

**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 30, 2022

OR

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

For the transition period from to

Commission file number 001-15885

MATERION CORPORATION

(Exact name of Registrant as specified in charter)

Ohio

(State or other jurisdiction of incorporation or organization)

34-1919973

(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 30, 2022: 20,528,138.

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		Nine Months Ended	
	September 30, 2022	October 1, 2021	September 30, 2022	October 1, 2021
Net sales	\$ 428,191	\$ 388,028	\$ 1,322,531	\$ 1,113,413
Cost of sales	345,448	313,715	1,077,070	902,723
Gross margin	82,743	74,313	245,461	210,690
Selling, general, and administrative expense	38,958	43,195	122,666	118,031
Research and development expense	7,430	6,354	22,096	19,164
Restructuring expense (income)	484	—	1,560	(378)
Other—net	6,774	3,604	18,575	12,272
Operating profit	29,097	21,160	80,564	61,601
Other non-operating (income)—net	(1,175)	(1,279)	(3,512)	(3,832)
Interest expense—net	5,888	861	14,325	2,480
Income before income taxes	24,384	21,578	69,751	62,953
Income tax expense	4,432	3,422	12,525	10,162
Net income	\$ 19,952	\$ 18,156	\$ 57,226	\$ 52,791
Basic earnings per share:				
Net income per share of common stock	\$ 0.97	\$ 0.89	\$ 2.79	\$ 2.59
Diluted earnings per share:				
Net income per share of common stock	\$ 0.96	\$ 0.88	\$ 2.76	\$ 2.56
Weighted-average number of shares of common stock outstanding:				
Basic	20,526	20,439	20,502	20,414
Diluted	20,780	20,657	20,756	20,659

See notes to these consolidated financial statements.

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

(Thousands)	Third Quarter Ended		Nine Months Ended	
	September 30, 2022	October 1, 2021	September 30, 2022	October 1, 2021
Net income	\$ 19,952	\$ 18,156	\$ 57,226	\$ 52,791
Other comprehensive income (loss):				
Foreign currency translation adjustment	(6,094)	(2,029)	(14,484)	(7,693)
Derivative and hedging activity, net of tax	4,125	439	8,289	1,411
Pension and post-employment benefit adjustment, net of tax	8	121	(216)	368
Other comprehensive loss	(1,961)	(1,469)	(6,411)	(5,914)
Comprehensive income	\$ 17,991	\$ 16,687	\$ 50,815	\$ 46,877

See notes to these consolidated financial statements.

Materion Corporation and Subsidiaries
Consolidated Balance Sheets
(Unaudited)

(Thousands)	September 30, 2022	Dec. 31, 2021
Assets		
Current assets		
Cash and cash equivalents	\$ 20,682	\$ 14,462
Accounts receivable, net	238,975	223,553
Inventories, net	420,299	361,115
Prepaid and other current assets	29,708	28,122
Total current assets	709,664	627,252
Deferred income taxes	4,701	5,431
Property, plant, and equipment	1,173,073	1,132,223
Less allowances for depreciation, depletion, and amortization	(746,966)	(723,248)
Property, plant, and equipment, net	426,107	408,975
Operating lease, right-of-use assets	65,716	63,096
Intangible assets, net	145,089	156,736
Other assets	32,475	27,369
Goodwill	318,571	318,620
Total Assets	\$ 1,702,323	\$ 1,607,479
Liabilities and Shareholders' Equity		
Current liabilities		
Short-term debt	\$ 19,747	\$ 15,359
Accounts payable	96,482	86,243
Salaries and wages	29,974	37,544
Other liabilities and accrued items	47,949	53,388
Income taxes	1,542	4,205
Unearned revenue	6,596	7,770
Total current liabilities	202,290	204,509
Other long-term liabilities	13,991	14,954
Operating lease liabilities	60,248	57,099
Finance lease liabilities	13,009	16,327
Retirement and post-employment benefits	29,421	33,394
Unearned income	110,723	97,962
Long-term income taxes	1,257	1,190
Deferred income taxes	30,427	27,216
Long-term debt	474,280	434,388
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 both September 30 th and December 31 st)	284,024	271,978
Retained earnings	743,283	693,756
Common stock in treasury	(219,219)	(209,920)
Accumulated other comprehensive loss	(46,580)	(40,169)
Other equity	5,169	4,795
Total shareholders' equity	766,677	720,440
Total Liabilities and Shareholders' Equity	\$ 1,702,323	\$ 1,607,479

See the notes to these consolidated financial statements.

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

(Thousands)	Nine Months Ended	
	September 30, 2022	October 1, 2021
Cash flows from operating activities:		
Net income	\$ 57,226	\$ 52,791
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation, depletion, and amortization	39,223	32,478
Amortization of deferred financing costs in interest expense	1,310	546
Stock-based compensation expense (non-cash)	5,997	4,924
Deferred income tax expense (benefit)	1,825	(263)
Changes in assets and liabilities:		
Accounts receivable	(20,964)	(26,041)
Inventory	(64,832)	(62,353)
Prepaid and other current assets	(3,019)	(7,020)
Accounts payable and accrued expenses	(1,785)	35,314
Unearned revenue	(2,191)	650
Interest and taxes payable	(1,741)	(1,504)
Unearned income due to customer prepayments	17,501	9,022
Other-net	5,654	1,974
Net cash provided by operating activities	34,204	40,518
Cash flows from investing activities:		
Payments for purchase of property, plant, and equipment	(54,236)	(77,640)
Proceeds from sale of property, plant, and equipment	827	686
Payments for acquisition	(2,971)	—
Net cash used in investing activities	(56,380)	(76,954)
Cash flows from financing activities:		
Proceeds from borrowings under revolving credit agreement, net	49,092	43,010
Proceeds from issuance of debt	6,643	—
Repayment of long-term debt	(11,761)	(1,803)
Principal payments under finance lease obligations	(1,985)	(2,152)
Cash dividends paid	(7,584)	(7,243)
Payments of withholding taxes for stock-based compensation awards	(3,056)	(3,033)
Net cash provided by financing activities	31,349	28,779
Effects of exchange rate changes	(2,953)	(212)
Net change in cash and cash equivalents	6,220	(7,869)
Cash and cash equivalents at beginning of period	14,462	25,878
Cash and cash equivalents at end of period	\$ 20,682	\$ 18,009

See notes to these consolidated financial statements.

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

(Thousands, except per share amounts)	Common Shares		Shareholders' Equity					
	Common Shares	Common Shares Held in Treasury	Common Stock	Retained Earnings	Common Stock in Treasury	Accumulated Other Comprehensive Loss	Other Equity	Total
Balance at July 1, 2022	20,523	(6,625)	\$ 281,296	\$ 725,918	\$ (218,356)	\$ (44,619)	\$ 4,915	\$ 749,154
Net income	—	—	—	19,952	—	—	—	19,952
Other comprehensive income	—	—	—	—	—	(1,961)	—	(1,961)
Cash dividends declared (\$0.125 per share)	—	—	—	(2,557)	—	—	—	(2,557)
Stock-based compensation activity	6	6	2,695	(30)	(392)	—	—	2,273
Payments of withholding taxes for stock-based compensation awards	(2)	(2)	—	—	(244)	—	—	(244)
Directors' deferred compensation	1	1	33	—	(227)	—	254	60
Balance at September 30, 2022	<u>20,528</u>	<u>(6,620)</u>	<u>\$ 284,024</u>	<u>\$ 743,283</u>	<u>\$ (219,219)</u>	<u>\$ (46,580)</u>	<u>\$ 5,169</u>	<u>\$ 766,677</u>
Balance at July 2, 2021	20,438	(6,710)	\$ 268,205	\$ 660,851	\$ (208,854)	\$ (43,084)	\$ 4,583	\$ 681,701
Net income	—	—	—	18,156	—	—	—	18,156
Other comprehensive income	—	—	—	—	—	(1,469)	—	(1,469)
Cash dividends declared (\$0.120 per share)	—	—	—	(2,452)	—	—	—	(2,452)
Stock-based compensation activity	—	—	1,458	(28)	(18)	—	—	1,412
Payments of withholding taxes for stock-based compensation awards	—	—	—	—	(12)	—	—	(12)
Directors' deferred compensation	1	1	53	—	(68)	—	107	92
Balance at October 1, 2021	<u>20,439</u>	<u>(6,709)</u>	<u>\$ 269,716</u>	<u>\$ 676,527</u>	<u>\$ (208,952)</u>	<u>\$ (44,553)</u>	<u>\$ 4,690</u>	<u>\$ 697,428</u>

(Thousands, except per share amounts)	Common Shares		Shareholders' Equity					Total
	Common Shares	Common Shares Held in Treasury	Common Stock	Retained Earnings	Common Stock in Treasury	Accumulated Other Comprehensive Loss	Other Equity	
Balance at December 31, 2021	20,448	(6,700)	\$ 271,978	\$ 693,756	\$ (209,920)	\$ (40,169)	\$ 4,795	\$ 720,440
Net income	—	—	—	57,226	—	—	—	57,226
Other comprehensive loss	—	—	—	—	—	(6,411)	—	(6,411)
Cash dividends declared (\$0.370 per share)	—	—	—	(7,584)	—	—	—	(7,584)
Stock-based compensation activity	115	115	11,938	(115)	(5,941)	—	—	5,882
Payments of withholding taxes for stock-based compensation awards	(37)	(37)	—	—	(3,056)	—	—	(3,056)
Directors' deferred compensation	2	2	108	—	(302)	—	374	180
Balance at September 30, 2022	<u>20,528</u>	<u>(6,620)</u>	<u>\$ 284,024</u>	<u>\$ 743,283</u>	<u>\$ (219,219)</u>	<u>\$ (46,580)</u>	<u>\$ 5,169</u>	<u>\$ 766,677</u>
Balance at December 31, 2020	20,328	(6,820)	\$ 258,642	\$ 631,058	\$ (199,187)	\$ (38,639)	\$ 3,756	\$ 655,630
Net income	—	—	—	52,791	—	—	—	52,791
Other comprehensive loss	—	—	—	—	—	(5,914)	—	(5,914)
Cash dividends declared (\$0.355 per share)	—	—	—	(7,243)	—	—	—	(7,243)
Stock-based compensation activity	152	152	10,932	(79)	(5,929)	—	—	4,924
Payments of withholding taxes for stock-based compensation awards	(45)	(45)	—	—	(3,033)	—	—	(3,033)
Directors' deferred compensation	4	4	\$ 142	\$ —	\$ (803)	\$ —	\$ 934	\$ 273
Balance at October 1, 2021	<u>20,439</u>	<u>(6,709)</u>	<u>\$ 269,716</u>	<u>\$ 676,527</u>	<u>\$ (208,952)</u>	<u>\$ (44,553)</u>	<u>\$ 4,690</u>	<u>\$ 697,428</u>

See notes to these consolidated financial statements.

Materion Corporation and Subsidiaries
Notes to Consolidated Financial Statements
(Unaudited)

Note A — Accounting Policies

Basis of Presentation:

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.

These consolidated financial statements should be read in conjunction with the consolidated financial statements and related notes included in the Company's 2021 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 of the consolidated financial statements are the results of a 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 March 2020, the FASB issued ASU 2020-04, *Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting*. This guidance is intended to provide temporary optional expedients and exceptions to the U.S. GAAP guidance on contract modifications and hedge accounting to ease the financial reporting burden related to the expected market transition from the London Interbank Offered Rate (LIBOR) and other interbank offered rates to alternative reference rates. This guidance is available immediately and may be implemented in any period prior to the guidance expiration on December 31, 2022. The Company has applied this guidance in accounting for the interest rate swap discussed in Note N. Any additional reference rate reform impacts will be accounted for in accordance with ASU 2020-04.

New Accounting Guidance Issued and Not Yet Adopted:

In November 2021, the FASB issued ASU 2021-10, *Government Assistance (Topic 832)*. ASU 2021-10 is intended to increase transparency related to governmental assistance by requiring entities to disclose the types of government assistance, the entity's accounting for government assistance, and the effect of government assistance on an entity's financial statements. This new guidance is effective for all entities for annual reporting periods beginning after December 15, 2021. The Company is in the process of evaluating the impact of the guidance on its annual disclosures, but do not expect material impact to our disclosures at this time.

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.

Materion Corporation and Subsidiaries
Notes to Consolidated Financial Statements
(Unaudited)

Note B — Acquisition

On November 1, 2021, the Company acquired the industry-leading electronic materials business of H.C. Starck Group GmbH (HCS-Electronic Materials) for a cash purchase price of approximately \$398.9 million, on a cash-free, debt-free basis, subject to a customary purchase price adjustment mechanism. During the nine months ended September 30, 2022, acquisition-related inventory step-up expense was \$7.5 million and classified in Cost of Sales and transaction and integration costs were \$3.3 million and classified in Selling, General and Administrative expenses in the accompanying consolidated statements of income. The Company financed the purchase price for the HCS-Electronic Materials acquisition with a new \$300 million five-year term loan pursuant to a delayed draw term loan facility executed in October 2021 and \$103 million of borrowings under its amended revolving credit facility. The maturity date on the revolving credit facility was also extended to October 2026. The interest rate for the term loan is based on LIBOR plus a tiered credit spread that is indexed to the Company's quarterly leverage ratio. This acquired business operates within the Performance Materials and Electronic Materials segments, and the results of operations are included as of the date of acquisition. The combination of Materion and HCS-Electronic Materials enhances the Company's position as the leading supplier to the high growth semiconductor industry.

The fair value estimates of the assets acquired are subject to adjustment during the measurement period (up to one year from the HCS-Electronic Materials acquisition date). The primary areas of accounting for the HCS-Electronic Materials Acquisition that are not yet finalized relate to the fair value of contingencies, income tax accruals, and the impact on residual goodwill. The fair values of these net assets acquired are based on management's estimates and assumptions, as well as other information compiled by management, including valuations that utilize customary valuation procedures and techniques. While we believe that such preliminary estimates provide a reasonable basis for estimating the fair value of assets acquired and liabilities assumed, we will evaluate any additional information prior to finalization of the fair value. During the measurement period, we will adjust preliminary valuations assigned to assets and liabilities if new information is obtained about facts and circumstances that existed as of the HCS-Electronic Materials acquisition date that, if known, would have resulted in revised values for these items as of that date. The impact of all changes, if any, that do not qualify as measurement period adjustments will be included in current period earnings.

During the period subsequent to the HCS-Electronic Materials acquisition, we made certain measurement period adjustments to the acquired assets and liabilities assumed due to clarification of information utilized to determine fair value during the measurement period. Additionally, we paid a working capital true-up of approximately \$3.0 million during the second quarter of 2022, which increased the total purchase price. The preliminary purchase price allocation for the acquisition including these measurement period adjustments is as follows:

Materion Corporation and Subsidiaries
Notes to Consolidated Financial Statements
(Unaudited)

(Thousands)	Initial Allocation of Consideration	Measurement Period Adjustments	Updated Allocation
Assets:			
Cash and cash equivalents	\$ 3,685	\$ —	\$ 3,685
Accounts receivable	28,352	(132)	28,220
Inventories	70,681	—	70,681
Prepaid and other current assets	660	(355)	305
Property, plant, and equipment	44,681	355	45,036
Operating lease, right-of-use assets	6,120	—	6,120
Intangible assets	107,800	—	107,800
Other long-term assets	4,528	—	4,528
Goodwill	178,181	4,010	182,191
Total assets acquired	<u>\$ 444,688</u>	<u>\$ 3,878</u>	<u>\$ 448,566</u>
Liabilities:			
Accounts payable	\$ 12,139	\$ —	\$ 12,139
Salaries and wages	2,516	625	3,141
Other liabilities and accrued items	28	—	28
Income taxes	2,183	79	2,262
Other long-term liabilities	5,543	215	5,758
Operating lease liabilities	6,042	—	6,042
Deferred income taxes	20,300	—	20,300
Total liabilities assumed	<u>\$ 48,751</u>	<u>\$ 919</u>	<u>\$ 49,670</u>
Net assets acquired	<u>\$ 395,937</u>	<u>\$ 2,959</u>	<u>\$ 398,896</u>

Assets acquired and liabilities assumed are recognized at their respective fair values as of the acquisition date. The Company engaged specialists to assist in the valuation of inventories, property, plant, and equipment, and intangible assets.

In determining the fair value of the amounts above, inventory is fair valued based on the comparative sales method for work in process and finished goods at the selling price less cost to dispose and remaining manufacturing effort. The remaining working capital accounts' carrying values approximate fair value. For property, plant and equipment and intangible asset values, the Company utilized various forms of the income, cost and market approaches depending on the asset being valued. The Company used a relief from royalty method under the income approach to value its trade names and the developed technology and the multi-period excess earnings method under the income approach to value customer relationships. The significant assumptions used to estimate the fair value of these intangible assets included the discount rate and certain assumptions that form the basis of forecasted future cash flows (including revenue growth rates, royalty rates for trade names and developed technology, and attrition rates for customer relationships). Inputs were generally determined by taking into account independent appraisals and historical data, supplemented by current and anticipated market conditions and are considered Level 3 assets as the assumptions are unobservable inputs developed by the Company.

As part of the acquisition, the Company recorded approximately \$182.2 million of goodwill allocated between its Electronic Materials and Performance Materials segments based on the relative fair values. 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 date. The goodwill is not expected to be deductible for U.S. tax purposes.

The following table reports the intangible assets by asset category as of the closing date:

Materion Corporation and Subsidiaries
Notes to Consolidated Financial Statements
(Unaudited)

(Thousands)	Value at Acquisition	Useful Life
Customer relationships	\$ 50,200	13 years
Technology	35,300	13 years
Trade name	22,300	15 years
Total	<u>\$ 107,800</u>	

The amounts of revenue and income (loss) before taxes of HCS-Electronic Materials in the third quarter of 2022 consolidated statements are \$49.2 million and \$4.4 million, respectively. For the nine months ended September 30, 2022, revenue and income before taxes total \$135.7 million and \$10.5 million, respectively. Income before taxes includes the purchase accounting inventory step-up expense recorded in the first quarter of 2022. Had the HCS-Electronic Materials acquisition occurred as of the beginning of fiscal 2020, the Company's sales and income (loss) before taxes would have been as follows:

	(Unaudited)	
	Three months ended October 1, 2021	Nine months ended October 1, 2021
Net Sales	\$ 428,864	\$ 1,223,450
Income before taxes	\$ 23,022	\$ 65,926

The unaudited pro forma financial information has been calculated after applying our accounting policies and adjusting the historical results with pro forma adjustments that assume the acquisition occurred on January 1, 2020. These unaudited pro forma results do not represent financial results realized, nor are they intended to be a projection of future results. The transaction accounting adjustments and other adjustments are based on available information and assumptions that the Company's management believes are reasonable. Such adjustments are estimates and actual experience may differ from expectations. The pro forma income before taxes for the third quarter ended and nine months ended October 1, 2021 includes approximately \$2.5 million and \$8.1 million, respectively, of additional interest expense related to committed financing to fund the acquisition and acquisition-related intangible asset amortization expense of \$2.0 million and \$6.0 million, respectively, as if the acquisition occurred on January 1, 2020.

Note C — Segment Reporting

The Company changed two segment names during the first quarter of 2022: Performance Alloys and Composites became Performance Materials, and Advanced Materials became Electronic Materials. The Company believes these names better represent the markets served and the advanced next-generation product solutions provided to our customers. Other than the name changes, there were no changes in the composition or structure of the Company's reportable segments in the first half of 2022.

The Company has the following reportable segments: Performance Materials, Electronic Materials, Precision Optics, 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 Materials provides advanced engineered solutions comprised of beryllium and non-beryllium containing alloy systems and custom engineered parts in strip, bulk, rod, plate, bar, tube, and other customized shapes.

Electronic 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 Optics produces thin film coatings, optical filter materials, sputter-coated, and precision-converted thin film materials.

Materion Corporation and Subsidiaries
Notes to Consolidated Financial Statements
(Unaudited)

The Other reportable segment includes unallocated corporate costs and assets.

Beginning with the first quarter of 2022, the Company began using earnings before interest, taxes, depreciation, depletion and amortization (EBITDA) as the main operating income metric used by management to measure the financial performance of the Company and each segment. The Company made this change because recent acquisitions have resulted in increased purchase accounting amortization expense, which in turn has affected the comparability of results across periods and when compared to other companies. Management believes EBITDA is useful to investors as it better represents the Company's performance, excluding the effect of the recent acquisition of significant intangible assets that are now being amortized. EBITDA is not a measurement of financial performance under U.S. GAAP. Although the Company uses EBITDA to assess the performance of its business and for various other purposes, the use of this non-GAAP financial measure as an analytical tool has limitations, and it should not be considered in isolation or as a substitute for analysis of the Company's results of operations as reported in accordance with U.S. GAAP.

The below table presents financial information for each segment and a reconciliation of EBITDA to Net Income (the most directly comparable GAAP financial measure) for the third quarter of 2022 and 2021:

(Thousands)	Third Quarter 2022	Third Quarter 2021	First Nine Months 2022	First Nine Months 2021
Net sales:				
Performance Materials ⁽¹⁾	\$ 169,357	\$ 136,096	\$ 473,876	\$ 375,533
Electronic Materials ⁽¹⁾	230,841	220,723	762,649	638,481
Precision Optics	27,993	31,209	86,006	99,399
Other	—	—	—	—
Net sales	<u>428,191</u>	<u>388,028</u>	<u>1,322,531</u>	<u>1,113,413</u>
Segment EBITDA:				
Performance Materials	\$ 28,866	\$ 28,917	\$ 80,886	\$ 68,027
Electronic Materials	16,853	11,326	51,338	32,668
Precision Optics	3,546	6,228	9,281	19,246
Other	(5,839)	(10,617)	(18,206)	(22,030)
Total Segment EBITDA	<u>43,426</u>	<u>35,854</u>	<u>123,299</u>	<u>97,911</u>
Income tax expense	4,432	3,422	12,525	10,162
Interest expense - net	5,888	861	14,325	2,480
Depreciation, depletion and amortization	13,154	13,415	39,223	32,478
Net income	<u>\$ 19,952</u>	<u>\$ 18,156</u>	<u>\$ 57,226</u>	<u>\$ 52,791</u>

⁽¹⁾ Excludes inter-segment sales of \$0.2 million for the third quarter of 2022 and \$0.6 million for the first nine months of 2022 for Performance Materials and \$3.8 million for the third quarter of 2022 and \$12.1 million for the first nine months of 2022 for Electronic Materials. Inter-segment sales are eliminated in consolidation.

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The following table disaggregates revenue for each segment by end market for the third quarter and first nine months of 2022 and 2021:

(Thousands)	Performance Materials	Electronic Materials	Precision Optics	Other	Total
Third Quarter 2022					
End Market					
Semiconductor	\$ 2,410	\$ 185,223	\$ 1,151	\$ —	\$ 188,784
Industrial	44,667	9,383	7,564	—	61,614
Aerospace and defense	28,262	1,243	3,532	—	33,037
Consumer electronics	9,607	364	6,799	—	16,770
Automotive	24,802	1,863	2,268	—	28,933
Energy	15,854	25,220	—	—	41,074
Telecom and data center	15,412	42	—	—	15,454
Other	28,343	7,503	6,679	—	42,525
Total	\$ 169,357	\$ 230,841	\$ 27,993	\$ —	\$ 428,191
Third Quarter 2021					
End Market					
Semiconductor	\$ 3,163	\$ 173,689	\$ 630	\$ —	\$ 177,482
Industrial	31,521	10,479	8,296	—	50,296
Aerospace and defense	19,129	1,622	5,653	—	26,404
Consumer electronics	9,717	530	7,789	—	18,036
Automotive	28,922	1,719	2,571	—	33,212
Energy	7,524	27,081	—	—	34,605
Telecom and data center	14,980	31	—	—	15,011
Other	21,140	5,572	6,270	—	32,982
Total	\$ 136,096	\$ 220,723	\$ 31,209	\$ —	\$ 388,028

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(Thousands)	Performance Materials	Electronic Materials	Precision Optics	Other	Total
First Nine Months 2022					
End Market					
Semiconductor	\$ 6,657	\$ 613,887	\$ 4,007	\$ —	\$ 624,551
Industrial	127,187	37,206	23,605	—	187,998
Aerospace and defense	79,561	5,141	12,344	—	97,046
Consumer electronics	38,822	969	17,925	—	57,716
Automotive	71,893	4,985	7,294	—	84,172
Energy	36,632	79,701	—	—	116,333
Telecom and data center	47,716	107	—	—	47,823
Other	65,408	20,653	20,831	—	106,892
Total	\$ 473,876	\$ 762,649	\$ 86,006	\$ —	\$ 1,322,531
First Nine Months 2021					
End Market					
Semiconductor	\$ 5,966	\$ 495,718	\$ 1,664	\$ —	\$ 503,348
Industrial	85,815	33,756	23,305	—	142,876
Aerospace and defense	60,221	4,680	17,825	—	82,726
Consumer electronics	30,483	961	24,212	—	55,656
Automotive	78,195	5,145	6,871	—	90,211
Energy	16,541	78,487	—	—	95,028
Telecom and data center	39,348	140	—	—	39,488
Other	58,964	19,594	25,522	—	104,080
Total	\$ 375,533	\$ 638,481	\$ 99,399	\$ —	\$ 1,113,413

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 a 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 30, 2022. 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 30, 2022, the aggregate amount of the transaction price allocated to remaining performance obligations was approximately \$69.4 million.

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

(Thousands)	September 30, 2022	December 31, 2021	\$ change	% change
Accounts receivable, trade	\$ 229,171	\$ 213,584	\$ 15,587	7 %
Unbilled receivables	9,654	7,961	1,693	21 %
Unearned revenue	6,596	7,770	(1,174)	(15)%

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 related to our receivables were immaterial during the third quarter of 2022.

Unbilled receivables represent expenditures on contracts, plus applicable profit margin, not yet billed. Unbilled receivables are generally 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 \$7.2 million of the December 31, 2021 unearned amounts as revenue during the first nine months of 2022.

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 2022 and 2021 is summarized as follows:

(Thousands)	Third Quarter Ended		Nine Months Ended	
	September 30, 2022	October 1, 2021	September 30, 2022	October 1, 2021
Amortization of intangible assets	\$ 3,088	\$ 1,283	\$ 9,318	\$ 3,461
Metal consignment fees	3,111	2,243	8,993	6,857
Foreign currency (gain) loss	235	380	(70)	1,596
Net loss (gain) on disposal of fixed assets	(1)	81	17	(283)
Other items	341	(383)	317	641
Total	\$ 6,774	\$ 3,604	\$ 18,575	\$ 12,272

Note F — Income Taxes

The Company's effective tax rate for the third quarter of 2022 and 2021 was 18.2% and 15.9%, respectively, and 18.0% and 16.1% in the first nine months of 2022 and 2021, respectively. The effective tax rate for each period in 2022 and 2021 was lower than the statutory tax rate primarily due to the impact of percentage depletion, research and development credits, and the foreign derived intangible income deduction. The effective tax rate for the first nine months of 2022 and 2021 included a net discrete income tax benefit of \$0.9 million for each period, primarily related to excess tax benefits from stock-based compensation awards and return to provision adjustments recorded.

On August 9, 2022, President Biden signed the CHIPS and Science Act (the CHIPS Act) into law. The CHIPS Act provides incentives, beginning in 2023, for manufacturing semiconductors and certain tooling equipment used in the semiconductor manufacturing process. On August 16, 2022, President Biden also signed the Inflation Reduction Act of 2022 (IRA) into law. The IRA, among other provisions, includes a new corporate alternative minimum tax on certain large corporations, an excise

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tax on stock buybacks, and tax credits for certain critical minerals. The Company does not expect to be an applicable corporation subject to the alternative minimum tax based on our reported GAAP earnings the past three years. The Company does not expect the CHIPS Act or the IRA to have a material impact to our consolidated financial statements for the year ending December 31, 2022. We continue to examine the impacts the CHIPS Act and the IRA may have on the Company in 2023 and subsequent years.

Note G — Earnings Per Share (EPS)

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

(Thousands, except per share amounts)	Third Quarter Ended		Nine Months Ended	
	September 30, 2022	October 1, 2021	September 30, 2022	October 1, 2021
Numerator for basic and diluted EPS:				
Net income	\$ 19,952	\$ 18,156	\$ 57,226	\$ 52,791
Denominator:				
Denominator for basic EPS:				
Weighted-average shares outstanding	20,526	20,439	20,502	20,414
Effect of dilutive securities:				
Stock appreciation rights	85	72	85	73
Restricted stock units	98	94	113	113
Performance-based restricted stock units	71	52	55	59
Diluted potential common shares	254	218	254	245
Denominator for diluted EPS:				
Adjusted weighted-average shares outstanding	20,780	20,657	20,756	20,659
Basic EPS	\$ 0.97	\$ 0.89	\$ 2.79	\$ 2.59
Diluted EPS	\$ 0.96	\$ 0.88	\$ 2.76	\$ 2.56

Adjusted weighted-average shares outstanding - diluted exclude securities totaling 45,016 and 55,598 for the quarters ended September 30, 2022 and October 1, 2021, respectively, and 54,680 and 56,319 for the nine months ended September 30, 2022 and October 1, 2021, respectively. These securities are 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 H — Inventories

Inventories on the Consolidated Balance Sheets are summarized as follows:

(Thousands)	September 30, 2022	December 31, 2021
Raw materials and supplies	\$ 114,225	\$ 93,518
Work in process	252,077	221,638
Finished goods	53,997	45,959
Inventories, net	\$ 420,299	\$ 361,115

The Company maintains the majority of the precious metals and copper used in production on a consignment basis in order to reduce its exposure to metal market price movements and to reduce its working capital investment. The notional value of off-balance sheet precious metals and copper was \$354.2 million and \$480.2 million as of September 30, 2022 and December 31, 2021, respectively.

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Note I — Customer Prepayments

In 2020, the Company entered into an investment agreement and a master supply agreement with a customer to procure equipment to manufacture product for the customer. The customer provided prepayments to the Company to fund the necessary infrastructure improvements and procure the equipment necessary to supply the customer with the desired product. The Company owns, operates and maintains the equipment that is being used to manufacture product for the customer.

Revenue will be recognized as the Company fulfills purchase orders and ships the commercial product to the customer, as product delivery is considered the satisfaction of the performance obligation.

Additionally, during the second quarter of 2022, the Company entered into an amendment to the investment agreement with the same customer to procure additional equipment to manufacture product for the customer. As of September 30, 2022, the Company has received approximately \$17.5 million in prepayments under the terms of this amended agreement.

As of September 30, 2022 and December 31, 2021, \$88.2 million and \$72.6 million, respectively, of prepayments are classified as Unearned income on the Consolidated Balance Sheets. The prepayments will remain in Unearned income until commercial purchase orders are received for product serviced out of the equipment, at which time a portion of the purchase order value related to prepayments will be reclassified to Unearned revenue. As of September 30, 2022 \$1.0 million of the prepayments are classified as Unearned revenue.

Note J — 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 ended September 30, 2022 and October 1, 2021, respectively, for the pension plans as shown below. The Pension Benefits column aggregates defined benefit pension plans in the U.S., Germany, Liechtenstein, England, and the U.S. supplemental retirement plans. The Other Benefits column includes the domestic retiree medical and life insurance plan.

	Pension Benefits		Other Benefits	
	Third Quarter Ended		Third Quarter Ended	
	September 30,	October 1,	September 30,	October 1,
(Thousands)	2022	2021	2022	2021
Components of net periodic benefit (credit) cost				
Service cost	\$ 281	\$ 410	\$ 21	\$ 20
Interest cost	1,203	1,045	39	29
Expected return on plan assets	(2,380)	(2,459)	—	—
Amortization of prior service (benefit) cost	(19)	(18)	(374)	(374)
Amortization of net loss (gain)	410	565	(68)	(69)
Net periodic benefit (credit) cost	\$ (505)	\$ (457)	\$ (382)	\$ (394)
Settlements	—	—	—	—
Total net benefit (credit) cost	\$ (505)	\$ (457)	\$ (382)	\$ (394)

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(Thousands)	Pension Benefits		Other Benefits	
	Nine Months Ended		Nine Months Ended	
	September 30, 2022	October 1, 2021	September 30, 2022	October 1, 2021
Components of net periodic benefit (credit) cost				
Service cost	\$ 891	\$ 1,284	\$ 63	\$ 60
Interest cost	3,639	3,141	117	87
Expected return on plan assets	(7,158)	(7,407)	—	—
Amortization of prior service (benefit) cost	(57)	(60)	(1,122)	(1,122)
Amortization of net loss (gain)	1,260	1,719	(204)	(207)
Net periodic benefit (credit) cost	\$ (1,425)	\$ (1,323)	\$ (1,146)	\$ (1,182)
Settlements	—	—	—	—
Total net benefit (credit) cost	\$ (1,425)	\$ (1,323)	\$ (1,146)	\$ (1,182)

The Company did not make any contributions to its domestic defined benefit plan in the third quarter or first nine months of 2022 or 2021.

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.

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Note K — 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 2022 and 2021 are as follows:

(Thousands)	Gains and Losses on Cash Flow Hedges					Pension and Post-Employment Benefits	Foreign Currency Translation	Total
	Foreign Currency	Interest Rate	Precious Metals	Copper	Total			
Balance at July 1, 2022	\$ 3,226	\$ 3,250	\$ 108	\$ —	\$ 6,584	\$ (39,926)	\$ (11,277)	\$ (44,619)
Other comprehensive income (loss) before reclassifications	837	4,360	441	—	5,638	—	(6,094)	(456)
Amounts reclassified from accumulated other comprehensive income (loss)	(41)	(115)	(126)	—	(282)	(18)	—	(300)
Net current period other comprehensive (loss) income before tax	796	4,245	315	—	5,356	(18)	(6,094)	(756)
Deferred taxes	183	976	72	—	1,231	(26)	—	1,205
Net current period other comprehensive (loss) income after tax	613	3,269	243	—	4,125	8	(6,094)	(1,961)
Balance at September 30, 2022	<u>\$ 3,839</u>	<u>\$ 6,519</u>	<u>\$ 351</u>	<u>\$ —</u>	<u>\$ 10,709</u>	<u>\$ (39,918)</u>	<u>\$ (17,371)</u>	<u>\$ (46,580)</u>
Balance at July 2, 2021	\$ 1,603	\$ —	\$ 186	\$ —	\$ 1,789	\$ (43,226)	\$ (1,647)	\$ (43,084)
Other comprehensive (loss) income before reclassifications	625	—	30	8	663	—	(2,029)	(1,366)
Amounts reclassified from accumulated other comprehensive income (loss)	(2)	—	(83)	(8)	(93)	114	—	21
Net current period other comprehensive (loss) income before tax	623	—	(53)	—	570	114	(2,029)	(1,345)
Deferred taxes	143	—	(12)	—	131	(7)	—	124
Net current period other comprehensive (loss) income after tax	480	—	(41)	—	439	121	(2,029)	(1,469)
Balance at October 1, 2021	<u>\$ 2,083</u>	<u>\$ —</u>	<u>\$ 145</u>	<u>\$ —</u>	<u>\$ 2,228</u>	<u>\$ (43,105)</u>	<u>\$ (3,676)</u>	<u>\$ (44,553)</u>

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(Thousands)	Gains and Losses on Cash Flow Hedges					Pension and Post-Employment Benefits	Foreign Currency Translation	Total
	Foreign Currency	Interest Rate	Precious Metals	Copper	Total			
Balance at December 31, 2021	\$ 2,348	\$ —	\$ 72	\$ —	\$ 2,420	\$ (39,702)	\$ (2,887)	\$ (40,169)
Other comprehensive income (loss) before reclassifications	2,107	8,228	388	—	10,723	—	(14,484)	(3,761)
Amounts reclassified from accumulated other comprehensive income (loss)	(170)	238	(27)	—	41	(1,028)	—	(987)
Net current period other comprehensive (loss) income before tax	1,937	8,466	361	—	10,764	(1,028)	(14,484)	(4,748)
Deferred taxes	446	1,947	82	—	2,475	(812)	—	1,663
Net current period other comprehensive (loss) income after tax	1,491	6,519	279	—	8,289	(216)	(14,484)	(6,411)
Balance at September 30, 2022	<u>\$ 3,839</u>	<u>\$ 6,519</u>	<u>\$ 351</u>	<u>\$ —</u>	<u>\$ 10,709</u>	<u>\$ (39,918)</u>	<u>\$ (17,371)</u>	<u>\$ (46,580)</u>
Balance at December 31, 2020	\$ 519	\$ —	\$ (170)	\$ 468	\$ 817	\$ (43,473)	\$ 4,017	\$ (38,639)
Other comprehensive (loss) income before reclassifications	1,893	—	532	2,444	4,869	—	(7,693)	(2,824)
Amounts reclassified from accumulated other comprehensive income (loss)	138	—	(122)	(3,049)	(3,033)	348	—	(2,685)
Net current period other comprehensive (loss) income before tax	2,031	—	410	(605)	1,836	348	(7,693)	(5,509)
Deferred taxes	467	—	95	(137)	425	(20)	—	405
Net current period other comprehensive (loss) income after tax	1,564	—	315	(468)	1,411	368	(7,693)	(5,914)
Balance at October 1, 2021	<u>\$ 2,083</u>	<u>\$ —</u>	<u>\$ 145</u>	<u>\$ —</u>	<u>\$ 2,228</u>	<u>\$ (43,105)</u>	<u>\$ (3,676)</u>	<u>\$ (44,553)</u>

Reclassifications from accumulated other comprehensive income (loss) 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 (loss) of gains and losses on precious metal and copper cash flow hedges are recorded in Cost of sales in the Consolidated Statements of Income. Reclassifications from accumulated other comprehensive income (loss) of gains and losses on the interest rate cash flow hedge is recorded in Interest expense in the Consolidated Statements of Income. Refer to Note N for additional details on cash flow hedges.

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

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Note L — Stock-based Compensation Expense

Stock-based compensation expense, which includes awards settled in shares and in cash, was \$2.2 million and \$6.0 million in the third quarter and first nine months of 2022, respectively, compared to \$1.5 million and \$5.3 million, respectively, in the same periods of 2021.

The Company granted 45,016 stock appreciation rights (SARs) to certain employees during the first nine months of 2022. The weighted-average exercise price per share and weighted-average fair value per share of the SARs granted during the nine months ended September 30, 2022 were \$80.85 and \$25.87, 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	1.56 %
Dividend yield	0.59 %
Volatility	38.5 %
Expected term (in years)	4.4

The Company granted 61,145 stock-settled restricted stock units (RSUs) to certain employees during the first nine months of 2022. 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 \$80.88 for stock-settled RSUs granted to employees during the nine months ended September, 2022. RSUs are generally expensed over the vesting period of three years for employees.

The Company granted stock-settled performance-based restricted stock units (PRSUs) to certain employees in the first nine months of 2022. The weighted-average fair value of the stock-settled PRSUs was \$97.79 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 its total return to shareholders over the vesting period relative to a peer group's performance over the same period.

At September 30, 2022, unrecognized compensation cost related to the unvested portion of all stock-based awards was approximately \$13.0 million, and is expected to be recognized over the remaining vesting period of the respective grants.

Note M — 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.

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The following table summarizes the financial instruments measured at fair value in the Consolidated Balance Sheets as of September 30, 2022 and December 31, 2021:

(Thousands)	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)	
	2022	2021	2022	2021	2022	2021	2022	2021
Financial Assets								
Deferred compensation investments	\$ 2,754	\$ 4,426	\$ 2,754	\$ 4,426	\$ —	\$ —	\$ —	\$ —
Foreign currency forward contracts	3,796	3,368	—	—	3,796	3,368	—	—
Interest rate swap	8,467	—	—	—	8,467	—	—	—
Precious metal swaps	476	116	—	—	476	116	—	—
Total	\$ 15,493	\$ 7,910	\$ 2,754	\$ 4,426	\$ 12,739	\$ 3,484	\$ —	\$ —
Financial Liabilities								
Deferred compensation liability	\$ 2,754	\$ 4,426	\$ 2,754	\$ 4,426	\$ —	\$ —	\$ —	\$ —
Foreign currency forward contracts	736	136	—	—	736	136	—	—
Precious metal swaps	23	24	—	—	23	24	—	—
Total	\$ 3,513	\$ 4,586	\$ 2,754	\$ 4,426	\$ 759	\$ 160	\$ —	\$ —

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, metals, and interest rates. The carrying values of the other working capital items and debt in the Consolidated Balance Sheets approximate fair values as of September 30, 2022 and December 31, 2021. 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 N — Derivative Instruments and Hedging Activity

The Company uses derivative contracts to hedge exposure to movements in interest rates associated with borrowings, foreign currency exposures, and precious metal and copper exposures. The objectives and strategies for using derivatives in these areas are as follows:

Interest Rate. On March 4, 2022, the Company entered into a \$100.0 million interest rate swap to hedge the interest rate risk on the Credit Agreement described in Note P. The swap hedges the change in 1-month LIBOR from March 4, 2022 to November 2, 2026. The purpose of this hedge is to manage the risk of changes in the monthly interest payments attributable to changes in the benchmark interest rate.

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

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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 nature of 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 product containing precious metal is fabricated and delivered to the customer, the metal content is purchased out of consignment based on the current market price. The price paid by the Company for the precious metal forms the basis for the price charged to the customer for the metal content in the product. 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 consignment fees based upon the value of the metal as it fluctuates while on consignment. Each financial institution retains title to its consigned precious metal until it is purchased by the Company, and it is the Company's typical practice to purchase metal out of consignment only after a product containing that metal has been purchased by one of our customers.

In certain instances, a customer may want to fix 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 out of consignment 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 refined and 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 that 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 in these instances.

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 infrequent and, when made 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 paid when the metal is transferred back to the consignment line, thereby limiting any price exposure during the time when the metal was owned by the Company.

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.

Materion Corporation and Subsidiaries
Notes to Consolidated Financial Statements
(Unaudited)

All derivatives are recorded on the balance sheet at fair value. If a 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) and reclassified into income in the same period or periods during which the hedged transaction affects 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 derivative assets and liabilities are classified as short-term or long-term depending upon the contract maturity date.

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 the balance sheet classification as of September 30, 2022 and December 31, 2021:

(Thousands)	September 30, 2022		December 31, 2021	
	Notional Amount	Fair Value	Notional Amount	Fair Value
Foreign currency forward contracts				
Prepaid and other current assets	\$ 14,216	\$ 619	\$ 55,063	\$ 2,132
Other liabilities and accrued items	16,144	722	9,425	128

These outstanding foreign currency derivatives were related to balance sheet hedges and intercompany loans. Other-net included less than \$0.1 million of foreign currency losses in the third quarter of 2022 and \$0.7 million of foreign currency gains related to derivatives in the first nine months of 2022, compared to \$0.4 million of foreign currency losses and \$2.7 million of foreign currency gains in the third quarter and first nine months of 2021, respectively.

The following table summarizes the notional amount and the fair value of the Company's outstanding derivatives designated as cash flow hedges (on a gross basis) and balance sheet classification as of September 30, 2022 and December 31, 2021:

(Thousands)	September 30, 2022				
	Notional Amount	Fair Value			
		Prepaid and other current assets	Other assets	Other liabilities and accrued items	Other long-term liabilities
Foreign currency forward contracts - yen	\$ 3,301	\$ 460	\$ 35	\$ 14	\$ —
Foreign currency forward contracts - euro	27,030	2,494	188	—	—
Precious metal swaps	5,227	476	—	9	14
Interest rate swap	100,000	2,798	5,669	—	—
Total	\$ 135,558	\$ 6,228	\$ 5,892	\$ 23	\$ 14
(Thousands)	December 31, 2021				
	Notional Amount	Fair Value			
		Prepaid and other current assets	Other assets	Other liabilities and accrued items	Other long-term liabilities
Foreign currency forward contracts - yen	\$ 3,907	\$ 131	\$ 2	\$ —	\$ —
Foreign currency forward contracts - euro	28,412	1,102	—	—	8
Precious metal swaps	6,256	116	—	24	—
Total	\$ 38,575	\$ 1,349	\$ 2	\$ 24	\$ 8

Materion Corporation and Subsidiaries
Notes to Consolidated Financial Statements
(Unaudited)

All of the contracts summarized above were designated and effective as cash flow hedges. We expect to reclassify \$6.2 million of net gains into earnings in the next 12 months contemporaneously with the earnings effects of the related forecasted transactions. At September 30, 2022, the maximum term of derivative instruments that hedge forecasted transactions was approximately four years. Refer to Note K for further details related to OCI.

The following table summarizes the amounts reclassified from accumulated other comprehensive income relating to the Company's outstanding derivatives designated as cash flow hedges and associated income statement classification as of the third quarter and first nine months of 2022 and 2021:

(Thousands)		Third Quarter Ended	
		September 30, 2022	October 1, 2021
Hedging relationship	Line item		
Foreign currency forward contracts	Net sales	\$ (41)	\$ (2)
Precious metal swaps	Cost of sales	(126)	(83)
Interest rate swap	Interest expense - net	(115)	—
Copper swaps	Cost of sales	—	(8)
Total		\$ (282)	\$ (93)

(Thousands)		Nine Months Ended	
		September 30, 2022	October 1, 2021
Hedging relationship	Line item		
Foreign currency forward contracts	Net sales	\$ (171)	\$ 138
Precious metal swaps	Cost of sales	(27)	(122)
Interest rate swap	Interest expense - net	238	—
Copper swaps	Cost of sales	—	(3,049)
Total		\$ 40	\$ (3,033)

Note O — Contingencies

Legal Proceedings. For general information regarding legal proceedings relating to Chronic Beryllium Disease Claims, refer to Note T "Contingencies and Commitments" in the Company's 2021 Annual Report on Form 10-K.

One beryllium case was outstanding as of September 30, 2022. The Company does not expect the resolution of this open matter 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.

On October 14, 2020, Garett Lucyk, et al. v. Materion Brush Inc., et al., case number 20CV0234, a wage and hour purported collective and class action, was filed in the Northern District of Ohio against the Company and its subsidiary, Materion Brush Inc. (collectively, the Company). Plaintiff, a former hourly production employee at the Company's Elmore, Ohio facility, alleges, among other things, that he and other similarly situated employees nationwide are not paid for all time they spend donning and doffing personal protective equipment in violation of the Fair Labor Standards Act and Ohio law. Plaintiff filed a motion for conditional certification, which the Company opposed. On August 2, 2022, the Court conditionally certified a class of employees at the Company's Elmore facility only and rejected certification of a class across the Company's other facilities. The Company believes that it has substantive defenses and intends to vigorously defend this suit, absent a negotiated resolution.

Materion Corporation and Subsidiaries
Notes to Consolidated Financial Statements
(Unaudited)

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 \$4.3 million and \$4.8 million at September 30, 2022 and December 31, 2021, respectively, and is included in Other liabilities and accrued items and Other long-term liabilities on the Consolidated Balance Sheet. Environmental projects tend to be long-term, and the final actual remediation costs may differ from the amounts currently recorded.

Note P — Debt

(Thousands)	September 30, 2022	December 31, 2021
Borrowings under Credit Agreement	\$ 201,388	\$ 152,296
Borrowings under the Term Loan Facility	288,750	300,000
Foreign debt	7,947	2,252
Total debt outstanding	498,085	454,548
Current portion of long-term debt	(19,747)	(15,359)
Gross long-term debt	478,338	439,189
Unamortized deferred financing fees	(4,058)	(4,801)
Long-term debt	\$ 474,280	\$ 434,388

As of September 30, 2022 and December 31, 2021, the Company had \$201.4 million outstanding at an average interest rate of 4.74% and \$152.3 million outstanding at an average interest rate of 2.12%, respectively, under its revolving credit facility. The available borrowing capacity under the revolving credit facility as of September 30, 2022 was \$127.2 million. The Company has the option to repay or borrow additional funds under the revolving credit facility until the maturity date in 2026. The amended and restated credit agreement governing the revolving credit facility (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 30, 2022.

The balance outstanding on the term loan facility as of September 30, 2022 and December 31, 2021 was \$288.8 million and \$300.0 million, respectively.

At September 30, 2022 and December 31, 2021, there was \$46.4 million and \$46.3 million, respectively, outstanding against the letters of credit sub-facility.

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 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 2022 Update

In March 2020, the World Health Organization characterized a novel strain of the coronavirus, known as COVID-19, as a pandemic. The duration of the COVID-19 pandemic and the long-term impacts on the economy are uncertain and could impact the Company’s estimates. Management continues to manage global macroeconomic impacts on supply chains, inflationary costs, and temporary plant shutdowns, labor availability and costs, all of which impacted the Company during the nine months of 2022.

RESULTS OF OPERATIONS

Third Quarter

(Thousands, except per share data)	Third Quarter Ended			
	September 30, 2022	October 1, 2021	\$ Change	% Change
Net sales	\$ 428,191	\$ 388,028	\$ 40,163	10 %
Value-added sales	290,426	215,826	74,600	35 %
Gross margin	82,743	74,313	8,430	11 %
Gross margin as a % of value-added sales	28 %	34 %		
Selling, general, and administrative (SG&A) expense	38,958	43,195	(4,237)	(10)%
SG&A expense as a % of value-added sales	13 %	20 %		
Research and development (R&D) expense	7,430	6,354	1,076	17 %
R&D expense as a % of value-added sales	3 %	3 %		
Restructuring expense	484	—	484	— %
Other—net	6,774	3,604	3,170	88 %
Operating profit	29,097	21,160	7,937	38 %
Other non-operating (income)—net	(1,175)	(1,279)	104	(8)%
Interest expense—net	5,888	861	5,027	584 %
Income before income taxes	24,384	21,578	2,806	13 %
Income tax expense	4,432	3,422	1,010	30 %
Net income	\$ 19,952	\$ 18,156	\$ 1,796	10 %
Diluted earnings per share	\$ 0.96	\$ 0.88	\$ 0.08	9 %

Net sales of \$428.2 million in the third quarter of 2022 increased \$40.2 million from \$388.0 million in the third quarter of 2021. Increased net sales in the Performance Materials and Electronic Materials segments were partially offset by a net sales decrease in the Precision Optics segment. Volume and price increases drove growth in our industrial (23%), semiconductor (6%), aerospace and defense (25%) and energy (19%) end markets when compared to the same period last year. The acquisition of HCS-Electronic Materials, which was completed in the fourth quarter of 2021, accounted for \$49.2 million of the net sales increase, most of which are sales into the semiconductor end market. See Note C to the Consolidated Financial Statements for additional details on the year over year changes in our net sales by segment and market.

The change in precious metal and copper prices unfavorably impacted net sales by \$10.2 million during the third quarter of 2022 compared to prior year. Additionally, net sales were unfavorably impacted by foreign currency headwinds

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 precious metal market 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 \$290.4 million in the third quarter of 2022 increased \$74.6 million, or 35%, compared to the third quarter of 2021. The acquisition of HCS-Electronic Materials, which was completed in the fourth quarter of 2021, accounted for \$49.2 million of the increase. The remaining value-added sales increase was driven by increased value-added sales into the industrial (10%), energy (27%), aerospace and defense (10%) and semiconductor (7%) end markets. These increases were partially offset by foreign currency headwinds.

Gross margin in the third quarter of 2022 was \$82.7 million, which was up 11% compared to the third quarter of 2021. Gross margin expressed as a percentage of value-added sales decreased to 28% in the third quarter of 2022 from 34% in the third quarter of 2021. The favorable impacts of volume and pricing were offset by the unfavorable impacts of product mix, higher pre-production costs associated with the production ramp of the new wide area clad facility and delayed Precision Optics recovery, resulting in an overall decrease in margin.

SG&A expense was \$39.0 million in the third quarter of 2022, compared to \$43.2 million in the third quarter of 2021. The decrease in SG&A expense is due to decreased variable compensation expense in 2022 as well as higher legal and due

diligence related cost in the prior year due to the HCS-Electronic Materials acquisition. SG&A expense as a percentage of value-added sales decreased from 20% to 13% year over year.

R&D expense consists primarily of direct personnel costs for product innovation including pre-production development, evaluation, and testing of new products, prototypes, and applications to deliver new high performing advanced materials to our customers. R&D expense accounted for 3% of value-added sales in the third quarter of both 2022 and 2021.

Restructuring expense consists primarily of cost reduction actions taken in order to reduce our fixed cost structure. In the third quarter of 2022, we recorded \$0.5 million of restructuring charges primarily in our Precision Optics segment. There were no restructuring charges in the third quarter of 2021.

Other-net was \$6.8 million of expense in the third quarter of 2022, or a \$3.2 million increase from the third quarter of 2021, primarily driven by \$1.8 million of increased intangible asset amortization expense, related to the acquisition of HCS-Electronic Materials and \$0.9 million of increased metal consignment fees. Refer to Note E to the Consolidated Financial Statements for details of the major components within Other-net.

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

Interest expense-net was \$5.9 million and \$0.9 million in the third quarter of 2022 and 2021, respectively. The increase in interest expense is primarily due to increased borrowings under our revolving credit facility and interest owed on our new term loan, the proceeds of which were used to fund the purchase price for the acquisition of HCS-Electronic Materials.

Income tax expense for the third quarter of 2022 was \$4.4 million, compared to \$3.4 million in the third quarter of 2021. The effective tax rate for the third quarter of 2022 and 2021 was 18.2% and 15.9%, respectively. The effective tax rate for the third quarter of both 2022 and 2021 was lower than the statutory tax rate primarily due to the impact of percentage depletion, research and development credits and the foreign derived intangible income deduction. See Note F to the Consolidated Financial Statements for additional discussion.

Nine Months

(Thousands, except per share data)	Nine Months Ended			
	September 30, 2022	October 1, 2021	\$ Change	% Change
Net sales	\$ 1,322,531	\$ 1,113,413	\$ 209,118	19 %
Value-added sales	834,420	622,295	212,125	34 %
Gross margin	245,461	210,690	34,771	17 %
Gross margin as a % of value-added sales	29 %	34 %		
SG&A expense	122,666	118,031	4,635	4 %
SG&A expense as a % of value-added sales	15 %	19 %		
R&D expense	22,096	19,164	2,932	15 %
R&D expense as a % of value-added sales	3 %	3 %		
Restructuring (income) expense	1,560	(378)	1,938	(513)%
Other—net	18,575	12,272	6,303	51 %
Operating profit	80,564	61,601	18,963	31 %
Other non-operating (income)—net	(3,512)	(3,832)	320	(8)%
Interest expense—net	14,325	2,480	11,845	478 %
Income before income taxes	69,751	62,953	6,798	11 %
Income tax expense	12,525	10,162	2,363	23 %
Net income	\$ 57,226	\$ 52,791	\$ 4,435	8 %
Diluted earnings per share	\$ 2.76	\$ 2.56	\$ 0.20	8 %

Net sales of \$1,322.5 million in the first nine months of 2022 increased \$209.1 million from \$1,113.4 million in the first nine months of 2021. Increased net sales in the Performance Materials and Electronic Materials segments were partially offset by a net sales decrease in the Precision Optics segment. Volume and price increases drove growth in our semiconductor (24%),

industrial (32%), energy (22%) and aerospace and defense (17%) end markets when compared to the same period last year. The acquisition of HCS-Electronic Materials, which was completed in the fourth quarter of 2021, accounted for \$135.7 million of the net sales increase, most of which are sales into the semiconductor end market. See Note C to the Consolidated Financial Statements for additional details on the year over year changes in our net sales by segment and market.

The change in precious metal and copper market prices unfavorably impacted net sales by \$3.7 million during the first nine months of 2022 compared to the same period in the prior year. Additionally, net sales were unfavorably impacted by foreign currency headwinds.

Value-added sales of \$834.4 million in the first nine months of 2022 increased \$212.1 million, or 34%, compared to the first nine months of 2021. The acquisition of HCS-Electronic Materials, which was completed in the fourth quarter of 2021, accounted for \$135.7 million of the increase. The remaining value-added sales increase was driven by increased value-added sales into the industrial (19%), semiconductor (16%), energy (42%) and aerospace and defense (6%) end markets. Additionally, value-added sales were unfavorably impacted by foreign currency headwinds.

Gross margin in the first nine months of 2022 was \$245.5 million, which was up 17% compared to the first nine months of 2021. Gross margin expressed as a percentage of value-added sales decreased to 29% in the first nine months of 2022 from 34% in the first nine months of 2021. The decrease was primarily driven by \$7.5 million of amortization of the inventory step up from the HCS-Electronic Material acquisition made in the fourth quarter of 2021, pre-production costs associated with the set-up of the new wide area clad facility and other manufacturing inefficiencies.

SG&A expense was \$122.7 million in the first nine months of 2022, compared to \$118.0 million in the first nine months of 2021. The increase in SG&A expense for the first nine months of 2022 was driven by \$4.8 million of HCS-Electronic Materials ongoing spend as well as higher costs to support normal growth, partially offset by a decrease of \$2.1 million in pre or post HCS acquisition spend. Expressed as a percentage of value-added sales, SG&A expense was 15% and 19% in the first nine months of 2022 and 2021, respectively.

R&D expense consists primarily of direct personnel costs for product innovation including pre-production development, evaluation, and testing of new products, prototypes, and applications to deliver new high performing advanced materials to our customers. R&D expense accounted for 3% of value-added sales in the first nine months of both 2022 and 2021.

Restructuring (income) expense consists primarily of cost reduction actions taken in order to reduce our fixed cost structure. In the first nine months of 2022, we recorded a combined total of \$1.6 million of restructuring charges in our Precision Optics, Electronic Materials and Other segments.

During the first nine months of 2021, we substantially completed the closure of our Large Area Coatings business and recorded \$0.4 million of income related to lower than expected facility closure costs that were recorded in 2020.

Other-net was \$18.6 million of expense in the first nine months of 2022, or a \$6.3 million increase from the first nine months of 2021, primarily driven by \$5.9 million of increased intangible asset amortization expense related to the acquisition of HCS-Electronic Materials, as well as \$2.1 million of increased metal consignment fees, partially offset by a \$1.7 million decrease in foreign currency losses. Refer to Note E to the Consolidated Financial Statements for details of the major components within Other-net.

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

Interest expense-net was \$14.3 million and \$2.5 million in the first nine months of 2022 and 2021, respectively. The increase in interest expense is primarily due to increased borrowings under our revolving credit facility and interest owed on our new term loan, the proceeds of which were used to fund the purchase price for the acquisition of HCS-Electronic Materials.

Income tax expense for the first nine months of 2022 was \$12.5 million, compared to \$10.2 million in the nine months of 2021. The Company's effective tax rate for the first nine months of 2022 and 2021 was 18.0% and 16.1%, respectively. The effective tax rate for each period in 2022 and 2021 was lower than the statutory tax rate primarily due to the impact of percentage depletion, research and development credits and the foreign derived intangible income deduction. The effective tax rate for the first nine months of 2022 and 2021 included a net discrete income tax benefit of \$0.9 million, primarily related to excess tax benefits from stock-based compensation awards and return to provision adjustments recorded.

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 2022 and 2021 is as follows:

(Thousands)	Third Quarter Ended		Nine Months Ended	
	September 30, 2022	October 1, 2021	September 30, 2022	October 1, 2021
Net sales				
Performance Materials	\$ 169,357	\$ 136,096	\$ 473,876	\$ 375,533
Electronic Materials	230,841	220,723	762,649	638,481
Precision Optics	27,993	31,209	86,006	99,399
Other	—	—	—	—
Total	\$ 428,191	\$ 388,028	\$ 1,322,531	\$ 1,113,413
Less: pass-through metal costs				
Performance Materials	\$ 20,525	\$ 20,929	\$ 61,959	\$ 50,936
Electronic Materials	116,977	151,019	424,716	438,928
Precision Optics	16	—	83	43
Other	248	254	1,353	1,211
Total	\$ 137,766	\$ 172,202	\$ 488,111	\$ 491,118
Value-added sales				
Performance Materials	\$ 148,832	\$ 115,167	\$ 411,917	\$ 324,597
Electronic Materials	113,864	69,704	337,933	199,553
Precision Optics	27,977	31,209	85,923	99,356
Other	(248)	(254)	(1,353)	(1,211)
Total	\$ 290,425	\$ 215,826	\$ 834,420	\$ 622,295

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 precious metal market 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 market 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.

The cost of gold, silver, platinum, palladium, copper, ruthenium, iridium, rhodium, rhenium, and osmium can be quite volatile. Our pricing policy is to directly pass the market 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.

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 Materials, Electronic Materials, Precision Optics, and Other. The Other reportable segment includes unallocated corporate costs.

Performance Materials

Third Quarter

(Thousands)	Third Quarter Ended			
	September 30, 2022	October 1, 2021	\$ Change	% Change
Net sales	\$ 169,357	\$ 136,096	\$ 33,261	24 %
Value-added sales	\$ 148,832	\$ 115,167	33,665	29 %
EBITDA	\$ 28,866	\$ 28,917	(51)	— %

Net sales from the Performance Materials segment of \$169.4 million in the third quarter of 2022 increased 24% compared to net sales of \$136.1 million in the third quarter of 2021. The increase in sales was primarily due to favorable pricing and higher volume in the industrial, aerospace and defense as well as energy end markets. In addition, sales attributable to the HCS-Electronic Materials acquisition increased sales in this segment by \$9.4 million and incremental sales from the clad strip project increased sales by \$13.1 million. Additionally, net sales were unfavorably impacted by foreign currency headwinds.

Value-added sales of \$148.8 million in the third quarter of 2022 were 29% higher than value-added sales of \$115.2 million in the third quarter of 2021. The increase in value-added sales was due to the same factors driving the increase in net sales.

EBITDA for the Performance Materials segment was \$28.9 million in both the third quarter of 2022 and in the third quarter of 2021. Despite the increase in net sales, EBITDA remained flat primarily due to \$1.6 million of start up costs and \$4.1 million of additional resource cost and scrap for the new wide area precision strip clad facility and incremental selling, general and administrative expenses for the the HCS-Electronic Materials business.

Nine Months

(Thousands)	Nine Months Ended			
	September 30, 2022	October 1, 2021	\$ Change	% Change
Net sales	\$ 473,876	\$ 375,533	\$ 98,343	26 %
Value-added sales	\$ 411,917	\$ 324,597	87,320	27 %
EBITDA	\$ 80,886	\$ 68,027	12,859	19 %

Net sales from the Performance Materials segment of \$473.9 million in the first nine months of 2022 increased 26% compared to net sales of \$375.5 million in the first nine months of 2021. The increase in sales was due to higher volume in industrial, aerospace and defense and energy end markets. In addition, sales from HCS-Electronic Materials increased sales in this segment by \$24.0 million and incremental sales from the clad strip project increased sales by \$15.6 million. These impacts were slightly offset by a decrease in the defense end market, a slight decrease in automotive market sales as a result of the global chip shortage impacting the timing of demand and foreign currency headwinds

Value-added sales of \$411.9 million in the first nine months of 2022 were 27% higher than value-added sales of \$324.6 million in the first nine months of 2021. The increase in value-added sales was due to the same factors driving the increase in net sales.

EBITDA for the Performance Materials segment was \$80.9 million in the first nine months of 2022 compared to \$68.0 million in the first nine months of 2021. The increase in EBITDA was primarily due to the same factors driving the increase in net sales, partially offset by acquisition and integration costs of \$2.7 million, primarily related to purchase accounting inventory step up charges, as well as \$9.8 million of incremental start up costs and \$4.1 million of additional resource cost and scrap for the new wide area precision strip clad facility, manufacturing inefficiencies and incremental selling, general and administrative expenses for the HCS-Electronic Materials business.

Electronic Materials

Third Quarter

(Thousands)	Third Quarter Ended			
	September 30, 2022	October 1, 2021	\$ Change	% Change
Net sales	230,841	220,723	10,118	5 %
Value-added sales	113,864	69,704	44,160	63 %
EBITDA	16,853	11,326	5,527	49 %

Net sales from the Electronic Materials segment of \$230.8 million in the third quarter of 2022 were 5% higher than net sales of \$220.7 million in the third quarter of 2021. The increase in net sales was primarily due to \$39.9 million in net sales from the HCS-Electronic Materials acquisition. The net sales increase from HCS-Electronic Materials was offset by higher customer owned precious metal transactions in the semiconductor market, lower precious metal prices impacting net sales by \$8.2 million as well as foreign currency headwinds.

Value-added sales of \$113.9 million in the third quarter of 2022 increased 63% compared to value-added sales of \$69.7 million in the third quarter of 2021. The increase was primarily driven by \$39.9 million in value-added sales from the HCS-Electronic Materials acquisition and an increase in value-added sales in the semiconductor end market. The impact of these items were partially offset by foreign currency headwinds.

EBITDA for the Electronic Materials segment was \$16.9 million in the third quarter of 2022 compared to \$11.3 million in the third quarter of 2021. The increase in EBITDA is primarily due to incremental EBITDA from HCS-Electronic Materials despite the impact of short term tantalum raw material headwinds, as well as the impacts of increased sales.

Nine Months

(Thousands)	Nine Months Ended			
	September 30, 2022	October 1, 2021	\$ Change	% Change
Net sales	762,649	638,481	124,168	19 %
Value-added sales	337,933	199,553	138,380	69 %
EBITDA	51,338	32,668	18,670	57 %

Net sales from the Electronic Materials segment of \$762.6 million in the first nine months of 2022 were 19% higher than net sales of \$638.5 million in the first nine months of 2021. The increase in net sales was primarily due to \$112.2 million from the HCS-Electronic Materials acquisition and higher organic sales volumes in the semiconductor, industrial and medical end markets. These impact of these items were partially offset by \$6.8 million in lower precious metal prices and the impact of foreign currency headwinds.

Value-added sales of \$337.9 million in the first nine months of 2022 increased 69% compared to value-added sales of \$199.6 million in the first nine months of 2021. The increase was primarily driven by \$112.2 million in value-added sales from the HCS-Electronic Materials acquisition as well as higher organic sales volumes into the semiconductor, industrial, and energy end markets. The impact of these items were partially offset by foreign currency headwinds.

EBITDA for the Electronic Materials segment was \$51.3 million in the first nine months of 2022 compared to \$32.7 million in the first nine months of 2021. The increase in EBITDA is primarily due to incremental EBITDA from HCS-Electronic Materials, as well as the impacts of increased sales volumes partially offset by the amortization of the HCS-Electronic Material inventory step up of \$5.0 million.

Precision Optics**Third Quarter**

(Thousands)	Third Quarter Ended			
	September 30, 2022	October 1, 2021	\$ Change	% Change
Net sales	27,993	31,209	(3,216)	(10)%
Value-added sales	27,977	31,209	(3,232)	(10)%
EBITDA	3,546	6,228	(2,682)	(43)%

Net sales from the Precision Optics segment of \$28.0 million in the third quarter of 2022 decreased 10% compared to net sales of \$31.2 million in the third quarter of 2021. The change was primarily driven by a reduction in sales related to lower volumes in the aerospace and defense and industrial end markets, the discontinuation of a consumer electronic application as well as foreign currency headwinds.

Value-added sales of \$28.0 million in the third quarter of 2022 decreased 10% compared to value-added sales of \$31.2 million in the third quarter of 2021. The decrease in value-added sales was due to the same factors driving the decrease in net sales.

EBITDA for the Precision Optics segment was \$3.5 million in the third quarter of 2022 compared to \$6.2 million in the third quarter of 2021. The decrease in EBITDA was driven by decreased volumes, unfavorable product mix, and restructuring charges taken during the quarter.

Nine Months

(Thousands)	Nine Months Ended			
	September 30, 2022	October 1, 2021	\$ Change	% Change
Net sales	86,006	99,399	(13,393)	(13)%
Value-added sales	85,923	99,356	(13,433)	(14)%
EBITDA	9,281	19,246	(9,965)	(52)%

Net sales from the Precision Optics segment of \$86.0 million in the first nine months of 2022 decreased 13% compared to net sales of \$99.4 million in the first nine months of 2021. The change was primarily driven by a reduction in sales related to COVID-19 PCR testing programs, the discontinuation of a consumer electronic application, foreign currency headwinds and the temporary government-mandated shut down of our Shanghai facility due to COVID-19 in the first and second quarters of 2022.

Value-added sales of \$85.9 million in the first nine months of 2022 decreased 14% compared to value-added sales of \$99.4 million in the first nine months of 2021. The decrease in value-added sales was due to the same factors driving the decrease in net sales.

EBITDA for the Precision Optics segment was \$9.3 million in the first nine months of 2022 compared to \$19.2 million in the first nine months of 2021. The decrease in EBITDA was driven by decreased volumes, the temporary shut down of the Shanghai facility in the first and second quarters of 2022, related unabsorbed costs and restructuring charges incurred during the first nine months of 2022.

Other**Third Quarter**

(Thousands)	Third Quarter Ended			
	September 30, 2022	October 1, 2021	\$ Change	% Change
Net sales	\$ —	\$ —	—	— %
Value-added sales	(248)	(254)	6	(2)%
EBITDA	(5,839)	(10,617)	4,778	(45)%

The Other reportable segment in total includes unallocated corporate costs.

Corporate costs were \$5.8 million in the third quarter of 2022 compared to \$10.6 million in the third quarter of 2021. Corporate costs decreased from 5% of Company-wide value-added sales in the third quarter of 2021 to 2% in the third quarter of 2022. The decrease in corporate costs in the third quarter of 2022 compared to the third quarter of 2021 is primarily related to acquisition costs in 2021 that did not reoccur in 2022.

Nine Months

(Thousands)	Nine Months Ended			
	September 30, 2022	October 1, 2021	\$ Change	% Change
Net sales	\$ —	\$ —	—	— %
Value-added sales	(1,353)	(1,211)	(142)	12 %
EBITDA	(18,206)	(22,030)	3,824	(17)%

Corporate costs were \$18.2 million in the first nine months of 2022 compared to \$22.0 million in the first nine months of 2021. Corporate costs accounted for 2% and 4% of Company-wide value-added sales in the first nine months of 2022 and 2021, respectively. The decrease in corporate costs in the first nine months of 2022 compared to the first nine months of 2021 is primarily related to 2021 acquisition costs that did not reoccur in 2022. This is offset slightly by an increase in employee related costs.

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 30, 2022	October 1, 2021	\$ Change
Net cash provided by operating activities	\$ 34,204	\$ 40,518	\$ (6,314)
Net cash used in investing activities	(56,380)	(76,954)	20,574
Net cash provided by financing activities	31,349	28,779	2,570
Effects of exchange rate changes	(2,953)	(212)	(2,741)
Net change in cash and cash equivalents	\$ 6,220	\$ (7,869)	\$ 14,089

Net cash provided by operating activities totaled \$34.2 million in the first nine months of 2022 versus \$40.5 million in the prior-year period. The decrease in operating cash flow was primarily due to cash used to fund higher working capital due to higher inventory to support increasing demand and sales and higher incentive compensation paid out in the first quarter, partially offset by a higher net income and an increase in unearned income due to customer prepayments totaling \$17.5 million received in the second and third quarters of 2022 vs the \$9.0 million received through nine months in 2021.

Net cash used in investing activities was \$56.4 million in the first nine months of 2022 compared to \$77.0 million in the prior-year period due to decrease in capital expenditures primarily related to investments in new equipment funded by customer prepayments in 2021. See Note I to the Consolidated Financial Statements for additional discussion. Additionally, the Company paid a working capital true-up of approximately \$3.0 million during the second quarter of 2022 related to the HCS-Electronic Materials acquisition. See Note B to the Consolidated Financial Statements for additional discussion.

Capital expenditures are primarily driven by customer partnerships like the precision clad strip project and investments within our HCS-Electronic Materials operations as well as infrastructure for new product development, replacing and upgrading equipment, infrastructure investments, and implementing information technology initiatives. For the full year 2022, the Company expects payments for property, plant, and equipment to be approximately \$90 million.

Net cash provided by financing activities totaled \$31.3 million in the first nine months of 2022 and \$28.8 million in the comparable prior-year period. The increase is primarily due to net borrowings of \$49.1 million under our revolving credit facility in the first nine months of 2022, compared to net borrowings of \$43.0 million in the same period in the prior year.

Liquidity

We believe cash flow from operations plus the available borrowing capacity and our current cash balance are adequate to support operating requirements, capital expenditures, projected pension plan contributions, the current dividend program, environmental remediation projects, and strategic acquisitions for at least the next twelve months and for the foreseeable future thereafter. At September 30, 2022, cash and cash equivalents held by our foreign operations totaled \$17.0 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 30, 2022 and December 31, 2021 is as follows:

(Thousands)	September 30, 2022	December 31, 2021
Cash and cash equivalents	\$ 20,682	\$ 14,462
Total outstanding debt	494,027	449,474
Net debt	\$ (473,345)	\$ (435,012)
Available borrowing capacity	\$ 127,169	\$ 176,419

Net debt 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, depletion and amortization, and other adjustments.

In 2021, we amended and restated the agreement governing our \$375.0 million revolving credit facility (Credit Agreement) in connection with the HCS-Electronic Materials acquisition. A \$300.0 million delayed draw term loan facility was added to the Credit Agreement and the maturity date of the Credit Agreement was extended from 2024 to 2026. Moreover, the Credit Agreement also provides for an uncommitted incremental facility whereby, under certain conditions, the Company may be able to borrow additional term loans in an aggregate amount not to exceed \$150.0 million. 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, precious metal, copper and certain other assets.

The Credit Agreement allows the Company to borrow money at a premium over LIBOR or prime rate and at varying maturities. The premium resets quarterly according to the terms and conditions stipulated in 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 that limit the Company to a maximum leverage ratio and a maximum interest coverage ratio. We were in compliance with all of our debt covenants as of September 30, 2022 and December 31, 2021. Cash on hand up to \$25.0 million can benefit the covenants and may benefit the borrowing capacity under the Credit Agreement.

In November 2021, we completed the acquisition of HCS-Electronic Materials. The Company financed the purchase price for the HCS-Electronic Materials acquisition with a new \$300.0 million five-year term loan pursuant to its delayed draw term loan facility under the Credit Agreement and \$103.0 million of borrowings under its amended revolving credit facility. The interest rate for the term loan is based on LIBOR plus a tiered rate determined by the Company's quarterly leverage ratio.

Portions of our business utilize off-balance sheet consignment arrangements allowing us to use bank owned metal as we manufacture product for customers. Metal is purchased from the consignee and sold to our customer at the time of product shipment. Expansion of business volumes and/or higher metal prices can put pressure on the consignment line limitations from time to time. In the third quarter of 2022, we entered into a precious metals consignment agreement, maturing on August 31, 2025, which replaced the consignment agreement that would have matured on August 27, 2022. The available and unused capacity under the metal consignment lines expiring in August 2025 totaled approximately \$260.8 million as of September 30, 2022, compared to \$69.8 million as of December 31, 2021 under the metal financing lines that expired on August 27, 2022. 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 or first nine months of 2022. Since the approval of the repurchase plan, we have purchased 1,254,264 shares at a total cost of \$41.7 million.

We paid cash dividends of \$2.6 million and \$7.6 million on our common stock in the third quarter and first nine months of 2022. 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 CASH 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 \$354.2 million and \$480.2 million as of September 30, 2022 and December 31, 2021, respectively. We were in compliance with all of the covenants contained in the consignment agreements as of September 30, 2022. For additional information on our material cash obligations, refer to our 2021 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 2021 Annual Report on Form 10-K.

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, including shut downs of our facilities; our ability to achieve the strategic and other objectives related to the HCS-Electronic Materials acquisition, including any expected synergies; the global economy, including inflationary pressures, potential future recessionary conditions and the impact of tariffs and trade agreements; the impact of any U.S. Federal Government shutdowns or 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 the HCS-Electronic Materials business; the impact of the results of acquisitions on our ability to fully achieve the strategic and financial objectives related to these acquisitions; our success in implementing our strategic plans and the timely and successful start-up and completion 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 consignment 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, including the conflict between Russia and Ukraine, 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; the disruptions in 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 the Company's 2021 Annual Report on Form 10-K.*

Item 3. Quantitative and Qualitative Disclosures about Market Risk

For information regarding market risks, refer to Item 7A. Quantitative and Qualitative Disclosures About Market Risk in our 2021 Annual Report on Form 10-K. There have been no material changes in our market risks since the inclusion of this discussion in our 2021 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 30, 2022 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 30, 2022.

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 30, 2022 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.

Beryllium Claims

As of September 30, 2022, our subsidiary, Materion Brush Inc., was a defendant in one beryllium case. 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, and his wife claims loss of consortium. A co-defendant, Dolphin, Inc., filed a cross-claim against the Company for indemnification. On August 12, 2020, the Company moved to dismiss the cross-claim for failure to state a claim upon which relief can be granted. The court denied the motion on October 23, 2020. On December 7, 2020, the Company filed a Petition for Special Action in the Court of Appeals seeking to appeal the denial of the motion to dismiss the cross-claim. The Court of Appeals declined to accept jurisdiction on December 30, 2020. The court entered a scheduling order on September 14, 2021 that did not set a date for trial. Amended scheduling orders were entered on April 8, 2022, and August 4, 2022, that likewise did not set a trial date. The Company believes that it has substantive defenses and intends to vigorously defend this suit.

No beryllium cases were filed in the third quarter of 2022.

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

Other Claims

On October 14, 2020, *Garett Lucyk, et al. v. Materion Brush Inc., et al.*, case number 20CV0234, a wage and hour purported collective and class action, was filed in the Northern District of Ohio against the Company and its subsidiary, Materion Brush Inc. (collectively, the Company). Plaintiff, a former hourly production employee at the Company's Elmore, Ohio facility, alleges, among other things, that he and other similarly situated employees nationwide are not paid for all time they spend donning and doffing personal protective equipment in violation of the Fair Labor Standards Act and Ohio law. Plaintiff filed a motion for conditional certification, which the Company opposed. On August 2, 2022, the Court conditionally certified a class of employees at the Company's Elmore facility only and rejected certification of a class across the Company's other facilities. The Company believes that it has substantive defenses and intends to vigorously defend this suit, absent a negotiated resolution.

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 the Company during the three months ended September 30, 2022.

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)
July 2 through August 5, 2022	—	\$ —	—	\$ 8,316,239
August 6 through September 2, 2022	2,523	96.79	—	8,316,239
September 3 through September 30, 2022	—	—	—	8,316,239
Total	2,523	\$ 96.79	—	\$ 8,316,239

- (1) Represents shares surrendered to the Company by employees to satisfy tax withholding obligations on equity awards issued under the Company's stock incentive plan.
- (2) On January 14, 2014, the Company announced that its Board of Directors had authorized the repurchase of up to \$50.0 million of its common stock. During the three months ended September 30, 2022, the Company did not repurchase any shares under this program. As of September 30, 2022, \$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*
10.1	Amended and Restated Metals Consignment Agreement, dated as of August 12, 2022 (filed as Exhibit 10.1 to the Company's 8-K filed on August 15, 2022), incorporated herein by reference.
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 30, 2022 *
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: November 2, 2022

/s/ Shelly M. Chadwick

Shelly M. Chadwick

Vice President, Finance and Chief Financial Officer

(Principal Financial Officer)

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.

Dated: November 2, 2022

/s/ Jugal K. Vijayvargiya

Jugal K. Vijayvargiya

President and Chief Executive Officer

CERTIFICATIONS

I, Shelly M. Chadwick, 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: November 2, 2022

/s/ Shelly M. Chadwick

Shelly M. Chadwick

Vice President, Finance and Chief Financial Officer

**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 30, 2022 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: November 2, 2022

/s/ Jugal K. Vijayvargiya

Jugal K. Vijayvargiya
President and Chief Executive Officer

/s/ Shelly M. Chadwick

Shelly M. Chadwick
Vice President, Finance and Chief Financial Officer

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 30, 2022**

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 30, 2022 (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	\$266
(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