FERRO CORP
Form 10-Q
November 01, 2017
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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, 2017

or

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from _________ to __________

Commission File Number 1-584

FERRO CORPORATION

(Exact name of registrant as specified in its charter)

Ohio	34-0217820
(State or other jurisdiction of	(I.R.S. Employer Identification No.)
incorporation or organization)	
6060 Parkland Boulevard	44124
Suite 250	(Zip Code)
Mayfield Heights, OH	
(Address of principal executive offices)	
216-875-5600	
(Registrant’s telephone number, including area code)	

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

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

YES NO

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, 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	(Do not check if a smaller reporting company)	Smaller reporting company
		Emerging growth company

If an emerging growth company, indicate by checkmark 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 Act). YES NO

At October 31, 2017, there were 83,857,289 shares of Ferro Common Stock, par value $1.00, outstanding.

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PART I — FINANCIAL INFORMATION

Item 1. Financial Statements (Unaudited)

Ferro Corporation and Subsidiaries

Condensed Consolidated Statements of Operations

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
	(Dollars in thousands, except per share amounts)			
Net sales	$ 350,012	$ 288,527	$ 1,019,199	$ 863,955
Cost of sales	246,396	199,546	708,447	592,372
Gross profit	103,616	88,981	310,752	271,583
Selling, general and administrative expenses	65,485	55,588	186,957	166,105
Restructuring and impairment charges	1,471	26	7,713	1,694
Other expense (income):				
Interest expense	7,248	5,304	19,921	15,579
Interest earned	(201)	(214)	(556)	(414)
Foreign currency losses, net	1,021	867	5,575	2,867
Loss on extinguishment of debt	—	—	3,905	—
Miscellaneous (income) expense, net	(1,726)	705	(2,264)	(2,079)
Income before income taxes	30,318	26,705	89,501	87,831
Income tax expense	7,353	6,157	23,186	22,659
Income from continuing operations	22,965	20,548	66,315	65,172
Loss from discontinued operations, net of income taxes	—	(29,222)	—	(64,464)
Net income (loss)	22,965	(8,674)	66,315	708
Less: Net income attributable to noncontrolling interests	148	210	575	589
Net income (loss) attributable to Ferro Corporation common shareholders	$ 22,817	$ (8,884)	$ 65,740	$ 119
Earnings (loss) per share attributable to Ferro Corporation common shareholders:				
Basic earnings (loss):				
Continuing operations	$ 0.27	$ 0.24	$ 0.79	$ 0.78
Discontinued operations	—	(0.35)	—	(0.77)
	$ 0.27	$ (0.11)	$ 0.79	$ 0.01
Diluted earnings (loss):				
Continuing operations	$ 0.27	$ 0.24	$ 0.77	$ 0.77

Discontinued operations	—	(0.35)	—	(0.77)
	$ 0.27	$ (0.11)	$ 0.77	$ —

See accompanying notes to condensed consolidated financial statements.

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Ferro Corporation and Subsidiaries

Condensed Consolidated Statements of Comprehensive Income (Loss)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
	(Dollars in thousands)			
Net income (loss)	$ 22,965	$ (8,674)	$ 66,315	$ 708
Other comprehensive income (loss), net of income tax:				
Foreign currency translation (loss) income	(2,996)	2,680	18,081	(2,267)
Cash flow hedging instruments, unrealized gain	104	—	104	—
Postretirement benefit liabilities (loss) gain	(33)	(2)	(21)	293
Other comprehensive (loss) income, net of income tax	(2,925)	2,678	18,164	(1,974)
Total comprehensive income (loss)	20,040	(5,996)	84,479	(1,266)
Less: Comprehensive income attributable to noncontrolling interests	294	191	837	450
Comprehensive income (loss) attributable to Ferro Corporation	$ 19,746	$ (6,187)	$ 83,642	$ (1,716)

See accompanying notes to condensed consolidated financial statements.

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Ferro Corporation and Subsidiaries

Condensed Consolidated Balance Sheets

	September 30, 2017	December 31, 2016
	(Dollars in thousands)	
ASSETS		
Current assets		
Cash and cash equivalents	$ 52,211	$ 45,582
Accounts receivable, net	337,887	259,687
Inventories	286,848	229,847
Other receivables	50,057	37,814
Other current assets	19,533	9,087
Total current assets	746,536	582,017
Other assets		
Property, plant and equipment, net	288,774	262,026
Goodwill	197,819	148,296
Intangible assets, net	190,985	137,850
Deferred income taxes	106,081	106,454
Other non-current assets	45,472	47,126
Total assets	$ 1,575,667	$ 1,283,769
LIABILITIES AND EQUITY		
Current liabilities		
Loans payable and current portion of long-term debt	$ 18,477	$ 17,310
Accounts payable	155,542	127,655
Accrued payrolls	40,950	35,859
Accrued expenses and other current liabilities	85,927	65,203
Total current liabilities	300,896	246,027
Other liabilities		
Long-term debt, less current portion	673,464	557,175
Postretirement and pension liabilities	170,199	162,941
Other non-current liabilities	83,995	62,594
Total liabilities	1,228,554	1,028,737
Equity		
Ferro Corporation shareholders’ equity:		
Common stock, par value $1 per share; 300.0 million shares authorized; 93.4 million shares issued; 83.8 million and 83.4 million shares outstanding at September 30, 2017, and December 31, 2016, respectively	93,436	93,436
Paid-in capital	303,428	306,566
Retained earnings	180,430	114,690
Accumulated other comprehensive loss	(88,741)	(106,643)

Common shares in treasury, at cost	(151,900)	(160,936)
Total Ferro Corporation shareholders' equity	336,653	247,113
Noncontrolling interests	10,460	7,919
Total equity	347,113	255,032
Total liabilities and equity	$ 1,575,667	$ 1,283,769

See accompanying notes to condensed consolidated financial statements.

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Ferro Corporation and Subsidiaries

Condensed Consolidated Statements of Equity

	Ferro Corporation Shareholders Common Shares in Treasury							
	Shares	Amount	Common Stock	Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive (Loss)	Non-controlling Interests	Total Equity
	(In thousands)							
Balances at December 31, 2015	9,431	$ (166,020)	$ 93,436	$ 314,854	$ 135,507	$ (61,318)	$ 7,822	$ 324,281
Net income	—	—	—	—	119	—	589	708
Other comprehensive (loss)	—	—	—	—	—	(1,835)	(139)	(1,974)
Purchase of treasury stock	1,175	(11,429)	—	—	—	—	—	(11,429)
Stock-based compensation transactions	(556)	15,095	—	(10,015)	—	—	—	5,080
Distributions to noncontrolling interests	—	—	—	—	—	—	(502)	(502)
Balances at September 30, 2016	10,050	(162,354)	93,436	304,839	135,626	(63,153)	7,770	316,164
Balances at December 31, 2016	9,996	(160,936)	93,436	306,566	114,690	(106,643)	7,919	255,032
Net income	—	—	—	—	65,740	—	575	66,315
Other comprehensive income	—	—	—	—	—	17,902	262	18,164
Stock-based compensation transactions	(359)	9,036	—	(3,138)	—	—	—	5,898
Change in ownership interest	—	—	—	—	—	—	2,178	2,178
	—	—	—	—	—	—	(474)	(474)

Distributions to noncontrolling interests								
Balances at September 30, 2017	9,637	$ (151,900)	$ 93,436	$ 303,428	$ 180,430	$ (88,741)	$ 10,460	$ 347,113

See accompanying notes to condensed consolidated financial statements.

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Ferro Corporation and Subsidiaries

Condensed Consolidated Statements of Cash Flows

	Nine Months Ended September 30,	
	2017	2016
	(Dollars in thousands)	
Cash flows from operating activities		
Net cash provided by operating activities	$ 34,691	$ 6,742
Cash flows from investing activities		
Capital expenditures for property, plant and equipment and other long lived assets	(30,134)	(18,217)
Proceeds from sale of assets	—	3,598
Proceeds from sale of equity method investment	2,268	—
Business acquisitions, net of cash acquired	(71,930)	(11,417)
Other investing	551	—
Net cash used in investing activities	(99,245)	(26,036)
Cash flows from financing activities		
Net (repayments) borrowings under loans payable	(10,803)	2,606
Proceeds from revolving credit facility, maturing 2019	15,628	212,906
Principal payments on revolving credit facility, maturing 2019	(327,183)	(149,696)
Proceeds from term loan facility, maturing 2024	623,827	—
Principal payments on term loan facility, maturing 2024	(3,232)	—
Principal payments on term loan facility, maturing 2021	(243,250)	(52,250)
Proceeds from revolving credit facility, maturing 2022	69,787	—
Principal payments on revolving credit facility, maturing 2022	(42,400)	—
Principal payments on other long-term debt	(2,978)	—
Proceeds from other long-term debt	2,700	—
Payment of debt issuance costs	(12,927)	(661)
Acquisition related contingent consideration payment	(1,315)	—
Purchase of treasury stock	—	(11,429)
Other financing activities	182	416
Net cash provided by financing activities	68,036	1,892
Effect of exchange rate changes on cash and cash equivalents	3,147	(422)
Increase (decrease) in cash and cash equivalents	6,629	(17,824)
Cash and cash equivalents at beginning of period	45,582	58,380
Cash and cash equivalents at end of period	$ 52,211	$ 40,556
Cash paid during the period for:		
Interest	$ 20,594	$ 15,032
Income taxes	$ 16,619	$ 12,929

See accompanying notes to condensed consolidated financial statements.

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Ferro Corporation and Subsidiaries

Notes to Condensed Consolidated Financial Statements

1. Basis of Presentation

The accompanying unaudited condensed consolidated financial statements of Ferro Corporation (“Ferro,” “we,” “us” or “the Company”) have been prepared in accordance with accounting principles generally accepted in the United States of America (“U.S. GAAP”) for interim financial information, the instructions to Form 10-Q, and Article 10 of Regulation S-X. These statements reflect all normal and recurring adjustments which are, in the opinion of management, necessary to present fairly the financial position, results of operations and cash flows for the periods presented. The preparation of financial statements in conformity with U.S. GAAP requires us to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. These interim condensed consolidated financial statements should be read in conjunction with the consolidated financial statements and related notes included in our Annual Report on Form 10-K for the year ended December 31, 2016.

As discussed in Note 3, in the third quarter of 2016, we completed the disposition of the Europe-based Polymer Additives business and have classified the related operating results, net of income tax, as discontinued operations in the accompanying condensed consolidated statements of operations for the three and nine months ended September 30, 2016.

During the first quarter of 2017, the Company renamed the Pigments, Powders and Oxides segment “Color Solutions.”

Operating results for the three and nine months ended September 30, 2017, are not necessarily indicative of the results expected in subsequent quarters or for the full year ending December 31, 2017.

2. Recent Accounting Pronouncements

Recently Adopted Accounting Standards

In March 2016, the Financial Accounting Standards Board (“FASB”) issued Accounting Standards Update (“ASU”) 2016-09, Compensation – Stock Compensation: (Topic 718): Improvements to Employee Share-Based Payment Accounting. ASU 2016-09 is intended to simplify several aspects of the accounting for share-based payment transactions, including the income tax consequences, classification of awards as either equity or liabilities, and classification on the statement of cash flows. This new guidance requires all income tax effects of awards to be recognized as income tax expense or benefit in the income statement when the awards vest or are settled. Cash flow related to excess tax benefits will no longer be classified as a financing activity on the statement of cash flows but will

be presented with all other income tax cash flows as an operating activity. The new guidance also provides an accounting policy election to account for award forfeitures as they occur. Finally, the updated standard also allows the Company to repurchase more of an employee's shares for tax withholding purposes without triggering liability accounting and clarifies that all cash tax payments made on an employee's behalf for withheld shares should be presented as financing activities on the statement of cash flows.

The Company adopted ASU 2016-09, in the first quarter of 2017. As a result of the adoption, tax benefits of $0.3 million were recorded in income tax expense. The Company has elected to account for award forfeitures as they occur. In addition, the Company elected to apply the presentation requirements for cash flows related to excess tax benefits prospectively. The presentation requirements for cash flows related to employee taxes paid for withheld shares had no impact on the statements of cash flows since the Company has historically presented such payments as financing activities.

New Accounting Standards

In August 2017, the FASB issued ASU 2017-12, Derivatives and Hedging (Topic 815): Targeted Improvements to Accounting for Hedging Activities. ASU 2017-12 provides guidance to better align an entity's risk management activities and financial reporting for hedging relationships through changes to both the designation and measurement guidance for qualifying hedging relationships and the presentation of hedge results. This pronouncement is effective for fiscal years beginning after December 15, 2018, including interim

periods within those fiscal years. The Company is in the process of assessing the impact that the adoption of this ASU will have on our consolidated financial statements.

In May 2017, the FASB issued ASU 2017-09, Compensation – Stock Compensation: (Topic 718): Scope of Modification Accounting. ASU 2017-09 provides guidance about which changes to the terms or conditions of a share-based payment award require an entity to apply modification accounting in Topic 718. This pronouncement is effective for annual periods beginning after December 15, 2017, including interim periods within those annual periods. The Company is in the process of assessing the impact that the adoption of this ASU will have on our consolidated financial statements.

In March 2017, the FASB issued ASU 2017-07, Compensation – Retirement Benefits: (Topic 715): Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Costs. ASU 2017-07 requires that an employer report the service cost component in the same line item as other compensation costs arising from services rendered during the period. The other components of net benefit costs are to be presented in the income statement separately from the service costs component and outside a subtotal of income from operations. Employers will have to disclose the line(s) used to present the other components of net periodic benefit cost, if the components are not presented separately in the income statement. This pronouncement is effective for annual periods beginning after December 15, 2017, including interim periods within those annual periods. The Company is in the process of assessing the impact that the adoption of this ASU will have on our consolidated financial statements.

In January 2017, the FASB issued ASU 2017-04, Intangibles – Goodwill and Other: (Topic 350): Simplifying the Test for Goodwill Impairment. ASU 2017-04 is intended to simplify the subsequent measurement of goodwill by eliminating Step 2 from the current goodwill impairment test. This pronouncement is effective for the annual or any interim goodwill impairment tests conducted in fiscal years beginning after December 15, 2019. The Company is in the process of assessing the impact that the adoption of this ASU will have on our consolidated financial statements.

In January 2017, the FASB issued ASU 2017-01, Business Combinations: (Topic 805): Clarifying the Definition of a Business. ASU 2017-01 is intended to clarify the definition of a business with the objective of adding guidance to assist entities in evaluating whether transactions should be accounted for as acquisitions (or dispositions) of assets or businesses. This pronouncement is effective for annual periods beginning after December 15, 2017, including interim periods within those fiscal years. The Company is in the process of assessing the impact that the adoption of this ASU will have on our consolidated financial statements.

In October 2016, the FASB issued ASU 2016-16, Income Taxes: (Topic 740): Intra-Entity Transfers of Assets Other Than Inventory. ASU 2016-16 is intended to improve the accounting for the income tax consequences of intra-entity transfers of assets other than inventory and requires the recognition of the income tax consequences of an intra-entity transfer of an asset, other than inventory, when the transfer occurs. This pronouncement is effective for annual periods beginning after December 15, 2017, including interim reporting periods within those annual reporting periods. The Company is in the process of assessing the impact that the adoption of this ASU will have on our consolidated financial statements.

In August 2016, the FASB issued ASU 2016-15, Statement of Cash Flow: (Topic 230): Classification of Certain Cash Receipts and Cash Payments. ASU 2016-15 is intended to address eight specific cash flow issues with the objective of reducing the existing diversity in practice. This pronouncement is effective for fiscal years beginning after December 15, 2017, and interim periods within those fiscal years. The Company is in the process of assessing the impact the adoption of this ASU will have on our consolidated financial statements.

In February 2016, the FASB issued ASU 2016-02, Leases: (Topic 842). ASU 2016-02 requires companies to recognize a lease liability and asset on the balance sheet for operating leases with a term greater than one year. This pronouncement is effective for fiscal years beginning after December 15, 2018, and interim periods within those fiscal years. The Company is in the process of assessing the impact the adoption of this ASU will have on our consolidated financial statements.

In May 2014, the FASB issued ASU 2014-09, Revenue from Contracts with Customers: (Topic 606). This ASU replaces nearly all existing U.S. GAAP guidance on revenue recognition. The standard prescribes a five-step model for recognizing revenue, the application of which will require significant judgment. This standard is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2017. We will adopt the new standard effective January 1, 2018, using the modified

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retrospective method. We are nearing completion of our assessment and review of specific contracts and we do not currently believe ASU 2014-09 will have a material effect on our consolidated financial statements.

No other new accounting pronouncements issued had or are expected to have a material impact of the Company's consolidated financial statements.

3. Discontinued Operations

During 2014, we commenced a process to market for sale our Europe-based Polymer Additives business. We determined that the criteria to classify these assets as held-for-sale under ASC Topic 360, Property, Plant and Equipment, were met at that time. On August 22, 2016, we completed the disposition of the Europe-based Polymer Additives business to Plahoma Two AG, an affiliate of the LIVIA Group. The Company made a capital contribution of €12 million (approximately $13.6 million) to its subsidiaries that owned the assets prior to the close of the sale. In August 2016, prior to the sale, an impairment charge of $26.8 million was recorded under ASC Topic 360 Property, Plant and Equipment. The charge was calculated as the difference of the executed transaction price and the carrying value of the assets. The impairment charge included $1.1 million associated with the reclassification of foreign currency translation loss from Accumulated other comprehensive loss (Note 17). We have classified the Europe-based Polymer Additives operating results, net of income tax, as discontinued operations in the accompanying condensed consolidated statements of operations for the three and nine months ended September 30, 2016.

The table below summarizes results for the Europe-based Polymer Additives assets, for the three and nine months ended September 30, 2016, which are reflected in our condensed consolidated statements of operations as discontinued operations. Interest expense has been allocated to the discontinued operations based on the ratio of net assets of each business to consolidated net assets excluding debt.

	Three Months Ended September 30, 2016	Nine Months Ended September 30, 2016
	(Dollars in thousands)	
Net sales	$ 3,831	$ 18,481
Cost of sales	5,654	28,473

Gross loss	(1,823)	(9,992)
Selling, general and administrative expenses	588	3,094
Restructuring and impairment charges	26,843	50,902
Interest expense	49	325
Miscellaneous income	(4)	(392)
Loss from discontinued operations before income taxes	(29,299)	(63,921)
Income tax (benefit) expense	(77)	543
Loss from discontinued operations, net of income taxes	$ (29,222)	$ (64,464)

4. Acquisitions

Dip Tech Ltd.

On August 2, 2017, the Company acquired 100% of the equity interests of Dip Tech Ltd. (“Dip-Tech”), a leading provider of digital printing solutions for glass coatings, for $77.3 million, excluding customary adjustments. Dip-Tech is headquartered in Kfar Saba, Israel. The fair value of the consideration transferred was cash paid at closing of $60.4 million and contingent consideration of $16.9 million. The Company incurred acquisition costs for the three and nine months ended September 30, 2017, of $2.1 million, which is included in Selling, general and administrative expenses in our condensed consolidated statements of operations. The acquired business contributed net sales of $6.4 million for the three and nine months ended September 30, 2017, and net loss attributable to Ferro Corporation of $1.1 million for the three and nine months ended September 30, 2017. The net loss attributable to Ferro Corporation was driven by the amortization of inventory step up costs of $0.8 million and acquired intangible asset amortization

costs of $0.6 million for the three and nine months ended September 30, 2017. Dip-Tech incurred research and development costs of $1.1 million for the three and nine months ended September 30, 2017.

The information included herein has been prepared based on the preliminary allocation of the purchase price using estimates of the fair value and useful lives of the assets acquired and liabilities assumed, which were determined with the assistance of third parties who performed independent valuations using discounted cash flow and comparative market approaches, and estimates made by management. As of September 30, 2017, the purchase price allocation is subject to further adjustment until all information is fully evaluated by the Company. The Company preliminarily recorded $46.3 million of amortizable intangible assets, $38.2 million of goodwill, $11.5 million of a deferred tax liability, $3.2 million of personal and real property and $1.1 million of net working capital on the condensed consolidated balance sheet.

Gardenia Quimica S.A.

On August 3, 2017, the Company acquired the majority interest in Gardenia Quimica S.A. (“Gardenia”) for $3.0 million. The Company previously owned 46% of Gardenia and recorded it as an equity method investment. In connection with this transaction, the Company now owns 83.5% and fully consolidates Gardenia. Due to a change of control that occurred, the Company recorded a gain on purchase of $2.6 million related to the difference between the Company’s carrying value and fair value of the previously held equity method investment.

Smalti per Ceramiche, s.r.l

On April 24, 2017, the Company acquired 100% of the equity interests of S.P.C. Group s.r.l., and 100% of the equity interests of Smalti per Ceramiche, s.r.l. (“SPC”), for €17.9 million (approximately $19.4 million), including the assumption of debt of €5.7 million (approximately $6.2 million). SPC is a high-end tile coatings manufacturer based in Italy focused on fast-growing specialty products. SPC’s products, strong technology, design capabilities, and customer-centric business model are complementary to our Performance Coatings segment, and position us for continued growth in the high-end tile markets. The Company incurred acquisition costs for the three and nine months ended September 30, 2017, of $0.1 million and $1.3 million, respectively, which is included in Selling, general and administrative expenses in our condensed consolidated statements of operations.

The information included herein has been prepared based on the preliminary allocation of the purchase price using estimates of the fair value and useful lives of the assets acquired and liabilities assumed, which were determined with the assistance of third parties who performed independent valuations using discounted cash flow and comparative market approaches, and estimates made by management. As of September 30, 2017, the purchase price allocation is subject to further adjustment until all information is fully evaluated by the Company. The Company preliminarily recorded $6.7 million of personal and real property, $5.9 million of amortizable intangible assets, $5.7 million of net working capital, $3.3 million of goodwill and $2.2 million of a deferred tax liability on the condensed consolidated balance sheet.

Cappelle Pigments NV

On December 9, 2016, the Company acquired 100% of the equity interests of Belgium-based Cappelle Pigments NV (“Cappelle”), a leader in specialty, high-performance inorganic and organic pigments used in coatings, inks and plastics, for €49.8 million (approximately $52.7 million), including the assumption of debt of €9.8 million. The acquired business contributed net sales of $17.8 million and $55.8 million for the three and nine months ended September 30, 2017, respectively, and net income attributable to Ferro Corporation of $1.2 million and $2.3 million for the three and nine months ended September 30, 2017, respectively.

The information included herein has been prepared based on the preliminary allocation of the purchase price using estimates of the fair value and useful lives of the assets acquired and liabilities assumed, which were determined with the assistance of third parties who performed independent valuations using discounted cash flow and comparative market approaches, and estimates made by management. As of September 30, 2017, the purchase price allocation is subject to further adjustment until all information is fully evaluated by the Company. The Company preliminarily recorded $28.6 million of net working capital, $24.1 million of personal and real property, $3.5 million of goodwill and $3.5 million of a deferred tax liability on the condensed consolidated balance sheet.

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Electro-Science Laboratories, Inc.

On October 31, 2016, the Company acquired 100% of the equity interests of Electro-Science Laboratories, Inc. (“ESL”), a leader in electronic packaging materials, for $78.5 million. ESL is headquartered in King of Prussia, Pennsylvania. The acquisition of ESL enhances the Company’s position in the electronic packaging materials space with complementary products, and provides a platform for growth in our Performance Colors and Glass segment. ESL produces thick-film pastes and ceramics tape systems that enable important functionality in a wide variety of industrial and consumer applications. The acquired business contributed net sales of $10.5 million and $31.8 million for the three and nine months ended September 30, 2017, respectively, and net income attributable to Ferro Corporation of $1.2 million and $3.9 million for the three and nine months ended September 30, 2017, respectively. The Company incurred acquisition costs for the nine months ended September 30, 2017, of $0.3 million, which is included in Selling, general and administrative expenses in our condensed consolidated statements of operations.

The information included herein has been prepared based on the preliminary allocation of the purchase price using estimates of the fair value and useful lives of the assets acquired and liabilities assumed, which were determined with the assistance of third parties who performed independent valuations using discounted cash flow and comparative market approaches, and estimates made by management. As of September 30, 2017, the purchase price allocation is subject to further adjustment until all information is fully evaluated by the Company. The Company preliminarily recorded $39.7 million of intangible assets, $19.0 million of goodwill, $18.9 million of net working capital, $2.9 million of personal and real property and $2.0 million of a deferred tax liability on the condensed consolidated balance sheet.

Delta Performance Products, LLC

On August 1, 2016, the Company acquired certain assets of Delta Performance Products, LLC, for a cash purchase price of $4.4 million. The information included herein has been prepared based on the allocation of the purchase price using the fair value and useful lives of the assets acquired and liabilities assumed, which were determined with the assistance of third parties who performed independent valuations using discounted cash flow and comparative market approaches, and estimates made by management. The Company recorded $3.2 million of amortizable intangible assets, $0.6 million of net working capital, $0.4 million of goodwill and $0.2 million of a deferred tax asset on the condensed consolidated balance sheet.

Pinturas Benicarló, S.L.

On June 1, 2016, the Company acquired 100% of the equity interests of privately held Pinturas Benicarló, S.L. (“Pinturas”) for €16.5 million in cash (approximately $18.4 million). The information included herein has been prepared based on the allocation of the purchase price using the fair value and useful lives of the assets acquired and liabilities assumed, which were determined with the assistance of third parties who performed independent valuations using discounted cash flow and comparative market approaches, and estimates made by management. The Company recorded $8.8 million of amortizable intangible assets, $7.7 million of net working capital, $3.9 million of

goodwill, $2.7 million of a deferred tax liability, and $0.7 million of personal and real property on the condensed consolidated balance sheet.

Ferer Dis Ticaret Ve Kimyasallar Anonim Sirketi A.S.

On January 5, 2016, the Company completed the purchase of 100% of the equity interests of privately held Istanbul-based Ferer Dis Ticaret Ve Kimyasallar Anonim Sirketi A.S. (“Ferer”) for approximately $9.4 million. The information included herein has been prepared based on the allocation of the purchase price using the fair value and useful lives of the assets acquired and liabilities assumed, which were determined with the assistance of third parties who performed independent valuations using discounted cash flow and comparative market approaches, and estimates made by management. The Company recorded $4.5 million of goodwill, $3.3 million of amortizable intangible assets, $1.7 million of net working capital, $0.7 million of a deferred tax liability and $0.6 million of personal and real property on the condensed consolidated balance sheet.

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5. Inventories

	September 30, 2017	December 31, 2016
	(Dollars in thousands)	
Raw materials	$ 92,387	$ 72,943
Work in process	48,131	38,859
Finished goods	146,330	118,045
Total inventories	$ 286,848	$ 229,847

In the production of some of our products, we use precious metals, which we obtain from financial institutions under consignment agreements with terms of one year or less. The financial institutions retain ownership of the precious metals and charge us fees based on the amounts we consign. These fees were $0.3 million and $0.2 million for the three months ended September 30, 2017 and 2016, respectively, and were $0.8 million and $0.6 million for the nine months ended September 30, 2017 and 2016, respectively. We had on-hand precious metals owned by participants in our precious metals consignment program of $36.3 million at September 30, 2017, and $28.7 million at December 31, 2016, measured at fair value based on market prices for identical assets and net of credits.

6. Property, Plant and Equipment

Property, plant and equipment is reported net of accumulated depreciation of $493.6 million at September 30, 2017, and $439.4 million at December 31, 2016. Unpaid capital expenditure liabilities, which are non-cash investing activities, were $3.2 million at September 30, 2017, and $2.4 million at September 30, 2016.

We recorded a $3.9 million gain on sale of a closed site in Australia which was recorded in Miscellaneous (income) expense, net in our condensed consolidated statements of operations for the nine months ended September 30, 2016.

As discussed in Note 3, our Europe-based Polymer Additives assets had been classified as held-for-sale under ASC Topic 360, Property, Plant and Equipment from 2014 until the ultimate sale of the business in August 2016. As such, at each historical reporting date, these assets were tested for impairment comparing the fair value of the assets, less costs to sell, to the carrying value. The fair value was determined using both the market approach and income approach, utilizing Level 3 measurements within the fair value hierarchy, which indicated the fair value, less costs to sell, was less than the carrying value during the first quarter of 2016, resulting in an impairment charge of $24.1 million, representing the remaining carrying value of long-lived assets at that reporting date. During the third quarter of 2016, prior to the sale, an impairment charge of $26.8 million, representing net working capital, was recorded under

ASC Topic 360 Property, Plant and Equipment. The impairment charges of $26.8 million and $50.9 million are included in Loss from discontinued operations, net of income taxes in our condensed consolidated statements of operations for the three and nine months ended September 30, 2016, respectively.

Description	Fair Value Measurements Using Level 1	Level 2	Level 3	Total	Total (Losses)
	(Dollars in thousands)				
December 31, 2016					
Assets held for sale	$ —	$ —	$ —	$ —	$ (50,902)

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7. Goodwill and Other Intangible Assets

Details and activity in the Company's goodwill by segment follow:

	Performance Coatings		Color Solutions	Performance Colors and Glass		Total
	(Dollars in thousands)					
Goodwill, net at December 31, 2016	$ 28,090		$ 40,421	$ 79,785		$ 148,296
Acquisitions	4,145	2,4	—	37,371	1,3	41,516
Foreign currency adjustments	3,062		1,582	3,363		8,007
Goodwill, net at September 30, 2017	$ 35,297		$ 42,003	$ 120,519		$ 197,819

(1) During the first quarter of 2017, the Company recorded a purchase price adjustment within the measurement period for goodwill related to the ESL acquisition.
(2) During the second quarter of 2017, the Company recorded goodwill related to the SPC acquisition. Refer to Note 4 for additional details.
(3) During the third quarter of 2017, the Company recorded goodwill related to the Dip-Tech acquisition. Refer to Note 4 for additional details.
(4) During the third quarter of 2017, the Company recorded goodwill related to the Gardenia acquisition. Refer to Note 4 for additional details.

	September 30, 2017	December 31, 2016
	(Dollars in thousands)	
Goodwill, gross	$ 256,286	$ 206,763
Accumulated impairment losses	(58,467)	(58,467)
Goodwill, net	$ 197,819	$ 148,296

Goodwill is tested for impairment at the reporting unit level on an annual basis in the fourth quarter and between annual tests if an event occurs, or circumstances change, that would more likely than not reduce the fair value of a reporting unit below its carrying value. As of September 30, 2017, the Company is not aware of any events or circumstances that occurred which would require a goodwill impairment test.

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Amortizable intangible assets consisted of the following:

	September 30, 2017	December 31, 2016
	(Dollars in thousands)	
Gross amortizable intangible assets:		
Patents	$ 5,334	$ 5,147
Land rights	4,876	4,746
Technology/know-how and other	129,003	84,837
Customer relationships	92,678	80,153
Total gross amortizable intangible assets	231,891	174,883
Accumulated amortization:		
Patents	(5,228)	(4,981)
Land rights	(2,825)	(2,698)
Technology/know-how and other	(40,723)	(34,775)
Customer relationships	(9,204)	(5,311)
Total accumulated amortization	(57,980)	(47,765)
Amortizable intangible assets, net	$ 173,911	$ 127,118

Indefinite-lived intangible assets consisted of the following:

	September 30, 2017	December 31, 2016
	(Dollars in thousands)	
Indefinite-lived intangibles assets:		
Trade names and trademarks	$ 17,074	$ 10,732

8. Debt

Loans payable and current portion of long-term debt consisted of the following:

	September 30, 2017	December 31, 2016
	(Dollars in thousands)	
Loans payable	$ 10,409	$ 11,452
Current portion of long-term debt	8,068	5,858
Loans payable and current portion of long-term debt	$ 18,477	$ 17,310

Long-term debt consisted of the following:

	September 30, 2017	December 31, 2016
	(Dollars in thousands)	
Term loan facility, net of unamortized issuance costs, maturing 2021(1)	$ —	$ 239,530
Term loan facility, net of unamortized issuance costs, maturing 2024(2)	641,842	—
Revolving credit facility, maturing 2019	—	311,555
Revolving credit facility, maturing 2022	27,387	—
Capital lease obligations	5,292	3,720
Other notes	7,011	8,228
Total long-term debt	681,532	563,033
Current portion of long-term debt	(8,068)	(5,858)
Long-term debt, less current portion	$ 673,464	$ 557,175

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(1) The carrying value of the term loan facility, maturing 2021, was net of unamortized debt issuance costs of $3.7 million.

(2) The carrying value of the term loan facility, maturing 2024, is net of unamortized debt issuance costs of $7.7 million.

2014 Credit Facility

In 2014, the Company entered into a credit facility that was amended on January 25, 2016, and August 29, 2016, resulting in a $400 million secured revolving line of credit with a term of five years and a $300 million secured term loan facility with a term of seven years from the original issuance date (the "Previous Credit Facility") with a group of lenders that was replaced on February 14, 2017, by the Credit Facility (as defined below). For discussion of the Company's Previous Credit Facility, refer to Note 8 in the Company's Annual Report on Form 10-K for the year ended December 31, 2016.

In conjunction with the refinancing of the Previous Credit Facility, we recorded a charge of $3.9 million in connection with the write-off of unamortized issuance costs, which is recorded within Loss on extinguishment of debt in our condensed consolidated statement of operations for the nine months ended September 30, 2017.

2017 Credit Facility

On February 14, 2017, the Company entered into a new credit facility (the "Credit Facility") with a group of lenders to refinance its then outstanding credit facility debt and to provide liquidity for ongoing working capital requirements and general corporate purposes.

The Credit Facility consists of a $400 million secured revolving line of credit with a term of five years, a $357.5 million secured term loan facility with a term of seven years and a €250 million secured euro term loan facility with a term of seven years. The term loans are payable in equal quarterly installments in an amount equal to 0.25% of the original principal amount of the term loans, with the remaining balance due on the maturity date thereof. In addition, the Company is required, on an annual basis, to make a prepayment of term loans until they are fully paid and then to the revolving loans in an amount equal to a portion of the Company's excess cash flow, as calculated pursuant to the Credit Facility.

Subject to the satisfaction of certain conditions, the Company can request additional commitments under the revolving line of credit or term loans in the aggregate principal amount of up to $250 million to the extent that existing or new lenders agree to provide such additional commitments and/or term loans and, certain additional debt subject to satisfaction of certain covenant levels.

Certain of the Company's U.S. subsidiaries have guaranteed the Company's obligations under the Credit Facility and such obligations are secured by (a) substantially all of the personal property of the Company and the U.S. subsidiary guarantors and (b) a pledge of 100% of the stock of certain of the Company's U.S. subsidiaries and 65% of the stock of certain of the Company's direct foreign subsidiaries.

Interest Rate – Term Loans: The interest rates applicable to the U.S. term loans will be, at the Company's option, equal to either a base rate or a LIBOR rate plus, in both cases, an applicable margin. The interest rates applicable to the Euro term loans will be a Euro Interbank Offered Rate ("EURIBOR") rate plus an applicable margin.

- The base rate for U.S. term loans will be the highest of (i) the federal funds rate plus 0.50%, (ii) syndication agent's prime rate or (iii) the daily LIBOR rate plus 1.00%. The applicable margin for base rate loans is 1.50%.
- The LIBOR rate for U.S. term loans shall not be less than 0.75% and the applicable margin for LIBOR rate U.S. term loans is 2.50%.
- The EURIBOR rate for Euro term loans shall not be less than 0% and the applicable margin for EURIBOR rate loans is 2.75%.
- For LIBOR rate term loans and EURIBOR rate term loans, the Company may choose to set the duration on individual borrowings for periods of one, two, three or six months, with the interest rate based on the applicable LIBOR rate or EURIBOR rate, as applicable, for the corresponding duration.

At September 30, 2017, the Company had borrowed $355.7 million under the secured term loan facility at an interest rate of 3.73% and €248.8 million under the secured euro term loan facility at an interest rate of 2.75%. At September 30, 2017, there were no additional borrowings available under the term loan facilities. We entered into interest rate swap agreements in the second quarter of 2017. These

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swaps converted $150 million and €90 million of our term loans from variable interest rates to fixed interest rates. At September 30, 2017, the effective interest rate for the term loan facilities after adjusting for the interest rate swap was 4.27% for the secured term loan facility and 3.00% for the euro term loan facility.

Interest Rate – Revolving Credit Line: The interest rates applicable to loans under the revolving credit line will be, at the Company's option, equal to either a base rate or a LIBOR rate plus, in both cases, an applicable variable margin. The variable margin will be based on the ratio of (a) the Company's total consolidated net debt outstanding at such time to (b) the Company's consolidated EBITDA computed for the period of four consecutive fiscal quarters most recently ended.

- The base rate for revolving loans will be the highest of (i) the federal funds rate plus 0.50%, (ii) syndication agent's prime rate or (iii) the daily LIBOR rate plus 1.00%. The applicable margin for base rate loans will vary between 0.75% and 1.75%.
- The LIBOR rate for revolving loans shall not be less than 0% and the applicable margin for LIBOR rate revolving loans will vary between 1.75% and 2.75%.
- For LIBOR rate revolving loans, the Company may choose to set the duration on individual borrowings for periods of one, two, three or six months, with the interest rate based on the applicable LIBOR rate for the corresponding duration.

At September 30, 2017, there were $27.4 million borrowings under the revolving credit line at an interest rate of 3.48%. After reductions for outstanding letters of credit secured by these facilities, we had $367.9 million of additional borrowings available under the revolving credit facilities at September 30, 2017.

The Credit Facility contains customary restrictive covenants including, but not limited to, limitations on use of loan proceeds, limitations on the Company's ability to pay dividends and repurchase stock, limitations on acquisitions and dispositions, and limitations on certain types of investments. The Credit Facility also contains standard provisions relating to conditions of borrowing and customary events of default, including the non-payment of obligations by the Company and the bankruptcy of the Company.

Specific to the revolving credit facility, the Company is subject to a financial covenant regarding the Company's maximum leverage ratio. If an event of default occurs, all amounts outstanding under the Credit Facility may be accelerated and become immediately due and payable. At September 30, 2017, we were in compliance with the covenants of the Credit Facility.

Other Financing Arrangements

We maintain other lines of credit to provide global flexibility for our short-term liquidity requirements. These facilities are uncommitted lines for our international operations and totaled $61.8 million and $7.3 million at September 30, 2017, and December 31, 2016, respectively. The unused portions of these lines provided additional liquidity of $43.5 million at September 30, 2017, and $6.7 million at December 31, 2016.

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9. Financial Instruments

The following financial instrument assets (liabilities) are presented at their respective carrying amount, fair value and classification within the fair value hierarchy:

	September 30, 2017				
	Carrying	Fair Value			
	Amount	Total	Level 1	Level 2	Level 3
	(Dollars in thousands)				
Cash and cash equivalents	$ 52,211	$ 52,211	$ 52,211	$ —	$ —
Loans payable	(10,409)	(10,409)	—	(10,409)	—
Term loan facility, maturing 2024(1)	(641,842)	(644,916)	—	(644,916)	—
Revolving credit facility, maturing 2022	(27,387)	(27,835)	—	(27,835)	—
Other long-term notes payable	(7,011)	(3,781)	—	(3,781)	—
Interest rate swaps - asset	298	298	—	298	—
Interest rate swaps - liability	(132)	(132)	—	(132)	—
Foreign currency forward contracts, net	52	52	—	52	—

	December 31, 2016				
	Carrying	Fair Value			
	Amount	Total	Level 1	Level 2	Level 3
	(Dollars in thousands)				
Cash and cash equivalents	$ 45,582	$ 45,582	$ 45,582	$ —	$ —
Loans payable	(11,452)	(11,452)	—	(11,452)	—
Term loan facility, maturing 2021(1)	(239,530)	(252,052)	—	(252,052)	—
Revolving credit facility, maturing 2019	(311,555)	(318,389)	—	(318,389)	—
Other long-term notes payable	(8,228)	(7,315)	—	(7,315)	—
Foreign currency forward contracts, net	350	350	—	350	—

(1) The carrying values of the term loan facilities are net of unamortized debt issuance costs of $7.7 million and $3.7 million for the period ended September 30, 2017, and December 31, 2016, respectively.

The fair values of cash and cash equivalents are based on the fair values of identical assets. The fair values of loans payable are based on the present value of expected future cash flows and approximate their carrying amounts due to the short periods to maturity. At September 30, 2017, the fair value of the term loan facility is based on market price information and is measured using the last available bid price of the instrument on a secondary market and at December 31, 2016, is based on the present value of expected future cash flows and interest rates that would be currently available to the Company for issuance of similar types of debt instruments with similar terms and remaining maturities adjusted for the Company's performance risk. The revolving credit facility and other long-term notes payable are based on the present value of expected future cash flows and interest rates that would be currently available to the Company for issuance of similar types of debt instruments with similar terms and remaining maturities adjusted for the Company's performance risk. The fair values of our interest rate swaps are determined based on inputs that are readily available in public markets or can be derived from information available in publicly quoted markets. The fair values of the foreign currency forward contracts are based on market prices for comparable contracts.

Derivative Instruments

The Company may use derivative instruments to partially offset its business exposure to foreign currency and interest rate risk on expected future cash flows, on net investment in certain foreign subsidiaries and on certain existing assets and liabilities. However, the Company may choose not to hedge in countries where it is not economically feasible to enter into hedging arrangements or where hedging inefficiencies exist, such as timing of transactions.

Derivatives Designated as Hedging Instruments

Interest rate swaps. To reduce our exposure to interest rate changes on our variable-rate debt, we entered into interest rate swap agreements in the second quarter of 2017. These swaps converted $150 million and €90 million of our term loans from variable interest

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rates to fixed interest rates. These swaps qualify and were designated as cash flow hedges. The effective portions of cash flow hedges are recorded in accumulated other comprehensive income ("AOCI") and are reclassified into earnings in the same period the underlying hedged items impact earnings. The ineffective portions of cash flow hedges is recognized immediately into earnings. The Company did not have any ineffectiveness related to the interest rate swaps during the three and nine months ended September 30, 2017.

The amount of gain recognized in AOCI and the amount of gain reclassified into earnings for the three months ended September 30, 2017 and 2016, respectively, follow:

	Amount of Gain Recognized in AOCI - Effective Portion		Amount of Gain Reclassified from AOCI into Income - Effective Portion	
	2017	2016	2017	2016
	(Dollars in thousands)			
Interest rate swap	$ 166	$ —	$ —	$ —

The amount of gain recognized in AOCI and the amount of gain reclassified into earnings for the nine months ended September 30, 2017 and 2016, respectively, follow:

	Amount of Gain Recognized in AOCI - Effective Portion		Amount of Gain Reclassified from AOCI into Income - Effective Portion	
	2017	2016	2017	2016
	(Dollars in thousands)			
Interest rate swap	$ 166	$ —	$ —	$ —

Net investment hedge. To help protect the value of the Company's net investment in European operations against adverse changes in exchange rates, the Company uses non-derivative financial instruments, such as its foreign currency denominated debt, as economic hedges of its net investments in certain foreign subsidiaries. Net investment

hedges that use foreign currency denominated debt to hedge net investments are not impacted by ASC Topic 820, Fair Value Measurements, as the debt used as a hedging instrument is marked to a value with respect to changes in spot foreign currency exchange rates and not with respect to other factors that may impact fair value. The effective portions of net investment hedges are recorded in AOCI as a part of the cumulative translation adjustment. The ineffective portions of net investment hedges are recognized immediately into earnings.

Effective May 1, 2017, the Company designated a portion of its euro denominated debt as a net investment hedge for accounting purposes. The fair value of the net investment hedge is €79.4 million at September 30, 2017. The Company did not have any ineffectiveness related to net investment hedges during the three and nine months ended September 30, 2017.

The amount of loss recognized in AOCI and the amount of loss reclassified into earnings for the three months ended September 30, 2017 and 2016, respectively, follow:

	Amount of (Loss) Recognized in AOCI - Effective Portion		Amount of Loss Reclassified from AOCI into Income - Effective Portion	
	2017	2016	2017	2016
	(Dollars in thousands)			
Net investment hedge	$ (8,020)	$ —	$ —	$ —

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The amount of loss recognized in AOCI and the amount of loss reclassified into earnings for the nine months ended September 30, 2017 and 2016, respectively, follow:

	Amount of (Loss) Recognized in AOCI - Effective Portion		Amount of Loss Reclassified from AOCI into Income - Effective Portion	
	2017	2016	2017	2016
	(Dollars in thousands)			
Net investment hedge	$ (14,848)	$ —	$ —	$ —

Derivatives Not Designated as Hedging Instruments

Foreign currency forward contracts. We manage foreign currency risks principally by entering into forward contracts to mitigate the impact of currency fluctuations on transactions. These forward contracts are not formally designated as hedges. Gains and losses on these foreign currency forward contracts are netted with gains and losses from currency fluctuations on transactions arising from international trade and reported as Foreign currency losses, net in the condensed consolidated statements of operations. We recognized net losses of $1.4 million and $4.1 million in the three and nine months ended September 30, 2017, respectively, and net losses of $1.2 million and $5.8 million in the three and nine months ended September 30, 2016, respectively, arising from the change in fair value of our financial instruments, which offset the related net gains and losses on international trade transactions. The notional amount of foreign currency forward contracts was $212.1 million at September 30, 2017, and $338.2 million at December 31, 2016.

The following table presents the effect on our condensed consolidated statements of operations for the three and nine months ended September 30, 2017 and 2016, respectively, of our foreign currency forward contracts:

	Amount of (Loss) Recognized in Earnings Three Months Ended September 30,		
	2017	2016	Location of (Loss) in Earnings

	(Dollars in thousands)		
Foreign currency forward contracts	$ (1,438)	$ (1,163)	Foreign currency losses, net

	Amount of (Loss) Recognized in Earnings		
	Nine Months Ended September 30,		
	2017	2016	Location of (Loss) in Earnings
	(Dollars in thousands)		
Foreign currency forward contracts	$ (4,149)	$ (5,848)	Foreign currency losses, net

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Location and Fair Value Amount of Derivative Instruments

The following table presents the fair values on our condensed consolidated balance sheets of derivative instruments:

	September 30, 2017	December 31, 2016	Balance Sheet Location
	(Dollars in thousands)		
Asset derivatives:			
Interest rate swaps	$ 298	$ —	Other assets
Foreign currency forward contracts	620	1,854	Other current assets
Liability derivatives:			
Interest rate swaps	(132)	—	Accrued expenses and other current liabilities
Foreign currency forward contracts	$ (568)	$ (1,504)	Accrued expenses and other current liabilities

10. Income Taxes

Income tax expense for the nine months ended September 30, 2017, was $23.2 million, or 25.9% of pre-tax income, compared with $22.7 million, or 25.8% of pre-tax income in the prior-year same period. The tax expense in the first nine months of 2017 and 2016, as a percentage of pre-tax income, is lower than the U.S. federal statutory income tax rate of 35% primarily as a result of foreign statutory rate differences.

11. Contingent Liabilities

We have recorded environmental liabilities of $6.6 million at September 30, 2017, and $7.2 million at December 31, 2016, for costs associated with the remediation of certain of our properties that have been contaminated. The liability at September 30, 2017, and December 31, 2016, was primarily related to a non-operating facility in Brazil, and for retained environmental obligations related to a site in the United States that was part of the sale of our North American and Asian metal powders product lines in 2013. The costs include legal and consulting fees, site studies, the design and implementation of remediation plans, post-remediation monitoring and related activities. The ultimate liability could be affected by numerous uncertainties, including the extent of contamination found, the required period of monitoring and the ultimate cost of required remediation.

There are various lawsuits and claims pending against the Company and its consolidated subsidiaries. We do not currently expect the resolution of these lawsuits and claims to materially affect the consolidated financial position, results of operations, or cash flows of the Company.

12. Retirement Benefits

Net periodic benefit (credit) cost of our U.S. pension plans (including our unfunded nonqualified plans), non-U.S. pension plans, and postretirement health care and life insurance benefit plans for the three months ended September 30, 2017 and 2016, respectively, follow:

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	U.S. Pension Plans		Non-U.S. Pension Plans		Other Benefit Plans	
	Three Months Ended September 30,					
	2017	2016	2017	2016	2017	2016
	(Dollars in thousands)					
Service cost	$ 4	$ 4	$ 432	$ 346	$ —	$ —
Interest cost	3,666	3,937	621	914	211	236
Expected return on plan assets	(4,740)	(4,935)	(227)	(493)	—	—
Amortization of prior service cost	2	3	11	12	—	—
Net periodic benefit (credit) cost	$ (1,068)	$ (991)	$ 837	$ 779	$ 211	$ 236

Net periodic benefit (credit) cost for the nine months ended September 30, 2017 and 2016, respectively, follow:

	U.S. Pension Plans		Non-U.S. Pension Plans		Other Benefit Plans	
	Nine Months Ended September 30,					
	2017	2016	2017	2016	2017	2016
	(Dollars in thousands)					
Service cost	$ 13	$ 13	$ 1,259	$ 1,081	$ —	$ —
Interest cost	10,997	11,812	1,801	2,808	632	708
Expected return on plan assets	(14,218)	(14,805)	(659)	(1,538)	—	—
Amortization of prior service cost	5	8	33	34	—	—
Net periodic benefit (credit) cost	$ (3,203)	$ (2,972)	$ 2,434	$ 2,385	$ 632	$ 708

13. Stock-Based Compensation

On May 22, 2013, our shareholders approved the 2013 Omnibus Incentive Plan (the "Plan"), which was adopted by the Board of Directors on February 22, 2013, subject to shareholder approval. The Plan's purpose is to promote the Company's long-term financial interests and growth by attracting, retaining and motivating high quality key employees and directors, motivating such employees and directors to achieve the Company's short- and long-range performance goals and objectives and thereby align their interests with those of the Company's shareholders. The Plan reserves 4,400,000 shares of common stock to be issued for grants of several different types of long-term incentives including stock options, stock appreciation rights, restricted shares, performance shares, other common stock-based awards, and dividend equivalent rights.

In the first nine months of 2017, our Board of Directors granted 0.2 million stock options, 0.2 million performance share units and 0.2 million restricted stock units under the Plan.

We estimate the fair value of each stock option on the date of grant using the Black-Scholes option pricing model. The following table details the weighted-average grant-date fair values and the assumptions used for estimating the fair values of stock option grants made during the nine months ended September 30, 2017:

	Stock Options
Weighted-average grant-date fair value	$ 7.29
Expected life, in years	6.0
Risk-free interest rate	1.9% - 2.3 %
Expected volatility	48.0% -51.5 %

The weighted average grant date fair value of our performance share units granted in the nine months ended September 30, 2017, was $14.89. We measure the fair value of performance share units based on the closing market price of our common stock on the date of the grant. These shares are evaluated each reporting period for respective attainment rates against the performance criteria.

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We measure the fair value of restricted share units based on the closing market price of our common stock on the date of the grant. The restricted share units vest over three years. The weighted-average grant date fair value per unit for grants made during the nine months ended September 30, 2017, was $14.73.

We recognized stock-based compensation expense of $6.9 million for the nine months ended September 30, 2017, and $5.3 million for the nine months ended September 30, 2016. At September 30, 2017, unearned compensation cost related to the unvested portion of all stock-based compensation awards was approximately $9.6 million and is expected to be recognized over the remaining vesting period of the respective grants, through the first quarter of 2020.

14. Restructuring and Cost Reduction Programs

Total restructuring and impairment charges were $1.5 million and $7.7 million for the three and nine months ended September 30, 2017, respectively, and $0.0 million and $1.7 million for the three and nine months ended September 30, 2016, respectively. Included in the charges for the nine months ended September 30, 2017, was an impairment charge of $1.5 million related to an equity method investment. The remainder of the charges relate to our restructuring and cost reduction programs, which are primarily related to costs associated with integration of our recent acquisitions, and are further summarized below.

	Employee Severance	Other Costs	Asset Impairment	Total
	(Dollars in thousands)			
Balances at December 31, 2016	$ 239	$ 1,489	$ —	$ 1,728
Restructuring charges	2,455	2,583	1,176	6,214
Cash payments	(2,555)	(1,529)	—	(4,084)
Non-cash items	64	(1,282)	(1,176)	(2,394)
Balances at September 30, 2017	$ 203	$ 1,261	$ —	$ 1,464

We expect to make cash payments to settle the remaining liability for employee severance benefits and other costs primarily over the next twelve months where applicable, except where legal or contractual obligations would require it to extend beyond that period.

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15. Earnings Per Share

Details of the calculation of basic and diluted earnings per share are shown below:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
	(Dollars in thousands, except per share amounts)			
Basic earnings per share computation:				
Net income (loss) attributable to Ferro Corporation common shareholders	$ 22,817	$ (8,884)	$ 65,740	$ 119
Adjustment for loss from discontinued operations	—	29,222	—	64,464
Total	$ 22,817	$ 20,338	$ 65,740	$ 64,583
Weighted-average common shares outstanding	83,735	83,268	83,646	83,263
Basic earnings per share from continuing operations attributable to Ferro Corporation common shareholders	$ 0.27	$ 0.24	$ 0.79	$ 0.78
Diluted earnings per share computation:				
Net income (loss) attributable to Ferro Corporation common shareholders	$ 22,817	$ (8,884)	$ 65,740	$ 119
Adjustment for loss from discontinued operations	—	29,222	—	64,464
Total	$ 22,817	$ 20,338	$ 65,740	$ 64,583
Weighted-average common shares outstanding	83,735	83,268	83,646	83,263
Assumed exercise of stock options	808	544	671	499
Assumed exercise of deferred stock unit conditions	—	80	—	—
Assumed satisfaction of restricted stock unit conditions	424	473	383	419
Assumed satisfaction of performance stock unit conditions	483	111	474	58
Weighted-average diluted shares outstanding	85,450	84,476	85,174	84,239
Diluted earnings per share from continuing operations attributable to Ferro Corporation common shareholders	$ 0.27	$ 0.24	$ 0.77	$ 0.77

The number of anti-dilutive or unearned shares was 1.6 million and 1.8 million for the three and nine months ended September 30, 2017, respectively, and 2.3 million and 2.5 million for the three and nine months ended September 30, 2016, respectively. These shares were excluded from the calculation of diluted earnings per share due to their anti-dilutive impact.

16. Share Repurchase Program

The Company’s Board of Directors approved share repurchase programs, under which the Company is authorized to repurchase up to $100 million of the Company’s outstanding shares of Common Stock on the open market, including through a Rule 10b5-1 plan, or in privately negotiated transactions.

The timing and amount of shares to be repurchased will be determined by the Company, based on evaluation of market and business conditions, share price, and other factors. The share repurchase programs do not obligate the Company to repurchase any dollar amount or number of common shares, and may be suspended or discontinued at any time.

For the nine months ended September 30, 2016, the Company repurchased 1,175,437 shares of common stock at an average price of $9.72 per share for a total cost of $11.4 million. As of September 30, 2017, Company shares having an aggregate value of up to $50.0 million may still be purchased under the programs.

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17. Accumulated Other Comprehensive Income (Loss)

Changes in accumulated other comprehensive income (loss) by component, net of tax, were as follows:

Three Months Ended September 30,			
Postretirement Benefit Liability Adjustments	Translation Adjustments	Net Gain on Cash Flow Hedges	Other