160	299
Expected return on plan assets	(6,616)	(6,424)	—	—
Amortization of prior service cost (benefit)	—	362	(1,123)	(1,123)
Amortization of net loss (gain)	852	2,193	(249)	(70)
Net periodic benefit (credit) cost	$ (2,120)	$ 4,652	$ (1,167)	$ (841)
Net pension settlements/curtailments	94	3,296	—	—
Total net benefit (income) cost	$ (2,026)	$ 7,948	$ (1,167)	$ (841)

The Company did not make any contributions to its domestic defined benefit plan in the first nine months of 2020 and made contributions of $4.5 million in the first nine months of 2019.

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 (income) expense.

In May 2019, the Company's Board of Directors approved changes to the U.S. defined benefit pension plan. The Company froze 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 first nine months of 2019.

Note O — Accumulated Other Comprehensive Income (Loss)

Changes in the components of accumulated other comprehensive income, including the amounts reclassified, for the third quarter and first nine months of 2020 and 2019 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 June 26, 2020	$ 1,065	$ (779)	$ 104	$ 390	$ (41,241)	$ (4,720)	$ (45,571)
Other comprehensive income (loss) before reclassifications	(520)	(617)	182	(955)	—	3,076	2,121
Amounts reclassified from accumulated other comprehensive income	191	710	(353)	548	(11)	—	537
Net current period other comprehensive (loss) income before tax	(329)	93	(171)	(407)	(11)	3,076	2,658
Deferred taxes	(76)	22	(38)	(92)	(40)	—	(132)
Net current period other comprehensive (loss) income after tax	(253)	71	(133)	(315)	29	3,076	2,790
Balance at September 25, 2020	$ 812	$ (708)	$ (29)	$ 75	$ (41,212)	$ (1,644)	$ (42,781)
Balance at June 28, 2019	$ 1,420	$ (458)	$ (134)	$ 828	$ (40,050)	$ (4,756)	$ (43,978)
Other comprehensive (loss) income before reclassifications	354	(730)	(271)	(647)	—	(463)	(1,110)
Amounts reclassified from accumulated other comprehensive income	(3)	343	413	753	609	—	1,362
Net current period other comprehensive (loss) income before tax	351	(387)	142	106	609	(463)	252
Deferred taxes	(80)	(66)	10	24	108	—	132
Net current period other comprehensive (loss) income after tax	271	(321)	132	82	501	(463)	120
Balance at September 27, 2019	$ 1,691	$ (779)	$ (2)	$ 910	$ (39,549)	$ (5,219)	$ (43,858)

(Thousands)	Gains and Losses on Cash Flow Hedges: Foreign Currency	Precious Metals	Copper	Total	Pension and Post-Employment Benefits	Foreign Currency Translation	Total
Balance at December 31, 2019	$ 1,324	$ (452)	$ 25	$ 897	$ (41,346)	$ (5,013)	$ (45,462)
Other comprehensive income (loss) before reclassifications	(863)	(1,851)	(170)	(2,884)	—	3,369	485
Amounts reclassified from accumulated other comprehensive income	198	1,519	100	1,817	34	—	1,851
Net current period other comprehensive (loss) income before tax	(665)	(332)	(70)	(1,067)	34	3,369	2,336
Deferred taxes	(153)	(76)	(16)	(245)	(100)	—	(345)
Net current period other comprehensive (loss) income after tax	(512)	(256)	(54)	(822)	134	3,369	2,681
Balance at September 25, 2020	$ 812	$ (708)	$ (29)	$ 75	$ (41,212)	$ (1,644)	$ (42,781)
Balance at December 31, 2018	$ 1,263	$ 79	$ (441)	$ 901	$ (54,543)	$ (4,592)	$ (58,234)
Other comprehensive income (loss) before reclassifications	602	(1,366)	33	(731)	14,224	(627)	12,866
Amounts reclassified from accumulated other comprehensive income	(47)	281	505	739	5,050	—	5,789
Net current period other comprehensive (loss) income before tax	555	(1,085)	538	8	19,274	(627)	18,655
Deferred taxes	127	(227)	99	(1)	4,280	—	4,279
Net current period other comprehensive (loss) income after tax	428	(858)	439	9	14,994	(627)	14,376
Balance at September 27, 2019	$ 1,691	$ (779)	$ (2)	$ 910	$ (39,549)	$ (5,219)	$ (43,858)

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 R 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 N for additional details on pension and post-employment expenses.

Note P — Stock-based Compensation Expense

Stock-based compensation expense, which includes awards settled in shares and in cash, was less than $0.1 million and $4.1 million in the third quarter and first nine months of 2020, respectively, compared to $2.5 million and $8.7 million, respectively, in the same periods of 2019. The decrease in stock-based compensation expense in both the third quarter and first nine months of 2020 was primarily related to the forfeiture of employee equity awards.

The Company granted 64,636 stock appreciation rights (SARs) to certain employees during the first nine months of 2020. The weighted-average exercise price per share and weighted-average fair value per share of the SARs granted during the nine months ended September 25, 2020 were $50.95 and $13.67, 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	1.41 %
Dividend yield	0.9 %
Volatility	31.8 %
Expected term (in years)	4.8

The Company granted 66,663 stock-settled restricted stock units (RSUs) to certain employees and 15,976 stock-settled RSUs to non-employee directors during the first nine months of 2020. 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 $49.72 and $48.42 for stock-settled RSUs granted to employees and non-employee directors, respectively, during the nine months ended September 25, 2020. 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 nine months of 2020. The weighted-average fair value of the stock-settled PRSUs was $57.65 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 September 25, 2020, unamortized compensation cost related to the unvested portion of all stock-based awards was approximately $9.0 million, and is expected to be recognized over the remaining vesting period of the respective grants.

Note Q — Fair Value of Financial Instruments

The Company measures and records financial instruments at fair value. A 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 September 25, 2020 and December 31, 2019:

	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)	**2020**	2019	**2020**	2019	**2020**	2019	**2020**	2019
Financial Assets								
Deferred compensation investments	**$ 2,985**	$ 3,391	**$ 2,985**	$ 3,391	**$ —**	$ —	**$ —**	$ —
Foreign currency forward contracts	**44**	188	**—**	—	**44**	188	**—**	—
Precious metal swaps	**100**	35	**—**	—	**100**	35	**—**	—
Copper swaps	**45**	61	**—**	—	**45**	61	**—**	—
Total	**$ 3,174**	$ 3,675	**$ 2,985**	$ 3,391	**$ 189**	$ 284	**$ —**	$ —
Financial Liabilities								
Deferred compensation liability	**$ 2,985**	$ 3,391	**$ 2,985**	$ 3,391	**$ —**	$ —	**$ —**	$ —
Foreign currency forward contracts	**805**	211	**—**	—	**805**	211	**—**	—
Precious metal swaps	**1,020**	623	**—**	—	**1,020**	623	**—**	—
Copper swaps	**82**	28	**—**	—	**82**	28	**—**	—
Total	**$ 4,892**	$ 4,253	**$ 2,985**	$ 3,391	**$ 1,907**	$ 862	**$ —**	$ —

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 September 25, 2020 and December 31, 2019. The Company's deferred compensation investments and liabilities are based on the fair value of the investments corresponding to the employees' investment selections, primarily in mutual funds, based on quoted prices in active markets for identical assets. Deferred compensation investments are primarily presented in Other assets. Deferred compensation liabilities are primarily presented in Other long-term liabilities.

Note R — 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, the 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 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 exposures. 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. Foreign currency contracts are typically layered in at different times for a specified exposure period in order to minimize the impact of market 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. The Company may also enter into hedges to mitigate the risk relating to the prices of the metals which we process or refine.

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. The Company also uses copper in its 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 the Company's price exposure to copper is generally in balance, there can be a lag between the change in the Company's cost and the pass-through to its customers, resulting in higher or lower margins in a given period. To mitigate this impact, the Company hedges 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 to maturity. The Company does not engage in derivative trading activities and does not use derivatives for speculative purposes. The Company only uses hedge contracts that are denominated in the same currency or 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. The ineffective portion of a derivative's fair value, if any, is recognized in earnings immediately. 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 September 25, 2020 and December 31, 2019:

	September 25, 2020		December 31, 2019	
(Thousands)	**Notional Amount**	**Fair Value**	Notional Amount	Fair Value
Foreign currency forward contracts				
Prepaid expenses	**$ 10,517**	**$ 28**	$ 13,734	$ 95
Other liabilities and accrued items	**10,831**	**22**	5,757	16

These outstanding foreign currency derivatives were related to balance sheet hedges and intercompany loans. Other-net included $0.4 million and $2.7 million of foreign currency gains related to derivatives in the third quarter and first nine months of 2020, respectively, primarily due to a gain realized on the settlement of a foreign currency hedge for the purchase of Optics Balzers.

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 September 25, 2020 and December 31, 2019:

	September 25, 2020		December 31, 2019	
(Thousands)	Notional Amount	Fair Value	Notional Amount	Fair Value
Prepaid expenses				
Foreign currency forward contracts - yen	$ —	$ —	$ 1,025	$ 10
Foreign currency forward contracts - euro	296	4	3,466	83
Precious metal swaps	1,583	90	1,116	34
Copper swaps	1,861	45	1,951	61
Total	3,740	139	7,558	188
Other assets				
Foreign currency forward contracts - euro	892	12	—	—
Precious metal swaps	757	10	157	1
Total	1,649	22	157	1
Other liabilities and accrued items				
Foreign currency forward contracts - yen	1,441	39	2,355	12
Foreign currency forward contracts - euro	12,101	743	15,686	183
Precious metal swaps	6,492	1,020	7,034	618
Copper swaps	3,258	82	1,266	28
Total	23,292	1,884	26,341	841
Other long-term liabilities				
Foreign currency forward contracts - yen	113	1	—	—
Precious metal swaps	—	—	149	5
Total	113	1	149	5
Total	$ 28,794	$ 1,724	$ 34,205	$ 657

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 September 25, 2020 to the Consolidated Statements of Income within the next 15-month period. Refer to Note O 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 third quarter and first nine months of 2020 and 2019:

		Third Quarter Ended	
(Thousands)		September 25, 2020	September 27, 2019
Hedging relationship	**Line item**		
Foreign currency forward contracts	Net sales	$ 191	$ (3)
Precious metal swaps	Cost of sales	710	343
Copper swaps	Cost of sales	(353)	413
Total		$ 548	$ 753

(Thousands)		Nine Months Ended	
		September 25, 2020	September 27, 2019
Hedging relationship	**Line item**		
Foreign currency forward contracts	Net sales	$ 198	$ (47)
Precious metal swaps	Cost of sales	1,519	281
Copper swaps	Cost of sales	100	505
Total		$ 1,817	$ 739

Note S — Contingencies

Legal Proceedings. For general information regarding legal proceedings relating to *Chronic Beryllium Disease Claims*, refer to Note R ("Contingencies and Commitments") in the Company's 2019 Annual Report on Form 10-K.

Two beryllium cases were outstanding as of September 25, 2020. The Company does not expect the resolution of these matters to have a material impact on the consolidated financial statements.

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 $5.9 million at both September 25, 2020 and December 31, 2019. Environmental projects tend to be long-term, and the final actual remediation costs may differ from the amounts currently recorded.

Note T — Debt

(Thousands)	**September 25, 2020**	December 31, 2019
Foreign debt	$ 6,988	$ —
Fixed rate industrial development revenue bonds	1,602	2,218
Total long-term debt outstanding	8,590	2,218
Current portion of long-term debt	2,216	868
Gross long-term debt	6,374	1,350
Unamortized deferred financing fees	—	90
Long-term debt	$ 6,374	$ 1,260

In the first nine months of 2020, the Company borrowed $150.0 million under its revolving credit facility, of which $120.0 million was outstanding as of September 25, 2020. The remaining borrowing capacity under the revolving credit facility as of September 25, 2020 was $233.9 million. The Company has the option to repay or borrow additional funds under the revolving credit facility until the maturity date in 2024.

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.

Coronavirus (COVID-19) Third Quarter 2020 Update

The significant macroeconomic impact of the ongoing COVID-19 pandemic impacted several of the Company's end markets beginning in the first quarter of 2020 primarily in the form of reduced demand, particularly in the consumer electronics, automotive, energy, aerospace and defense, and industrial end markets. In the first nine months of 2020, the Company recorded additional reserves for slow-moving and excess inventory of approximately $1.3 million related to the collapse in demand in the oil and gas industry. The Company also reviewed for any other potential impairment indicators and did not identify any. We may temporarily shut down our facilities in response to reduced demand, due to employees being impacted by COVID-19, or changes in government policy. The Company is not experiencing any significant supply chain disruptions. We expect reduced demand to continue at least through the remainder of 2020, but the extent and timing cannot be reasonably estimated due to the evolving nature of this pandemic.

In the third quarter of 2020, the Company incurred $0.8 million of expense related to COVID-19. These costs were primarily related to personal protective equipment and temperature-checking services.

The impact of the COVID-19 pandemic is fluid and continues to evolve, and, therefore, we cannot predict the extent to which our business, results of operations, financial condition, or cash flows will ultimately be impacted.

The Company suspended its share buyback program in the first quarter of 2020. In addition, the Company is currently evaluating the impact of the CARES Act. See Note G to the Consolidated Financial Statements for additional discussion.

From a liquidity perspective, we believe we are well positioned to manage through this global crisis. In order to ensure we have more than adequate liquidity, we borrowed $150.0 million under the revolving credit facility in April 2020, $30.0 million of which was repaid during the third quarter of 2020. We ended the third quarter with total cash of $117.8 million and $128.6 million of total debt, or in a net debt position of $10.9 million. In addition, we had $233.9 million of available borrowings under our revolving credit facility as of the end of the third quarter.

Additionally, in the third quarter of 2020, we completed the acquisition of Optics Balzers for a purchase price of $136.1 million, including the assumption of debt. The transaction was funded with cash on hand, including a portion of the $150.0 million borrowed under our revolving credit facility during the first nine months of 2020.

RESULTS OF OPERATIONS

Third Quarter

	Third Quarter Ended			
(Thousands, except per share data)	**September 25, 2020**	September 27, 2019	$ Change	% Change
Net sales	**$ 287,171**	$ 305,979	$ (18,808)	(6)%
Value-added sales	**167,545**	188,598	(21,053)	(11)%
Gross margin	**46,640**	65,231	(18,591)	(29)%
Gross margin as a % of value-added sales	**28 %**	35 %		
Selling, general, and administrative (SG&A) expense	**35,696**	35,812	(116)	— %
SG&A expense as a % of value-added sales	**21 %**	19 %		
Research and development (R&D) expense	**5,417**	5,262	155	3 %
R&D expense as a % of value-added sales	**3 %**	3 %		
Goodwill impairment charges	**—**	11,560	(11,560)	N/A
Asset impairment charges	**—**	2,581	(2,581)	N/A
Restructuring expense	**2,593**	785	1,808	N/A
Other—net	**2,221**	2,942	(721)	(25)%
Operating profit	**713**	6,289	(5,576)	(89)%
Other non-operating (income) expense—net	**(1,076)**	127	(1,203)	(947)%
Interest expense—net	**1,334**	436	898	206 %
Income before income taxes	**455**	5,726	(5,271)	(92)%
Income tax (benefit) expense	**(6,041)**	2,263	(8,304)	(367)%
Net income	**$ 6,496**	$ 3,463	$ 3,033	88 %
Diluted earnings per share	**$ 0.32**	$ 0.17	$ 0.15	88 %

N/A = Not Applicable

Net sales of $287.2 million in the third quarter of 2020 decreased $18.8 million from $306.0 million in the third quarter of 2019. Net sales growth in our Advanced Materials and Precision Coatings segments was more than offset by decreased net sales in our Performance Alloys and Composites segments driven by lower sales volumes. The change in precious metal and copper prices favorably impacted net sales during the third quarter of 2020 by $24.2 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 $167.5 million in the third quarter of 2020 decreased $21.1 million, or 11%, compared to the third quarter of 2019. The increase in semiconductor end market sales was more than offset by the decrease in value-added sales due to reduced demand in the aerospace and defense, energy, industrial, and telecom and data center end markets.

Gross margin in the third quarter of 2020 was $46.6 million, which was down 29% compared to the third quarter of 2019. Gross margin expressed as a percentage of value-added sales decreased to 28% in the third quarter of 2020 from 35% in the third quarter of 2019. The decrease was primarily driven by lower volumes, as well as $7.3 million of mine development costs recorded in the third quarter of 2020.

SG&A expense was $35.7 million in the third quarter of 2020, compared to $35.8 million in the third quarter of 2019. The decrease in SG&A expense for the third quarter of 2020 was primarily driven by the forfeiture of non-cash stock-based compensation awards, lower variable compensation expense, and cost management actions, partially offset by acquisition and integration costs related to the purchase of Optics Balzers. Expressed as a percentage of value-added sales, SG&A expense was 21% and 19% in the third quarter of 2020 and 2019, respectively.

R&D expense consists primarily of direct personnel costs for pre-production evaluation and testing of new products, prototypes, and applications. R&D expense accounted for 3% of value-added sales in the third quarter of both 2020 and 2019.

Goodwill and Asset impairment charges includes non-recurring charges relating to goodwill and other assets recorded in the third quarter of 2019 in our Precision Coatings segment.

Restructuring expense consists primarily of cost reduction actions taken in order to reduce our fixed cost structure. In the third quarter of 2020, we recorded $2.2 million of restructuring charges in our Performance Alloys and Composites segment related to the closure of our Warren, Michigan and Fremont, California facilities. In addition, in the third quarter of 2020, we recorded $0.4 million of restructuring charges related to cost reduction actions taken in our Precision Coatings segment. Refer to Note F to the Consolidated Financial Statements for additional discussion.

Other-net was $2.2 million of expense in the third quarter of 2020, or a $0.7 million decrease from the third quarter of 2019, which was primarily driven by a $1.1 million foreign currency hedge gain realized in the third quarter of 2020. Refer to Note E to the Consolidated Financial Statements for details of the major components within Other-net.

Other non-operating (income) expense-net includes components of pension and post-retirement expense other than service costs. Refer to Note N to the Consolidated Financial Statements for details of the components.

Interest expense-net was $1.3 million and $0.4 million in the third quarter of 2020 and 2019, respectively. The increase in interest expense is primarily due to borrowings under our revolving credit facility.

Income tax (benefit) expense for the third quarter of 2020 was a benefit of $6.0 million compared to expense of $2.3 million in the third quarter of 2019. The effective tax rate for the third quarter of 2020 was (1,327.7)% compared to 39.5% in the prior-year period. The effective tax rate for the third quarter of 2020 differed from the statutory tax rate primarily due to the impact of percentage depletion, the research and development credit, and the recognition of discrete tax benefits. The effective tax rate for the third quarter of 2020 included a net discrete income tax benefit of $3.8 million, primarily related to the release of a foreign valuation allowance. Refer to Note G to the Consolidated Financial Statements for further details on income taxes.

Nine Months

	Nine Months Ended			
(Thousands, except per share data)	**September 25, 2020**	September 27, 2019	$ Change	% Change
Net sales	**$ 836,585**	$ 905,263	$ (68,678)	(8)%
Value-added sales	**487,780**	571,175	(83,395)	(15)%
Gross margin	**140,305**	204,137	(63,832)	(31)%
Gross margin as a % of value-added sales	**29 %**	36 %		
SG&A expense	**99,292**	115,767	(16,475)	(14)%
SG&A expense as a % of value-added sales	**20 %**	20 %		
R&D expense	**14,104**	13,064	1,040	8 %
R&D expense as a % of value-added sales	**3 %**	2 %		
Goodwill impairment charges	**9,053**	11,560	(2,507)	N/A
Asset impairment charges	**1,713**	2,581	(868)	N/A
Restructuring expense	**7,144**	785	6,359	N/A
Other—net	**4,143**	9,954	(5,811)	(58)%
Operating profit	**4,856**	50,426	(45,570)	(90)%
Other non-operating (income) expense—net	**(2,871)**	3,484	(6,355)	(182)%
Interest expense—net	**2,839**	1,402	1,437	102 %
Income before income taxes	**4,888**	45,540	(40,652)	(89)%
Income tax (benefit) expense	**(5,183)**	9,631	(14,814)	(154)%
Net income	**$ 10,071**	$ 35,909	$ (25,838)	(72)%
Diluted earnings per share	**$ 0.49**	$ 1.74	$ (1.25)	(72)%

N/A = Not Applicable

Net sales of $836.6 million in the first nine months of 2020 decreased $68.7 million from $905.3 million in the first nine months of 2019. Net sales growth in our Advanced Materials segment was more than offset by decreased net sales in our Performance Alloys and Composites and Precision Coatings segments driven by lower sales volumes. The change in precious metal and copper prices favorably impacted net sales during the first nine months of 2020 by $63.8 million.

Value-added sales of $487.8 million in the first nine months of 2020 decreased $83.4 million, or 15%, compared to the first nine months of 2019. The increase in semiconductor end market sales was more than offset by the decrease in value-added sales due to reduced demand in the aerospace and defense, energy, telecom and data center, and industrial end markets.

Gross margin in the first nine months of 2020 was $140.3 million, which was down 31% compared to the first nine months of 2019. Gross margin expressed as a percentage of value-added sales decreased to 29% in the first nine months of 2020 from 36% in the first nine months of 2019. The decrease was primarily driven by lower volumes, as well as $7.3 million of mine development costs and a $1.3 million charge to reserve for slow moving and excess inventory related to the collapse in demand in the oil and gas industry, both recorded in the first nine months of 2020.

SG&A expense was $99.3 million in the first nine months of 2020, compared to $115.8 million in the first nine months of 2019. The decrease in SG&A expense for the first nine months of 2020 was primarily driven by lower variable compensation expense and cost management actions. Expressed as a percentage of value-added sales, SG&A expense was 20% in the first nine months of both 2020 and 2019.

R&D expense accounted for 3% and 2% of value-added sales in the first nine months of 2020 and 2019, respectively. The increase reflects additional investment in new product and application development.

Goodwill and Asset impairment charges includes non-recurring charges relating to goodwill and other assets in our Precision Coatings segment. Refer to Note K to the Consolidated Financial Statements for additional discussion.

Restructuring expense consists primarily of cost reduction actions taken in order to reduce our fixed cost structure. In the first nine months of 2020, we recorded $7.1 million of restructuring charges primarily in our Performance Alloys and Composites segment related to the closure of our Warren, Michigan and Fremont, California facilities. Refer to Note F to the Consolidated Financial Statements for additional discussion.

Other-net was $4.1 million of expense in the first nine months of 2020, or a $5.8 million decrease from the first nine months of 2019. The decrease in Other-net was primarily driven by a $3.3 million foreign exchange hedge gain realized in the first nine months of 2020, as well as reduced metal consignment fees in the first nine months of 2020 compared to the first nine months of 2019. Refer to Note E to the Consolidated Financial Statements for details of the major components within Other-net.

Other non-operating (income) 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 first nine months of 2019. Refer to Note N to the Consolidated Financial Statements for details of the components.

Interest expense-net was $2.8 million and $1.4 million in the first nine months of 2020 and 2019, respectively. The increase is primarily due to borrowings under our revolving credit facility.

Income tax (benefit) expense for the first nine months of 2020 was a benefit of $5.2 million compared to an expense of $9.6 million in the first nine months of 2019. The effective tax rate for the first nine months of 2020 and 2019 was (106.0%) and 21.1%, respectively. The effective tax rate for the first nine months of 2020 differed from the statutory tax rate primarily due to the impact of percentage depletion and the research and development credit, and the recognition of discrete tax benefits. The effective tax rate for the first nine months of 2020 included a net discrete income tax benefit of $3.8 million, primarily related to the release of a valuation allowance. The effective tax rate for the first nine months of 2019 included a net discrete income tax expense of $1.3 million, primarily related to an impairment of goodwill and return to provision tax expense adjustments. Refer to Note G to the Consolidated Financial Statements for further details on income taxes.

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 third quarter and first nine months of 2020 and 2019 is as follows:

	Third Quarter Ended		Nine Months Ended	
(Thousands)	September 25, 2020	September 27, 2019	September 25, 2020	September 27, 2019
Net sales				
Performance Alloys and Composites	**$ 91,203**	$ 130,704	**$ 291,884**	$ 393,048
Advanced Materials	**165,582**	147,650	**475,855**	424,913
Precision Coatings	**30,386**	27,625	**68,846**	87,302
Other	**—**	—	**—**	—
Total	**$ 287,171**	$ 305,979	**$ 836,585**	$ 905,263
Less: pass-through metal costs				
Performance Alloys and Composites	**$ 9,321**	$ 18,747	**$ 36,531**	$ 56,247
Advanced Materials	**107,916**	92,040	**304,336**	253,489
Precision Coatings	**2,076**	5,183	**5,769**	19,234
Other	**313**	1,411	**2,169**	5,118
Total	**$ 119,626**	$ 117,381	**$ 348,805**	$ 334,088
Value-added sales				
Performance Alloys and Composites	**$ 81,882**	$ 111,957	**$ 255,353**	$ 336,801
Advanced Materials	**57,666**	55,610	**171,519**	171,424
Precision Coatings	**28,310**	22,442	**63,077**	68,068
Other	**(313)**	(1,411)	**(2,169)**	(5,118)
Total	**$ 167,545**	$ 188,598	**$ 487,780**	$ 571,175

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

Third Quarter

	Third Quarter Ended			
(Thousands)	September 25, 2020	September 27, 2019	$ Change	% Change
Net sales	**$ 91,203**	$ 130,704	$ (39,501)	(30)%
Value-added sales	**81,882**	111,957	(30,075)	(27)%
Operating profit	**721**	18,780	(18,059)	(96)%

Net sales from the Performance Alloys and Composites segment of $91.2 million in the third quarter of 2020 were 30% lower than net sales of $130.7 million in the third quarter of 2019. The decrease was due to reduced sales into all major end markets, with the largest declines in the aerospace and defense, industrial, and telecom and data center end markets.

Value-added sales of $81.9 million in the third quarter of 2020 were 27% lower than value-added sales of $112.0 million in the third quarter of 2019. The decrease in value-added sales was due to the same factors driving the decrease in net sales.

Performance Alloys and Composites generated operating profit of $0.7 million in the third quarter of 2020 compared to $18.8 million in the third quarter of 2019. The decrease in operating profit was primarily due to reduced sales volumes as well as $7.3 million of mine development costs recorded in the third quarter of 2020. In addition, restructuring charges of $2.2 million were recorded in the third quarter of 2020 related to the closure of our Warren, Michigan and Fremont, California facilities.

Nine Months

	Nine Months Ended			
(Thousands)	September 25, 2020	September 27, 2019	$ Change	% Change
Net sales	**$ 291,884**	$ 393,048	$ (101,164)	(26)%
Value-added sales	**255,353**	336,801	(81,448)	(24)%
Operating profit	**13,756**	57,066	(43,310)	(76)%

Net sales from the Performance Alloys and Composites segment of $291.9 million in the first nine months of 2020 were 26% lower than net sales of $393.0 million in the first nine months of 2019. The decrease was due to reduced sales into all major end markets, with the largest declines in the aerospace and defense, telecom and data center, and energy end markets.

Value-added sales of $255.4 million in the first nine months of 2020 were 24% lower than value-added sales of $336.8 million in the first nine months of 2019. The decrease in value-added sales was due to the same factors driving the decrease in net sales.

Performance Alloys and Composites generated operating profit of $13.8 million in the first nine months of 2020 compared to $57.1 million in the first nine months of 2019. The decrease in operating profit was primarily due to reduced sales volumes as well as $7.3 million of mine development costs recorded in the first nine months of 2020. In addition, we recorded $6.7 million of restructuring charges in the first nine months of 2020 related to the closure of our Warren, Michigan and Fremont, California facilities. We also recorded $1.3 million of additional reserves for slow-moving and excess inventory related to the collapse in demand in the oil and gas industry.

Advanced Materials

Third Quarter

	Third Quarter Ended			
(Thousands)	September 25, 2020	September 27, 2019	$ Change	% Change
Net sales	**$ 165,582**	$ 147,650	17,932	12 %
Value-added sales	**57,666**	55,610	2,056	4 %
Operating profit	**5,920**	6,202	(282)	(5) %

Net sales from the Advanced Materials segment of $165.6 million in the third quarter of 2020 were 12% higher than net sales of $147.7 million in the third quarter of 2019. The increase in net sales was primarily due to the impact of higher pass-through metal prices of $24.2 million, partially offset by a lower mix of precious metal-containing products and the mix of customer-supplied material.

Value-added sales of $57.7 million in the third quarter of 2020 increased 4% compared to value-added sales of $55.6 million in the third quarter of 2019. Higher semiconductor end market sales were partially offset by decreased value-added sales into the energy end market.

The Advanced Materials segment generated operating profit of $5.9 million in the third quarter of 2020 compared to $6.2 million in the third quarter of 2019. Decreased operating profit in the third quarter of 2020, compared to the third quarter of 2019, was the primarily the result of reduced manufacturing yields.

Nine Months

	Nine Months Ended			
(Thousands)	**September 25, 2020**	September 27, 2019	$ Change	% Change
Net sales	**$ 475,855**	$ 424,913	50,942	12 %
Value-added sales	**171,519**	171,424	95	— %
Operating profit	**15,075**	19,421	(4,346)	(22)%

Net sales from the Advanced Materials segment of $475.9 million in the first nine months of 2020 were 12% higher than net sales of $424.9 million in the first nine months of 2019. The increase in net sales was primarily due to the impact of higher pass-through metal prices of $63.7 million, partially offset by a lower mix of precious metal-containing products and the mix of customer-supplied material.

Value-added sales of $171.5 million in the first nine months of 2020 were flat compared to value-added sales of $171.4 million in the first nine months of 2019. Higher semiconductor end market sales were partially offset by decreased value-added sales into the energy and industrial markets.

The Advanced Materials segment generated operating profit of $15.1 million in the first nine months of 2020 compared to $19.4 million in the first nine months of 2019. Decreased operating profit in the first nine months of 2020, compared to the first nine months of 2019, was the result of unfavorable sales mix and reduced manufacturing yields.

Precision Coatings

Third Quarter

	Third Quarter Ended			
(Thousands)	**September 25, 2020**	September 27, 2019	$ Change	% Change
Net sales	**$ 30,386**	$ 27,625	2,761	10 %
Value-added sales	**28,310**	22,442	5,868	26 %
Operating profit (loss)	**1,421**	(11,198)	12,619	(113)%

Net sales from the Precision Coatings segment of $30.4 million in the third quarter of 2020 increased 10% compared to net sales of $27.6 million in the third quarter of 2019. The increase was due to sales attributable to our Optics Balzers acquisition, partially offset by lower sales related to our LAC reporting unit and projection display products.

Value-added sales of $28.3 million in the third quarter of 2020 increased 26% compared to value-added sales of $22.4 million in the third quarter of 2019. The increase in value-added sales was due to the same factors driving the increase in net sales.

The Precision Coatings segment generated an operating profit of $1.4 million in the third quarter of 2020, compared to an operating loss of $11.2 million in the third quarter of 2019. The operating loss in the third quarter of 2019 included a goodwill impairment charge of $11.6 million and an other assets impairment charge of $2.6 million related to our LAC reporting unit.

Nine Months

(Thousands)	Nine Months Ended September 25, 2020	September 27, 2019	$ Change	% Change
Net sales	**$ 68,846**	$ 87,302	(18,456)	(21)%
Value-added sales	**63,077**	68,068	(4,991)	(7)%
Operating loss	**(6,080)**	(5,184)	(896)	17 %

Net sales from the Precision Coatings segment of $68.8 million in the first nine months of 2020 decreased 21% compared to net sales of $87.3 million in the first nine months of 2019 primarily due to reduced sales volumes and lower mix of precious metal-containing products, partially offset by an increase of sales attributable to our Optics Balzers acquisition.

Value-added sales of $63.1 million in the first nine months of 2020 decreased 7% compared to value-added sales of $68.1 million in the first nine months of 2019. The decrease is primarily due to a reduction in value-added sales related to blood glucose test strip products, partially offset by an increase of sales attributable to our Optics Balzers acquisition.

The Precision Coatings segment generated an operating loss of $6.1 million and $5.2 million in the first nine months of 2020 and 2019, respectively. The operating loss in the first nine months of 2020 includes a goodwill impairment charge of $9.1 million and an other assets impairment charge of $1.7 million related to our LAC reporting unit. The operating loss in the first nine months of 2019 included a goodwill impairment charge of $11.6 million and an other assets impairment charge of $2.6 million related to our LAC reporting unit.

Other

Third Quarter

(Thousands)	Third Quarter Ended September 25, 2020	September 27, 2019	$ Change	% Change
Net sales	**$ —**	$ —	—	— %
Value-added sales	**(313)**	(1,411)	1,098	(78)%
Operating loss	**(7,349)**	(7,495)	146	(2)%

The Other reportable segment in total includes unallocated corporate costs.

Corporate costs were $7.3 million in the third quarter of 2020 compared to $7.5 million in the third quarter of 2019. Corporate costs accounted for 4% of Company-wide value-added sales in the third quarter of both 2020 and 2019. The decrease in corporate costs in the third quarter of 2020 compared to the third quarter of 2019 is primarily related to lower variable compensation expenses and cost management actions, partially offset by transaction costs related to the Optics Balzers acquisition.

Nine Months

(Thousands)	Nine Months Ended September 25, 2020	September 27, 2019	$ Change	% Change
Net sales	**$ —**	$ —	—	— %
Value-added sales	**(2,169)**	(5,118)	2,949	(58)%
Operating loss	**(17,895)**	(20,877)	2,982	(14)%

Corporate costs of $17.9 million in the first nine months of 2020 decreased $3.0 million as compared to $20.9 million in the first nine months of 2019. Corporate costs accounted for 4% of Company-wide value-added sales in the first nine months of both 2020 and 2019. The decrease in corporate costs in the first nine months of 2020 compared to the first nine months of 2019 is primarily related to lower variable compensation expense and cost management actions, partially offset by transaction costs related to the Optics Balzers acquisition.

FINANCIAL POSITION

Cash Flow

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

(Thousands)	Nine Months Ended September 25, 2020	September 27, 2019	$ Change
Net cash provided by operating activities	**$ 79,444**	$ 59,536	$ 19,908
Net cash used in investing activities	**(173,716)**	(20,079)	(153,637)
Net cash provided by (used in) financing activities	**86,305**	(15,154)	101,459
Effects of exchange rate changes	**714**	(422)	1,136
Net change in cash and cash equivalents	**$ (7,253)**	$ 23,881	$ (31,134)

Net cash provided by operating activities totaled $79.4 million in the first nine months of 2020 versus $59.5 million in the prior-year period. The increase in operating cash flow was primarily due to customer prepayments. See Note L to the Consolidated Financial Statements for additional discussion. In addition, working capital requirements used cash of $5.7 million and $28.2 million during the first nine months of 2020 and 2019, respectively. Cash flows provided by accounts receivable were $50.0 million higher than the prior-year period. Three-month trailing days sales outstanding was approximately 44 days at September 25, 2020 and 47 days at December 31, 2019. Cash flows used for inventory were $9.9 million in the first nine months of 2020, compared to providing $22.1 million of cash in the prior-year period primarily in our Performance Alloys and Composites and Advanced Materials segments. Cash flows used for accounts payable and accrued expenses were $9.8 million compared to the prior-year period use of cash of $14.1 million due to higher accounts payable balances related to increased inventory levels.

Net cash used in investing activities was $173.7 million in the first nine months of 2020 compared to $20.1 million in the prior-year period due to a $130.7 million payment, net of cash acquired, for the Optics Balzers acquisition. In addition, capital expenditures increased due to investments in new equipment funded by customer prepayments. See Notes B and L to the Consolidated Financial Statements for additional discussion.

Capital expenditures are made primarily for new product development, replacing and upgrading equipment, infrastructure investments, and implementing information technology initiatives. For the full year 2020, the Company expects payments for property, plant, and equipment to be approximately $25.0 million, excluding any capital expenditures related to customer prepayments.

Net cash provided by financing activities totaled $86.3 million in the first nine months of 2020 versus $15.2 million used in financing activities in the comparable prior-year period. The increase is primarily due to net borrowings of $120.0 million under our revolving credit facility in the first nine months of 2020, partially offset by the paydown of $16.4 million of long-term debt, primarily related to repayment of debt assumed in the Optics Balzers acquisition.

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, and the current dividend program, environmental remediation projects, and strategic acquisitions. At September 25, 2020, cash and cash equivalents held by our foreign operations totaled $33.2 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 September 25, 2020 and December 31, 2019 is as follows:

(Thousands)		September 25, 2020		December 31, 2019
Cash and cash equivalents	**$**	**117,754**	$	125,007
Total outstanding debt		**128,633**		2,218
Net (debt) cash	**$**	**(10,879)**	$	122,789
Available borrowing capacity	**$**	**233,893**	$	340,906

Total outstanding debt increased $126.4 million compared to December 31, 2019 primarily due to additional borrowings on our revolving credit facility as a precautionary response to macroeconomic conditions caused by the COVID-19 pandemic.

Net (debt) 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.

In 2019, we amended and restated the agreement governing our $375.0 million revolving credit facility (Credit Agreement). The maturity date of the Credit Agreement was extended from 2020 to 2024, and the Credit Agreement provides more favorable interest rates under certain circumstances. In addition, the Credit Agreement provides the Company and its subsidiaries with additional capacity to enter into facilities for the consignment, borrowing, or leasing of precious metals and copper, and provides enhanced flexibility to finance acquisitions and other strategic initiatives. Borrowings under the Credit Agreement are 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 the Company to borrow money at a premium over LIBOR or a 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 September 25, 2020. Cash on hand does not affect the covenants or the borrowing capacity under our debt agreements.

In the third quarter of 2020, we completed the acquisition of 100% of the capital stock of Optics Balzers. The purchase price was approximately $136.1 million, including the assumption of debt. The all-cash transaction was funded with cash on hand, including a portion of the $150.0 million borrowed under our revolving credit facility in the second quarter of 2020.

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. In 2019, we entered into a precious metals consignment agreement, maturing on August 27, 2022, which replaced the consignment agreement that would have matured on September 30, 2019. The available and unused capacity under the metal financing lines expiring in August 2022 totaled approximately $67.2 million as of September 25, 2020, compared to $140.7 million as of December 31, 2019. 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. We did not repurchase any shares under this program in the third quarter of 2020. In the first nine months of 2020, we repurchased 158,000 shares of our common stock for $6.8 million. Since the approval of the repurchase plan, we have purchased 1,254,264 shares at a total cost of $41.7 million. Due to the COVID-19 pandemic, we have temporarily suspended our share repurchase program.

We paid cash dividends of $2.3 million and $6.9 million on our common stock in the third quarter and first nine months of 2020, 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 portions of the 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 $382.8 million and $309.3 million as of September 25, 2020 and December 31, 2019, respectively. We were in compliance with all of the covenants contained in the consignment agreements as of September 25, 2020 and December 31, 2019. For additional information on our contractual obligations, refer to our 2019 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 2019 Annual Report on Form 10-K and our Quarterly Report on Form 10-Q for the quarterly period ended March 27, 2020.

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: the ultimate impact of the COVID-19 pandemic on our business, results of operations, financial condition, and liquidity; 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; 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, including the integration of Optics Balzers; the impact of the results of acquisitions on our ability to fully achieve the strategic and financial objectives related to these acquisitions, including, without limitation, the acquisition of Optics Balzers being accretive in the expected timeframe or at all; 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, interest 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; our ability to successfully complete the disposition of our LAC business; the disruptions on operations from, and other effects of, catastrophic and other extraordinary events including the COVID-19 pandemic; and the risk factors set forth in Part 1, Item 1A of our 2019 Annual Report on Form 10-K and our Quarterly Report on Form 10-Q for the second quarter 2020.*

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 2019 Annual Report on Form 10-K. There have been no material changes in our market risks since the inclusion of this discussion in our 2019 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 September 25, 2020 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 September 25, 2020.

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 September 25, 2020 that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

PART II OTHER INFORMATION

Item 1. Legal Proceedings

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.

As of September 25, 2020, our subsidiary, Materion Brush Inc., was a defendant in two beryllium cases, as discussed more fully below.

In 2019, one new beryllium case was filed. In Ronald Dwayne Manning v. Arconic Inc. et al., case number 19CI000219, filed in the Superior Court of the State of California, Tehama County, the Company is one of four named defendants and 120 Doe defendants. The plaintiff alleges that he contracted beryllium disease from exposures to beryllium-containing products during his employment as an auto mechanic, welder, sprinkler installer, and movie projector operator, and asserts claims for negligence, strict liability, fraudulent concealment, and breach of implied warranties. The plaintiff seeks economic damages, non-economic damages, consequential damages, and punitive damages. The Company believes that it has substantive defenses and intends to vigorously defend this suit.

In the second quarter of 2020, one new beryllium case was filed. In Richard Miller v. Dolphin, Inc. et al., case number CV2020-005163, filed in the Superior Court of Arizona, Maricopa County, the Company is one of six named defendants and 100 Doe defendants. The plaintiff alleges that he contracted beryllium disease from exposures to beryllium-containing products supplied to his employer, Karsten Manufacturing Corporation, where he was a production worker, and asserts claims for negligence, strict liability – failure to warn, strict liability – design defect, and fraudulent concealment. The plaintiff seeks general damages, medical expenses, loss of earnings, consequential damages, and punitive damages. The Company believes that it has substantive defenses and intends to vigorously defend this suit.

The Company has insurance coverage, which may apply, subject to an annual deductible.

Item 1A. Risk Factors

The information set forth in this quarterly report on Form 10-Q, including, without limitation, the risk factor presented below, updates and should be read in conjunction with, the risk factors and information disclosed in Part 1, Item 1A., “Risk Factors,” in our 2019 Annual Report on Form 10-K.

Our business, results of operations, financial position, and cash flows have been and are expected to continue to be adversely affected by the COVID-19 pandemic.

In December 2019, there was an outbreak of a novel strain of coronavirus (COVID-19) in China that has since spread to the majority of the regions of the world. The outbreak was subsequently declared a pandemic by the World Health Organization in March 2020. To date, the COVID-19 outbreak and preventative measures taken to contain or mitigate the outbreak have caused, and are continuing to cause, business slowdowns or shutdowns in affected areas and significant disruption in global financial markets. Although we are unable to predict the ultimate impact of the COVID-19 outbreak at this time, the pandemic has adversely affected, and is expected to continue to adversely affect, our business, results of operations, financial position, and cash flows. Such effects may be material and the potential impacts include, but are not limited to:

- disruptions to our facilities, including as a result of facility closures, reductions in operating hours, labor shortages, and changes in operating procedures, including additional cleaning and disinfecting procedures;

- disruptions in our supply chain due to transportation delays, travel restrictions, raw material cost increases, and closures of businesses or facilities;
- reductions in our operating effectiveness due to workforce disruptions resulting from “shelter in place," “stay at home” orders, the need for social distancing, and the unavailability of key personnel necessary to conduct our business activities; and
- volatility in the global financial markets, which could have a negative impact on our ability to access capital and additional sources of financing in the future.

In addition, we cannot predict the impact that COVID-19 will have on our customers, employees, suppliers, and distributors, and any adverse impacts on these parties may have a material adverse impact on our business. The impact of COVID-19 may also exacerbate other risks discussed in Part I, Item 1A, “Risk Factors,” in our 2019 Annual Report on Form 10-K, any of which could have a material effect on us. This situation is changing rapidly and additional impacts may arise that we are not aware of currently.

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 September 25, 2020.

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)
June 27 through July 31, 2020	—	$ —	—	$ 8,316,239
August 1 through August 28, 2020	3,065	61.03	—	8,316,239
August 29 through September 25, 2020	—	—	—	8,316,239
Total	3,065	$ 61.03	—	$ 8,316,239

(1) Includes 3,065 shares surrendered to the Company in August 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. During the three months ended September 25, 2020, we did not repurchase any shares under this program. As of September 25, 2020, $8.3 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

All documents referenced below were filed pursuant to the Exchange Act by Materion Corporation, file number 001-15885, unless otherwise noted.

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 September 25, 2020*
101.INS	XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document*
101.SCH	Inline XBRL Taxonomy Extension Schema Document*
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document*
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document*
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document*
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document*
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in the Exhibit 101 attachments)

*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: October 22, 2020

/s/ Stephen F. Shamrock

Stephen F. Shamrock

Interim Chief Financial Officer

(Principal Financial and Accounting Officer)

Exhibit 31.2

CERTIFICATIONS

I, Stephen Shamrock, 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.

Dated: October 22, 2020

/s/ Stephen Shamrock

Stephen Shamrock

Interim Chief Financial 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: October 22, 2020

Jugal K. Vijayvargiya
President and Chief Executive 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 September 25, 2020 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: October 22, 2020

/s/ Jugal K. Vijayvargiya
Jugal K. Vijayvargiya
President and Chief Executive Officer

/s/ Stephen Shamrock
Stephen Shamrock
Interim 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 September 25, 2020

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 September 25, 2020 (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	$0
(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