

FERRO CORP
Form 10-Q
July 26, 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 June 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

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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 June 30, 2017, there were 83,694,147 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 June 30,		Six Months Ended June 30,	
	2017	2016	2017	2016
	(Dollars in thousands, except per share amounts)			
Net sales	\$ 348,632	\$ 297,977	\$ 669,187	\$ 575,428
Cost of sales	240,290	199,604	462,051	392,826
Gross profit	108,342	98,373	207,136	182,602
Selling, general and administrative expenses	62,514	57,871	121,472	110,517
Restructuring and impairment charges	3,224	787	6,242	1,668
Other expense (income):				
Interest expense	6,449	5,428	12,673	10,275
Interest earned	(175)	(115)	(355)	(200)
Foreign currency losses, net	4,868	389	4,554	2,000
Loss on extinguishment of debt	—	—	3,905	—
Miscellaneous expense (income), net	1,538	669	(538)	(2,784)
Income before income taxes	29,924	33,344	59,183	61,126
Income tax expense	8,695	8,484	15,833	16,502
Income from continuing operations	21,229	24,860	43,350	44,624
Loss from discontinued operations, net of income taxes	—	(5,748)	—	(35,242)
Net income	21,229	19,112	43,350	9,382
Less: Net income attributable to noncontrolling interests	204	143	427	379
Net income attributable to Ferro Corporation common shareholders	\$ 21,025	\$ 18,969	\$ 42,923	\$ 9,003
Earnings (loss) per share attributable to Ferro Corporation common shareholders:				
Basic earnings (loss):				
Continuing operations	\$ 0.25	\$ 0.30	\$ 0.51	\$ 0.53
Discontinued operations	—	(0.07)	—	(0.42)
	\$ 0.25	\$ 0.23	\$ 0.51	\$ 0.11
Diluted earnings (loss):				
Continuing operations	\$ 0.25	\$ 0.29	\$ 0.50	\$ 0.53
Discontinued operations	—	(0.07)	—	(0.42)

\$ 0.25 \$ 0.22 \$ 0.50 \$ 0.11

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 June 30,		Six Months Ended June 30,	
	2017	2016	2017	2016
	(Dollars in thousands)			
Net income	\$ 21,229	\$ 19,112	\$ 43,350	\$ 9,382
Other comprehensive income (loss), net of income tax:				
Foreign currency translation income (loss)	13,866	(3,269)	21,077	(4,947)
Postretirement benefit liabilities gain	16	27	12	295
Other comprehensive income (loss), net of income tax	13,882	(3,242)	21,089	(4,652)
Total comprehensive income	35,111	15,870	64,439	4,730
Less: Comprehensive income (loss) attributable to noncontrolling interests	280	(9)	543	259
Comprehensive income attributable to Ferro Corporation	\$ 34,831	\$ 15,879	\$ 63,896	\$ 4,471

See accompanying notes to condensed consolidated financial statements.

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Ferro Corporation and Subsidiaries

Condensed Consolidated Balance Sheets

	June 30, 2017	December 31, 2016
	(Dollars in thousands)	
ASSETS		
Current assets		
Cash and cash equivalents	\$ 78,866	\$ 45,582
Accounts receivable, net	330,461	259,687
Inventories	272,180	229,847
Other receivables	40,893	37,814
Other current assets	13,808	9,087
Total current assets	736,208	582,017
Other assets		
Property, plant and equipment, net	273,964	262,026
Goodwill	157,828	148,296
Intangible assets, net	142,524	137,850
Deferred income taxes	115,181	106,454
Other non-current assets	52,096	47,126
Total assets	\$ 1,477,801	\$ 1,283,769
LIABILITIES AND EQUITY		
Current liabilities		
Loans payable and current portion of long-term debt	\$ 23,051	\$ 17,310
Accounts payable	158,659	127,655
Accrued payrolls	35,151	35,859
Accrued expenses and other current liabilities	70,571	65,203
Total current liabilities	287,432	246,027
Other liabilities		
Long-term debt, less current portion	637,863	557,175
Postretirement and pension liabilities	168,231	162,941
Other non-current liabilities	61,383	62,594
Total liabilities	1,154,909	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; 83.7 million and 83.4 million shares outstanding at June 30, 2017, and December 31, 2016, respectively	93,436	93,436
Paid-in capital	303,805	306,566
Retained earnings	157,613	114,690
Accumulated other comprehensive loss	(85,670)	(106,643)

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Common shares in treasury, at cost	(154,280)	(160,936)
Total Ferro Corporation shareholders' equity	314,904	247,113
Noncontrolling interests	7,988	7,919
Total equity	322,892	255,032
Total liabilities and equity	\$ 1,477,801	\$ 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		Common Stock	Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive (Loss)	Non- controlling Interests	Total Equity
	Shares (In thousands)	Amount						
Balances at December 31, 2015	9,431	\$ (166,020)	\$ 93,436	\$ 314,854	\$ 135,507	\$ (61,318)	\$ 7,822	\$ 324,281
Net income	—	—	—	—	9,003	—	379	9,382
Other comprehensive (loss)	—	—	—	—	—	(4,532)	(120)	(4,652)
Purchase of treasury stock	1,175	(11,429)	—	—	—	—	—	(11,429)
Stock-based compensation transactions	(399)	11,120	—	(7,795)	—	—	—	3,325
Balances at June 30, 2016	10,207	(166,329)	93,436	307,059	144,510	(65,850)	8,081	320,907
Balances at December 31, 2016	9,996	(160,936)	93,436	306,566	114,690	(106,643)	7,919	255,032
Net income	—	—	—	—	42,923	—	427	43,350
Other comprehensive income	—	—	—	—	—	20,973	116	21,089
Stock-based compensation transactions	(255)	6,656	—	(2,761)	—	—	—	3,895
Distributions to noncontrolling interests	—	—	—	—	—	—	(474)	(474)
Balances at June 30, 2017	9,741	\$ (154,280)	\$ 93,436	\$ 303,805	\$ 157,613	\$ (85,670)	\$ 7,988	\$ 322,892

See accompanying notes to condensed consolidated financial statements.

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Ferro Corporation and Subsidiaries

Condensed Consolidated Statements of Cash Flows

	Six Months Ended	
	June 30,	
	2017	2016
	(Dollars in thousands)	
Cash flows from operating activities		
Net cash provided by (used in) operating activities	\$ 14,705	\$ (1,975)
Cash flows from investing activities		
Capital expenditures for property, plant and equipment and other long lived assets	(16,894)	(14,044)
Proceeds from sale of assets	145	3,597
Business acquisitions, net of cash acquired	(14,752)	(6,639)
Net cash used in investing activities	(31,501)	(17,086)
Cash flows from financing activities		
Net (repayments) borrowings under loans payable	(5,645)	3,031
Proceeds from revolving credit facility, maturing 2019	15,628	163,516
Principal payments on revolving credit facility, maturing 2019	(327,183)	(92,706)
Proceeds from term loan facility, maturing 2024	623,827	—
Principal payments on term loan facility, maturing 2024	(1,596)	—
Principal payments on term loan facility, maturing 2021	(243,250)	(51,500)
Payment of debt issuance costs	(12,927)	(301)
Purchase of treasury stock	—	(11,429)
Other financing activities	(930)	211
Net cash provided by financing activities	47,924	10,822
Effect of exchange rate changes on cash and cash equivalents	2,156	(725)
Increase (decrease) in cash and cash equivalents	33,284	(8,964)
Cash and cash equivalents at beginning of period	45,582	58,380
Cash and cash equivalents at end of period	\$ 78,866	\$ 49,416
Cash paid during the period for:		
Interest	\$ 14,714	\$ 9,283
Income taxes	\$ 9,513	\$ 7,432

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 six months ended June 30, 2016.

During the first quarter of 2017, the Company renamed the Pigments, Powders and Oxides segment “Color Solutions” to align with our go-to-market strategy.

Operating results for the three and six months ended June 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 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 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 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

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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 goodwill impairment test. This pronouncement is effective for the annual or any interim goodwill impairment tests 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 with evaluating whether transactions should be accounted for as acquisitions (or dispositions) of assets or businesses. This pronouncement is effective for the 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 the 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. The Company continues to assess the impact of the standard. While we anticipate some changes to revenue recognition for certain customer contracts, 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.

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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. 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. 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 six months ended June 30, 2016.

The table below summarizes results for the Europe-based Polymer Additives assets, for the three and six months ended June 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 June 30, 2016	Six Months Ended June 30, 2016
	(Dollars in thousands)	
Net sales	\$ 6,900	\$ 14,650
Cost of sales	10,789	22,819
Gross loss	(3,889)	(8,169)
Selling, general and administrative expenses	1,502	2,505
Restructuring and impairment charges	—	24,059
Interest expense	40	276
Miscellaneous expense (income)	30	(387)
Loss from discontinued operations before income taxes	(5,461)	(34,622)
Income tax expense	287	620
Loss from discontinued operations, net of income taxes	\$ (5,748)	\$ (35,242)

4. Acquisitions

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., a company duly organized under the laws of Italy, and 100% of the equity interests of Smalti per Ceramiche, s.r.l. (“SPC”), a company duly organized under the laws of Italy, for €17.8 million (approximately \$19.3 million), subject to customary working capital adjustments, including the assumption of debt of €5.8 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 six months ended June 30, 2017, of \$0.8 million and \$1.2 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 June 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, \$5.5 million of net working capital, \$4.5 million of goodwill, \$4.4 million of amortizable intangible assets and \$1.8 million of a deferred tax liability on the condensed consolidated balance sheet.

Cappelle

On December 9, 2016, the Company acquired 100% of the share capital 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

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(approximately \$52.7 million), including the assumption of debt of €9.8 million. The acquired business contributed net sales of \$19.1 million and \$38.1 million for the three and six months ended June 30, 2017, respectively, and net income attributable to Ferro Corporation of \$0.5 million and \$1.1 million for the three and six months ended June 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 June 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.

Electro-Science Laboratories, Inc.

On October 31, 2016, the Company acquired 100% of the membership interest 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 \$10.6 million and \$21.3 million for the three and six months ended June 30, 2017, respectively, and net income attributable to Ferro Corporation of \$1.8 million and \$2.7 million for the three and six months ended June 30, 2017, respectively. The Company incurred acquisition costs for the six months ended June 30, 2017, of \$0.3 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 June 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

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 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 June 30, 2017, the purchase price allocation is subject to further adjustment until all information is fully evaluated by the Company. The Company preliminarily 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

On June 1, 2016, the Company acquired 100% of the equity 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

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On January 5, 2016, the Company completed the purchase of 100% of the equity 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.

5. Inventories

	June 30, 2017	December 31, 2016
	(Dollars in thousands)	
Raw materials	\$ 91,510	\$ 72,943
Work in process	46,804	38,859
Finished goods	133,866	118,045
Total inventories	\$ 272,180	\$ 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 June 30, 2017 and 2016, respectively, and were \$0.5 million and \$0.4 million for the six months ended June 30, 2017 and 2016, respectively. We had on-hand precious metals owned by participants in our precious metals consignment program of \$33.4 million at June 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 \$475.4 million at June 30, 2017, and \$439.4 million at December 31, 2016. Unpaid capital expenditure liabilities, which are non-cash investing activities, were \$3.8 million at June 30, 2017, and \$2.1 million at June 30, 2016.

We recorded a \$3.9 million gain on sale of a closed site in Australia which was recorded in Miscellaneous expense (income), net in our condensed consolidated statements of operations for the six months ended June 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. The impairment charge of \$24.1 million is included in Loss from discontinued operations, net of income taxes in our condensed consolidated statements of operations for the six months ended June 30, 2016.

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7. Goodwill and Other Intangible Assets

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

	Performance Coatings (Dollars in thousands)	Color Solutions	Performance Colors and Glass	Total
Goodwill, net at December 31, 2016	\$ 28,090	\$ 40,421	\$ 79,785	\$ 148,296
Acquisitions	4,494	2	—	1
Foreign currency adjustments	2,561	1,143	2,188	5,892
Goodwill, net at June 30, 2017	\$ 35,145	\$ 41,564	\$ 81,119	\$ 157,828

- (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.

	June 30, 2017	December 31, 2016
	(Dollars in thousands)	
Goodwill, gross	\$ 216,295	\$ 206,763
Accumulated impairment losses	(58,467)	(58,467)
Goodwill, net	\$ 157,828	\$ 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 June 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:

	June 30, 2017	December 31, 2016
	(Dollars in thousands)	
Gross amortizable intangible assets:		
Patents	\$ 5,277	\$ 5,147
Land rights	4,816	4,746
Technology/know-how and other	90,441	84,837
Customer relationships	84,914	80,153
Total gross amortizable intangible assets	185,448	174,883
Accumulated amortization:		
Patents	(5,155)	(4,981)
Land rights	(2,776)	(2,698)
Technology/know-how and other	(38,667)	(34,775)
Customer relationships	(7,857)	(5,311)
Total accumulated amortization	(54,455)	(47,765)
Amortizable intangible assets, net	\$ 130,993	\$ 127,118

Indefinite-lived intangible assets consisted of the following:

	June 30, 2017	December 31, 2016
	(Dollars in thousands)	
Indefinite-lived intangibles assets:		
Trade names and trademarks	\$ 11,531	\$ 10,732

8. Debt

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

	June 30, 2017	December 31, 2016
	(Dollars in thousands)	
Loans payable	\$ 14,508	\$ 11,452
Current portion of long-term debt	8,543	5,858
Loans payable and current portion of long-term debt	\$ 23,051	\$ 17,310

Long-term debt consisted of the following:

June 30, 2017	December 31, 2016
(Dollars in thousands)	

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Term loan facility, net of unamortized issuance costs, maturing 2021(1)	\$ —	\$ 239,530
Term loan facility, net of unamortized issuance costs, maturing 2024(2)	633,463	—
Revolving credit facility, maturing 2019	—	311,555
Capital lease obligations	5,216	3,720
Other notes	7,727	8,228
Total long-term debt	646,406	563,033
Current portion of long-term debt	(8,543)	(5,858)
Long-term debt, less current portion	\$ 637,863	\$ 557,175

(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 \$8.1 million.

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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 six months ended June 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 June 30, 2017, the Company had borrowed \$356.6 million under the secured term loan facility at an interest rate of 3.73% and €249.4 million under the secured euro term loan facility at an interest rate of 2.75%. At June 30, 2017, there were no additional borrowings available under the term loan facilities.

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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 June 30, 2017, there were no borrowings under the revolving credit line. After reductions for outstanding letters of credit secured by these facilities, we had \$395.3 million of additional borrowings available under the revolving credit facilities at June 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 June 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 \$63.3 million and \$7.3 million at June 30, 2017, and December 31, 2016, respectively. The unused portions of these lines provided additional liquidity of \$40.4 million at June 30, 2017, and \$6.7 million at December 31, 2016.

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:

	June 30, 2017		Level 1	Level 2	Level 3
	Carrying Amount	Fair Value Total			
	(Dollars in thousands)				
Cash and cash equivalents	\$ 78,866	\$ 78,866	\$ 78,866	\$ —	\$ —
Loans payable	(14,508)	(14,508)	—	(14,508)	—
Term loan facility, maturing 2024(1)	(633,463)	(633,622)	—	(633,622)	—
Other long-term notes payable	(7,727)	(6,870)	—	(6,870)	—
Foreign currency forward contracts, net	(1,188)	(1,188)	—	(1,188)	—

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	December 31, 2016		Fair Value		
	Carrying	Total	Level 1	Level 2	Level 3
	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 value of the term loan facility is net of unamortized debt issuance costs of \$8.1 million and \$3.7 million for the period ended June 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 June 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.

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 and 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 loan facility from variable-rate term loan to a fixed interest rate, and are effective on June 30, 2017. These swaps were designated and qualify 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.

As the effective date for the interest rate swaps is June 30, 2017, the fair value of the interest rate swaps is zero at inception and no gain or loss was recognized in AOCI or through earnings during the three and six months ended June 30, 2017.

Net investment hedge. To help protect the value of the Company's net investment in Europe 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.

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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 €130 million at June 30, 2017. The Company did not have any ineffectiveness related to net investment hedges during the three and six months ended June 30, 2017.

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

	Amount of (Loss) Recognized in AOCI		Amount of Loss Reclassified from AOCI into Income	
	2017	2016	2017	2016
	(Dollars in thousands)			
Net investment hedge	\$ (6,828)	\$ —	\$ —	\$ —

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

	Amount of (Loss) Recognized in AOCI		Amount of Loss Reclassified from AOCI into Income	
	2017	2016	2017	2016
	(Dollars in thousands)			
Net investment hedge	\$ (6,828)	\$ —	\$ —	\$ —

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 \$3.0 million and \$2.7 million in the three and six months ended June 30, 2017, respectively, and net gains of \$5.9 million and net losses of \$4.7 million in the three and six months ended June 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 fair values of these contracts are based on market prices for comparable contracts. The notional amount of foreign currency forward contracts was \$192.5 million at June 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 six months ended June 30, 2017 and 2016, respectively, of our foreign currency forward contracts:

	Amount of (Loss) Gain Recognized in Earnings Three Months Ended June 30, 2017 2016		Location of (Loss) Gain in Earnings
	(Dollars in thousands)		
Foreign currency forward contracts	\$ (2,954)	\$ 5,884	Foreign currency losses, net

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	Amount of (Loss) Recognized in Earnings		
	Six Months Ended June 30,		
	2017	2016	Location of (Loss) in Earnings
	(Dollars in thousands)		
Foreign currency forward contracts	\$ (2,711)	\$ (4,684)	Foreign currency losses, net

Location and Fair Value Amount of Derivative Instruments

The following table presents the fair values on our condensed consolidated balance sheets of foreign currency forward contracts:

	June 30, 2017	December 31, 2016	Balance Sheet Location
	(Dollars in thousands)		
Asset derivatives:			
Foreign currency forward contracts	\$ 365	\$ 1,854	Other current assets
Liability derivatives:			
Foreign currency forward contracts	\$ (1,553)	\$ (1,504)	Accrued expenses and other current liabilities

10. Income Taxes

Income tax expense for the six months ended June 30, 2017, was \$15.8 million, or 26.8% of pre-tax income, compared with \$16.5 million, or 27.0% of pre-tax income in the prior-year same period. The tax expense in the first half 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 \$6.8 million at June 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 June 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.

In 2013, the Supreme Court in Argentina ruled unfavorably related to certain export taxes associated with a divested operation. As a result of this ruling, in 2013, we recorded a liability and at December 31, 2016, the liability was \$8.7 million. During the first quarter of 2017, the Company participated in a newly available tax regime, resulting in the reduction of interest on these outstanding tax liabilities. The remaining liability at the time of the reduction was \$4.6 million, and will be paid down over a five-year term. The liability recorded at June 30, 2017, is \$3.9 million.

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 June 30, 2017 and 2016, respectively, follow:

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	U.S. Pension Plans		Non-U.S. Pension Plans		Other Benefit Plans	
	2017	2016	2017	2016	2017	2016
	Three Months Ended June 30,					
	(Dollars in thousands)					
Service cost	\$ 4	\$ 4	\$ 423	\$ 371	\$ —	\$ —
Interest cost	3,666	3,937	606	954	211	236
Expected return on plan assets	(4,740)	(4,935)	(222)	(525)	—	—
Amortization of prior service cost	2	3	11	11	—	—
Net periodic benefit (credit) cost	\$ (1,068)	\$ (991)	\$ 818	\$ 811	\$ 211	\$ 236

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

	U.S. Pension Plans		Non-U.S. Pension Plans		Other Benefit Plans	
	2017	2016	2017	2016	2017	2016
	Six Months Ended June 30,					
	(Dollars in thousands)					
Service cost	\$ 9	\$ 9	\$ 827	\$ 734	\$ —	\$ —
Interest cost	7,331	7,875	1,179	1,893	422	472
Expected return on plan assets	(9,479)	(9,870)	(432)	(1,045)	—	—
Amortization of prior service cost	3	6	21	22	—	—
Net periodic benefit (credit) cost	\$ (2,136)	\$ (1,980)	\$ 1,595	\$ 1,604	\$ 422	\$ 472

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 half 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 six months ended June 30, 2017:

	Stock Options
Weighted-average grant-date fair value	\$ 7.26
Expected life, in years	6.0
Risk-free interest rate	2.3 %
Expected volatility	51.5 %

The weighted average grant date fair value of our performance share units granted in the six months ended June 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 stock units based on the closing market price of our common stock on the date of the grant. The restricted stock units vest over three years. The weighted-average grant date fair value per unit for grants made during the six months ended June 30, 2017, was \$14.27.

We recognized stock-based compensation expense of \$5.4 million for the six months ended June 30, 2017, and \$2.2 million for the six months ended June 30, 2016. At June 30, 2017, unearned compensation cost related to the unvested portion of all stock-based compensation awards was approximately \$10.0 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 \$3.2 million and \$6.2 million for the three and six months ended June 30, 2017, respectively, and \$0.8 million and \$1.7 million for the three and six months ended June 30, 2016, respectively. Included in the charges for the three and six months ended June 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	1,795	1,772	1,176	4,743
Cash payments	(1,715)	(652)	—	(2,367)
Non-cash items	51	(1,325)	(1,176)	(2,450)
Balances at June 30, 2017	\$ 370	\$ 1,284	\$ —	\$ 1,654

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 June 30,		Six Months Ended June 30,	
	2017	2016	2017	2016
	(Dollars in thousands, except per share amounts)			
Basic earnings per share computation:				
Net income attributable to Ferro Corporation common shareholders	\$ 21,025	\$ 18,969	\$ 42,923	\$ 9,003
Adjustment for loss from discontinued operations	—	5,748	—	35,242
Total	\$ 21,025	\$ 24,717	\$ 42,923	\$ 44,245
Weighted-average common shares outstanding	83,673	83,209	83,602	83,260
Basic earnings per share from continuing operations attributable to Ferro Corporation common shareholders	\$ 0.25	\$ 0.30	\$ 0.51	\$ 0.53
Diluted earnings per share computation:				
Net income attributable to Ferro Corporation common shareholders	\$ 21,025	\$ 18,969	\$ 42,923	\$ 9,003
Adjustment for loss from discontinued operations	—	5,748	—	35,242
Total	\$ 21,025	\$ 24,717	\$ 42,923	\$ 44,245
Weighted-average common shares outstanding	83,673	83,209	83,602	83,260
Assumed exercise of stock options	677	551	599	462
Assumed exercise of deferred stock unit conditions	—	80	—	—
Assumed satisfaction of restricted stock unit conditions	425	473	376	419
Assumed satisfaction of performance stock unit conditions	502	111	503	58
Weighted-average diluted shares outstanding	85,277	84,424	85,080	84,199
Diluted earnings per share from continuing operations attributable to Ferro Corporation common shareholders	\$ 0.25	\$ 0.29	\$ 0.50	\$ 0.53

The number of anti-dilutive or unearned shares was 1.8 million and 1.9 million for the three and six months ended June 30, 2017, respectively, and 2.5 million and 2.8 million for the three and six months ended June 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 six months ended June 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 June 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 June 30,			Total
	Postretirement Benefit Liability Adjustments	Translation Adjustments	Other Adjustments	
	(Dollars in thousands)			
Balances at March 31, 2016	\$ 1,079	\$ (63,769)	\$ (70)	\$ (62,760)
Other comprehensive income (loss) before reclassifications	—	(3,117)	—	(3,117)
Reclassification to earnings:				
Postretirement benefit liabilities income	27	—	—	27
Net current period other comprehensive income (loss)	27	(3,117)	—	(3,090)
Balances at June 30, 2016	\$ 1,106	\$ (66,886)	\$ (70)	\$ (65,850)
Balances at March 31, 2017	\$ 1,137	\$ (100,543)	\$ (70)	\$ (99,476)
Other comprehensive income (loss) before reclassifications	—	13,790	—	13,790
Reclassification to earnings:				
Postretirement benefit liabilities income	16	—	—	16
Net current period other comprehensive income (loss)	16	13,790	—	13,806
Balances at June 30, 2017	\$ 1,153	\$ (86,753)	\$ (70)	\$ (85,670)
	Six Months Ended June 30,			
	Postretirement Benefit Liability Adjustments	Translation Adjustments	Other Adjustments	Total
	(Dollars in thousands)			
Balances at December 31, 2015	\$ 811	\$ (62,059)	\$ (70)	\$ (61,318)
Other comprehensive income (loss) before reclassifications	—	(4,827)	—	(4,827)
Reclassification to earnings:				
Postretirement benefit liabilities income	295	—	—	295
Net current period other comprehensive income (loss)	295	(4,827)	—	(4,532)
Balances at June 30, 2016	\$ 1,106	\$ (66,886)	\$ (70)	\$ (65,850)

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Balances at December 31, 2016	\$ 1,141	\$ (107,714)	\$ (70)	\$ (106,643)
Other comprehensive income (loss) before reclassifications	—	20,961	—	20,961
Reclassification to earnings:				
Postretirement benefit liabilities income	12	—	—	12
Net current period other comprehensive income (loss)	12	20,961	—	20,973
Balances at June 30, 2017	\$ 1,153	\$ (86,753)	\$ (70)	\$ (85,670)

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18. Reporting for Segments

In the first quarter of 2017, the Company's Pigments, Powders and Oxides segment was renamed Color Solutions.

Net sales to external customers by segment are presented in the table below. Sales between segments were not material.

	Three Months Ended		Six Months Ended	
	June 30,		June 30,	
	2017	2016	2017	2016
	(Dollars in thousands)			
Performance Coatings	\$ 151,746	\$ 140,589	\$ 278,311	\$ 268,713
Performance Colors and Glass	106,637	95,933	210,155	184,103
Color Solutions	90,249	61,455	180,721	122,612
Total net sales	\$ 348,632	\$ 297,977	\$ 669,187	\$ 575,428

Each segment's gross profit and reconciliations to income before income taxes are presented in the table below:

	Three Months Ended		Six Months Ended	
	June 30,		June 30,	
	2017	2016	2017	2016
	(Dollars in thousands)			
Performance Coatings	\$ 40,246	\$ 39,234	\$ 73,735	\$ 71,349
Performance Colors and Glass	40,087	36,705	77,505	68,543
Color Solutions	28,416	22,404	56,598	42,690
Other cost of sales	(407)	30	(702)	20
Total gross profit	108,342	98,373	207,136	182,602
Selling, general and administrative expenses	62,514	57,871	121,472	110,517
Restructuring and impairment charges	3,224	787	6,242	1,668
Other expense, net	12,680	6,371	20,239	9,291
Income before income taxes	\$ 29,924	\$ 33,344	\$ 59,183	\$ 61,126

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

Overview

Net sales for the three months ended June 30, 2017, increased by \$50.7 million, or 17.0%, compared with the prior-year same period. The increase in net sales was driven by higher sales in Color Solutions, Performance Coatings and Performance Colors and Glass of \$28.8 million, \$11.2 million and \$10.7 million, respectively. During the three months ended June 30, 2017, gross profit increased \$10.0 million, or 10.1%, compared with the prior-year same period; as a percentage of net sales, it decreased approximately 190 basis points to 31.1%. The increase in gross profit was attributable to higher sales across all of our segments, with increases in Color Solutions, Performance Colors and Glass and Performance Coatings of \$6.0 million, \$3.4 million and \$1.0 million, respectively.

For the three months ended June 30, 2017, selling, general and administrative (“SG&A”) expenses increased \$4.6 million, or 8.0%, compared with the prior-year same period. The increase was primarily driven by \$5.7 million of expenses related to acquisitions completed within the last year.

For the three months ended June 30, 2017, net income was \$21.2 million, compared with \$19.1 million for the prior-year same period, and net income attributable to common shareholders was \$21.0 million, compared with \$19.0 million for the prior-year same period. Income from continuing operations was \$21.2 million for the three months ended June 30, 2017, compared with \$24.9 million for the three months ended June 30, 2016. Our total gross profit for the second quarter of 2017 was \$108.3 million, compared with \$98.4 million for the three months ended June 30, 2016.

Outlook

For the second half of 2017, we expect that gross margin will continue to grow at a measured pace based on strategic actions taken to improve growth in our core businesses and contributions from recent acquisitions. Raw material costs have increased in 2017, as expected, however, we expect to continue to offset these cost increases through pricing actions, product reformulations and optimization actions.

We remain focused on the integration of our recent acquisitions and achieving the identified synergies. We will continue to drive innovation and optimization throughout our business and to advance tax planning opportunities. We expect cash flow from operating activities to be positive for the year, providing additional liquidity.

Factors that could adversely affect our future performance include those described under the heading “Risk Factors” in Item 1A of Part I of our Annual Report on Form 10-K for the year ended December 31, 2016.

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Results of Operations - Consolidated

Comparison of the three months ended June 30, 2017 and 2016

For the three months ended June 30, 2017, income from continuing operations was \$21.2 million, compared with \$24.9 million income from continuing operations for the three months ended June 30, 2016. Net income was \$21.2 million, compared with net income of \$19.1 million for the three months ended June 30, 2016. For the three months ended June 30, 2017, net income attributable to common shareholders was \$21.0 million, or earnings per share of \$0.25, compared with net income attributable to common shareholders of \$19.0 million, or earnings per share of \$0.23, for the three months ended June 30, 2016.

Net Sales

	Three Months Ended June 30,		\$ Change	% Change
	2017	2016		
	(Dollars in thousands)			
Net sales	\$ 348,632	\$ 297,977	\$ 50,655	17.0 %
Cost of sales	240,290	199,604	40,686	20.4 %
Gross profit	\$ 108,342	\$ 98,373	\$ 9,969	10.1 %
Gross profit as a % of net sales	31.1 %	33.0 %		

Net sales increased by \$50.7 million, or 17.0%, in the three months ended June 30, 2017, compared with the prior-year same period, driven by higher sales in Color Solutions, Performance Coatings and Performance Colors and Glass of \$28.8 million, \$11.2 million and \$10.7 million, respectively. The increase in net sales was driven by Cappelle, which contributed sales of \$19.1 million, ESL, which contributed sales of \$10.6 million, and SPC, which contributed sales of \$5.7 million, each of which was acquired after the second quarter of 2016. The increase in net sales was also driven by organic growth, with Performance Coatings growing \$10.0 million and Color Solutions growing \$9.1 million.

Gross Profit

Gross profit increased \$10.0 million, or 10.1%, in the three months ended June 30, 2017, compared with the prior-year same period, and as a percentage of net sales, it decreased 190 basis points to 31.1%. The increase in gross profit was attributable to increases across all of our segments, with increases in Color Solutions, Performance Colors and Glass

and Performance Coatings of \$6.0 million, \$3.4 million and \$1.0 million, respectively. The increase in gross profit was driven by acquisitions of \$11.8 million, lower manufacturing costs of \$6.5 million, favorable product pricing of \$1.9 million and higher sales volumes and mix of \$1.5 million, partially offset by higher raw material costs of \$9.2 million and unfavorable foreign currency impacts of \$2.0 million.

Geographic Revenues

The following table presents our sales on the basis of where sales originated.

	Three Months Ended June 30,		\$ Change	% Change
	2017	2016		
Geographic Revenues on a sales origination basis				
Europe	\$ 171,367	\$ 138,888	\$ 32,479	23.4 %
United States	88,615	76,853	11,762	15.3 %
Asia Pacific	47,660	44,887	2,773	6.2 %
Latin America	40,990	37,349	3,641	9.7 %
Net sales	\$ 348,632	\$ 297,977	\$ 50,655	17.0 %

The increase in net sales of \$50.7 million, compared with the prior-year same period, was driven by an increase in sales from all regions. The increase in sales from Europe was primarily attributable to higher sales in Color Solutions, Performance Coatings and Performance Colors and Glass of \$18.3 million, \$8.6 million and \$5.6 million, respectively. The increase in sales from the United

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States was attributable to higher sales in Color Solutions and Performance Colors and Glass of \$8.4 million and \$3.4 million. The increase in sales from Latin America and Asia Pacific was attributable to higher sales across all segments.

The following table presents our sales on the basis of where sold products were shipped.

	Three Months Ended June 30,			
	2017	2016	\$ Change	% Change
(Dollars in thousands)				
Geographic Revenues on a shipped-to basis				
Europe	\$ 162,569	\$ 136,454	\$ 26,115	19.1 %
Asia Pacific	74,700	60,152	14,548	24.2 %
United States	64,861	60,590	4,271	7.0 %
Latin America	46,502	40,781	5,721	14.0 %
Net sales	\$ 348,632	\$ 297,977	\$ 50,655	17.0 %

Selling, General and Administrative Expenses

The following table includes SG&A components with significant changes between 2017 and 2016.

	Three Months Ended June 30,			
	2017	2016	\$ Change	% Change
(Dollars in thousands)				
Personnel expenses	\$ 33,604	\$ 28,751	\$ 4,853	16.9 %
Incentive compensation	2,465	3,161	(696)	(22.0) %
Stock-based compensation	2,668	2,211	457	20.7 %
Pension and other postretirement benefits	(39)	104	(143)	(137.5) %

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Bad debt	(126)	345	(471)	(136.5)%
Business development	4,250	3,855	395	10.2 %
Intangible asset amortization	2,088	1,257	831	66.1 %
All other expenses	17,604	18,187	(583)	(3.2) %
Selling, general and administrative expenses	\$ 62,514	\$ 57,871	\$ 4,643	8.0 %

SG&A expenses were \$4.6 million higher in the three months ended June 30, 2017, compared with the prior-year same period. The higher SG&A expenses compared with the prior-year same period are primarily driven by businesses acquired within the last year of approximately \$5.7 million. The acquisitions were the primary driver of the increase in personnel expenses, and accounted for the entire increase in intangible asset amortization.

The following table presents SG&A expenses attributable to sales, research and development and operations costs as strategic services and other SG&A costs as functional services.

	Three Months Ended June 30,			
	2017	2016	\$ Change	% Change
	(Dollars in thousands)			
Strategic services	\$ 33,013	\$ 29,012	\$ 4,001	13.8 %
Functional services	24,368	23,487	881	3.8 %
Incentive compensation	2,465	3,161	(696)	(22.0)%
Stock-based compensation	2,668	2,211	457	20.7 %
Selling, general and administrative expenses	\$ 62,514	\$ 57,871	\$ 4,643	8.0 %

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Restructuring and Impairment Charges

	Three Months Ended June 30,		\$ Change	% Change
	2017	2016		
	(Dollars in thousands)			
Employee severance	\$ 815	\$ 609	\$ 206	33.8 %
Equity method investment impairment	1,499	—	1,499	NM
Other restructuring costs	910	178	732	411.2 %
Restructuring and impairment charges	\$ 3,224	\$ 787	\$ 2,437	309.7 %

Restructuring and impairment charges increased in the second quarter of 2017 compared with the prior-year same period. The increase was primarily due to an “other than temporary impairment” charge on an equity method investment of \$1.5 million.

Interest Expense

	Three Months Ended June 30,		\$ Change	% Change
	2017	2016		
	(Dollars in thousands)			
Interest expense	\$ 5,517	\$ 5,118	\$ 399	7.8 %
Amortization of bank fees	953	329	624	189.7 %
Interest capitalization	(21)	(19)	(2)	10.5 %
Interest expense	\$ 6,449	\$ 5,428	\$ 1,021	18.8 %

Interest expense increased in the second quarter of 2017 compared with the prior-year same period. The increase in interest expense was due to an increase in the average long-term debt balance during the three months ended June 30, 2017, compared with the prior-year same period and an increase of the amortization of debt issuance costs associated with the 2017 Credit Facility, partially offset by a favorable average borrowing rate as a result of the refinancing completed in the first quarter of 2017.

Income Tax Expense

During the second quarter of 2017, income tax expense was \$8.7 million, or 29.1% of pre-tax income. In the second quarter of 2016, we recorded tax expense of \$8.5 million, or 25.4% of pre-tax income. The tax expense in the second quarter 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.

Results of Operations - Segment Information

Comparison of the three months ended June 30, 2017 and 2016

Performance Coatings

	Three Months Ended				Change due to				
	June 30,						Volume		
	2017	2016	\$ Change	% Change	Price	Mix	Currency	Acquisition	Other
	(Dollars in thousands)								
Segment net sales	\$ 151,746	\$ 140,589	\$ 11,157	7.9 %	\$ 481	\$ 9,485	\$ (4,506)	\$ 5,697	\$ —
Segment gross profit	40,246	39,234	1,012	2.6 %	481	2,584	(1,236)	1,310	(2,127)
Gross profit as a % of segment net sales	26.5 %	27.9 %							

Net sales increased in Performance Coatings compared with the prior-year same period, primarily driven by sales from SPC of \$5.7 million, and increases in porcelain enamel and digital inks of \$2.2 million and \$1.6 million, respectively. The increase in net sales was driven by higher sales volume and favorable mix of \$9.5 million, sales from SPC of \$5.7 million and higher product pricing

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of \$0.5 million, partially offset by unfavorable foreign currency impacts of \$4.5 million. Gross profit increased \$1.0 million from the prior-year same period, primarily driven by lower manufacturing costs of \$3.1 million, higher sales volumes and favorable mix of \$2.6 million, gross profit from SPC of \$1.3 million and favorable product pricing impacts of \$0.5 million, partially offset by higher raw material costs of \$5.2 million and unfavorable foreign currency impacts of \$1.2 million.

	Three Months Ended June 30,			
	2017	2016	\$ Change	% Change
	(Dollars in thousands)			
Segment net sales by Region				
Europe	\$ 88,814	\$ 80,224	\$ 8,590	10.7 %
Latin America	28,239	26,165	2,074	7.9 %
Asia Pacific	23,089	22,502	587	2.6 %
United States	11,604	11,698	(94)	(0.8) %
Total	\$ 151,746	\$ 140,589	\$ 11,157	7.9 %

The net sales increase of \$11.2 million was driven by increases in sales from Europe, Latin America and Asia Pacific. The increase in sales from Europe was primarily attributable to SPC, which was acquired in second quarter of 2017, which contributed \$5.7 million, and higher sales of porcelain enamel and colors of \$1.7 million and \$1.5 million, respectively. The sales increase from Latin America was primarily driven by higher sales from frits and glazes of \$2.0 million. The increase in sales from Asia Pacific was driven by higher sales in digital inks and porcelain enamel of \$1.1 million and \$0.6 million, partially offset by lower sales of frits and glazes of \$1.1 million.

Performance Colors and Glass

	Three Months Ended June 30,				Change due to Volume /				
	2017	2016	\$ Change	% Change	Price	Mix	Currency	Acquisitions	Other
	(Dollars in thousands)								
Segment net sales	\$ 106,637	\$ 95,933	\$ 10,704	11.2 %	\$ 561	\$ (732)	\$ (1,510)	\$ 12,385	\$ —

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Segment gross profit	40,087	36,705	3,382	9.2 %	561	(1,559)	(582)	5,708	(746)
Gross profit as a % of segment net sales	37.6 %	38.3 %							

Net sales increased compared with the prior-year same period, primarily driven by \$10.6 million of sales from ESL, which was acquired in the fourth quarter of 2016. The increase in net sales was driven by acquisitions of \$12.4 million and higher product pricing of \$0.6 million, partially offset by unfavorable foreign currency impacts of \$1.5 million and unfavorable volume and mix of \$0.7 million. Gross profit increased from the prior-year same period, primarily due to acquisitions, which contributed \$5.7 million, higher product pricing of \$0.6 million and favorable manufacturing costs of \$0.2 million, partially offset by lower sales volumes and mix of \$1.6 million, unfavorable raw material costs of \$0.9 million and unfavorable foreign currency impacts of \$0.6 million.

Segment net sales by Region	Three Months Ended June 30,			
	2017 (Dollars in thousands)	2016	\$ Change	% Change
Europe	\$ 47,592	\$ 41,960	\$ 5,632	13.4 %
United States	37,832	34,420	3,412	9.9 %
Asia Pacific	15,796	14,750	1,046	7.1 %
Latin America	5,417	4,803	614	12.8 %
Total	\$ 106,637	\$ 95,933	\$ 10,704	11.2 %

The net sales increase of \$10.7 million was driven by higher sales from all regions. The increase in sales from Europe was primarily attributable to \$4.4 million and \$1.8 million in sales from ESL and Pinturas, respectively, and higher sales in electronics

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products of \$0.7 million, partially offset by lower sales in industrial products of \$1.1 million. The increase in sales from the United States was primarily attributable to sales from ESL of \$6.2 million, partially offset by a decrease in sales of industrial products of \$2.2 million. The increase from Asia Pacific was due to an increase in sales of automobile and decoration products of \$0.6 million and \$1.4 million, respectively and the increase from Latin America was attributable to an increase in sales of decoration products of \$0.6 million.

Color Solutions

	Three Months Ended				Change due to				
	June 30,					Volume			
	2017	2016	\$ Change	% Change	Price	Mix	Currency	Acquisitions	Other
	(Dollars in thousands)								
Segment net sales	\$ 90,249	\$ 61,455	\$ 28,794	46.9 %	\$ 827	\$ 8,280	\$ (548)	\$ 20,235	\$ —
Segment gross profit	28,416	22,404	6,012	26.8 %	827	453	(155)	4,753	134
Gross profit as a % of segment net sales	31.5 %	36.5 %							

Net sales increased compared with the prior-year same period, primarily due to sales from Cappelle, and higher sales of pigments and surface technology products of \$19.1 million, \$5.6 million, and \$3.1 million, respectively. The increase in net sales was driven by acquisitions of \$20.2 million, higher volumes and mix of \$8.3 million and higher product pricing of \$0.8 million, partially offset by unfavorable foreign currency impacts of \$0.5 million. Gross profit increased from the prior-year same period, primarily due to acquisitions, which contributed \$4.8 million, lower manufacturing costs of \$3.2 million, higher product pricing of \$0.8 million and favorable sales volumes and mix of \$0.5 million, partially offset by higher raw material costs of \$3.1 million and unfavorable foreign currency impacts of \$0.2 million.

	Three Months Ended			
	June 30,			
	2017	2016	\$ Change	% Change
	(Dollars in thousands)			
Segment net sales by Region				
United States	\$ 39,179	\$ 30,735	\$ 8,444	27.5 %

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Europe	34,961	16,704	18,257	109.3 %
Asia Pacific	8,775	7,635	1,140	14.9 %
Latin America	7,334	6,381	953	14.9 %
Total	\$ 90,249	\$ 61,455	\$ 28,794	46.9 %

The net sales increase of \$28.8 million was driven by higher sales from all regions. The higher sales from Europe was driven by sales from Cappelle of \$16.0 million and pigment products of \$2.3 million. The increase in sales from the United States was primarily driven by sales from Cappelle of \$3.1 million and increases in surface technology and pigment products of \$3.1 million and \$1.2 million, respectively. The increases in sales from Asia Pacific and Latin America were attributable to higher sales for pigment products of \$1.1 million and \$1.0 million, respectively.

Results of Operations - Consolidated

Comparison of the six months ended June 30, 2017 and 2016

For the six months ended June 30, 2017, income from continuing operations was \$43.4 million, compared with \$44.6 million income from continuing operations for the six months ended June 30, 2016. Net income was \$43.4 million, compared with net income of \$9.4 million for the six months ended June 30, 2016. For the six months ended June 30, 2017, net income attributable to common shareholders was \$42.9 million, or earnings per share of \$0.51, compared with net income attributable to common shareholders of \$9.0 million, or earnings per share of \$0.11, for the six months ended June 30, 2016.

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	Six Months Ended June 30,		\$ Change	% Change
	2017	2016		
	(Dollars in thousands)			
Net sales	\$ 669,187	\$ 575,428	\$ 93,759	16.3 %
Cost of sales	462,051	392,826	69,225	17.6 %
Gross profit	\$ 207,136	\$ 182,602	\$ 24,534	13.4 %
Gross profit as a % of net sales	31.0 %	31.7 %		

Net sales increased by \$93.8 million, or 16.3%, in the six months ended June 30, 2017, compared with the prior-year same period, driven by higher sales in Color Solutions, Performance Colors and Glass and Performance Coatings of \$58.1 million, \$26.1 million and \$9.6 million, respectively. The increase in net sales was driven by Cappelle, which contributed sales of \$38.1 million, ESL, which contributed sales of \$21.3 million, and SPC, which contributed sales of \$5.7 million, each of which was acquired after the second quarter of 2016. The increase in net sales was also driven by organic growth with Color Solutions growing \$19.1 million, Performance Coatings growing \$13.8 million and Performance Colors and Glass growing \$4.0 million.

Gross Profit

Gross profit increased \$24.5 million, or 13.4%, in the six months ended June 30, 2017, compared with the prior-year same period, and as a percentage of net sales, it decreased 70 basis points to 31.0%. The increase in gross profit was attributable to increases across all of our segments, with increases in Color Solutions, Performance Colors and Glass and Performance Coatings of \$13.9 million, \$9.0 million and \$2.4 million, respectively. The increase in gross profit was primarily driven by acquisitions of \$19.3 million, lower manufacturing costs of \$15.5 million and higher sales volumes and mix of \$7.2 million, partially offset by higher raw material costs of \$12.1 million, unfavorable foreign currency impacts of \$4.2 million and unfavorable product pricing of \$0.5 million.

Geographic Revenues

The following table presents our sales on the basis of where sales originated.

Six Months Ended
June 30,

2017	2016	\$ Change	% Change
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(Dollars in thousands)

Geographic Revenues on a sales origination basis

Europe	\$ 320,289	\$ 267,591	\$ 52,698	19.7 %
United States	176,994	147,023	29,971	20.4 %
Asia Pacific	91,869	87,824	4,045	4.6 %
Latin America	80,035	72,990	7,045	9.7 %
Net sales	\$ 669,187	\$ 575,428	\$ 93,759	16.3 %

The increase in net sales of \$93.8 million, compared with the prior-year same period, was driven by higher sales from all regions. The increase in sales from Europe was primarily attributable to higher sales in Color Solutions, Performance Colors and Glass and Performance Coatings of \$35.9 million, \$11.1 million and \$5.7 million. The increase in sales from the United States was primarily attributable to higher sales in Color Solutions and Performance Colors and Glass of \$18.6 million and \$12.0 million. The increase in sales from Latin America and Asia Pacific was attributable to higher sales across all segments.

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The following table presents our sales on the basis of where sold products were shipped.

	Six Months Ended June 30,			
	2017	2016	\$ Change	% Change
	(Dollars in thousands)			
Geographic Revenues on a shipped-to basis				
Europe	\$ 303,108	\$ 264,790	\$ 38,318	14.5 %
Asia Pacific	144,821	114,680	30,141	26.3 %
United States	131,779	120,218	11,561	9.6 %
Latin America	89,479	75,740	13,739	18.1 %
Net sales	\$ 669,187	\$ 575,428	\$ 93,759	16.3 %

Selling, General and Administrative Expenses

The following table includes SG&A components with significant changes between 2017 and 2016.

	Six Months Ended June 30,			
	2017	2016	\$ Change	% Change
	(Dollars in thousands)			
Personnel expenses	\$ 66,508	\$ 59,580	\$ 6,928	11.6 %
Incentive compensation	4,295	5,146	(851)	(16.5) %
Stock-based compensation	5,391	3,837	1,554	40.5 %
Pension and other postretirement benefits	(119)	142	(261)	(183.8) %
Bad debt	(367)	223	(590)	(264.6) %
Business development	6,611	4,955	1,656	33.4 %
Intangible asset amortization	4,139	2,757	1,382	50.1 %
All other expenses	35,014	33,877	1,137	3.4 %
Selling, general and administrative expenses	\$ 121,472	\$ 110,517	\$ 10,955	9.9 %

SG&A expenses were \$11.0 million higher in the six months ended June 30, 2017, compared with the prior-year same period. The higher SG&A expenses compared with the prior-year same period are primarily driven by businesses acquired within the last year of approximately \$10.5 million. The acquisitions were the primary driver of the increase in personnel expenses, and accounted for the entire increase in intangible asset amortization. The increase in stock-based compensation expense of \$1.6 million is driven by the Company's performance relative to targets for certain awards compared with the prior-year same period, as well as changes in the Company's stock price. The increase in business development expenses is due to higher professional fees.

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The following table presents SG&A expenses attributable to sales, research and development and operations costs as strategic services and other SG&A costs as functional services.

	Six Months Ended June 30,		\$ Change	% Change	
	2017	2016			
	(Dollars in thousands)				
Strategic services	\$ 64,673	\$ 57,416	\$ 7,257	12.6	%
Functional services	47,113	44,118	2,995	6.8	%
Incentive compensation	4,295	5,146	(851)	(16.5)	%
Stock-based compensation	5,391	3,837	1,554	40.5	%
Selling, general and administrative expenses	\$ 121,472	\$ 110,517	\$ 10,955	9.9	%

Restructuring and Impairment Charges

	Six Months Ended June 30,		\$ Change	% Change	
	2017	2016			
	(Dollars in thousands)				
Employee severance	\$ 1,795	\$ 1,141	\$ 654	57.3	%
Equity method investment impairment	1,499	—	1,499	—	%
Asset impairment	1,176	—	1,176	—	%
Other restructuring costs	1,772	527	1,245	236.2	%
Restructuring and impairment charges	\$ 6,242	\$ 1,668	\$ 4,574	274.2	%

Restructuring and impairment charges increased in the first half of 2017 compared with the prior-year same period. The increase was primarily due to an “other than temporary impairment” charge on an equity method investment of \$1.5 million and costs associated with a restructuring plan in Italy, which includes \$1.2 million of asset impairment associated with assets that have been taken out of service, as well as actions taken at our recent acquisitions associated with achieving our targeted synergies.

Interest Expense

	Six Months Ended June 30,			
	2017	2016	\$ Change	% Change
	(Dollars in thousands)			
Interest expense	\$ 11,265	\$ 9,662	\$ 1,603	16.6 %
Amortization of bank fees	1,432	644	788	122.4 %
Interest capitalization	(24)	(31)	7	(22.6) %
Interest expense	\$ 12,673	\$ 10,275	\$ 2,398	23.3 %

Interest expense increased in the first half of 2017 compared with the prior-year same period. The increase in interest expense was due to an increase in the average long-term debt balance during the six months ended June 30, 2017, compared with the prior-year same period and an increase of the amortization of debt issuance costs associated with the 2017 Credit Facility, partially offset by a favorable average borrowing rate as a result of the refinancing completed in the first quarter of 2017.

Income Tax Expense

During the first half of 2017, income tax expense was \$15.8 million, or 26.8% of pre-tax income. In the first half of 2016, we recorded tax expense of \$16.5 million, or 27.0% of pre-tax income. The tax expense in the first half 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.

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Results of Operations - Segment Information

Comparison of the six months ended June 30, 2017 and 2016

Performance Coatings

	Six Months Ended June 30,		\$ Change	% Change	Change due to				
	2017	2016			Price	Mix	Currency	Acquisitions	Other
Segment net sales	\$ 278,311	\$ 268,713	\$ 9,598	3.6 %	\$ (3,110)	\$ 16,905	\$ (9,894)	\$ 5,697	\$ —
Segment gross profit	73,735	71,349	2,386	3.3 %	(3,110)	5,207	(2,703)	1,310	1,682
Gross profit as a % of segment net sales	26.5	% 26.6	%						

Net sales increased in Performance Coatings compared with the prior-year same period, primarily driven by sales from SPC of \$5.7 million and an increase in sales of porcelain enamel products of \$1.9 million. The increase in net sales was driven by higher sales volume and favorable mix of \$16.9 million and sales from SPC of \$5.7 million, partially offset by unfavorable foreign currency impacts of \$9.9 million and lower product pricing of \$3.1 million. Gross profit increased \$2.4 million from the prior-year same period, primarily driven by lower manufacturing costs of \$8.1 million, higher sales volumes and favorable mix of \$5.2 million and gross profit from acquisitions of \$1.3 million, partially offset by higher raw material costs of \$6.4 million, unfavorable product pricing impacts of \$3.1 million and unfavorable foreign currency impacts of \$2.7 million.

Six Months Ended
June 30,

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	2017	2016	\$ Change	% Change
(Dollars in thousands)				
Segment net sales by Region				
Europe	\$ 157,973	\$ 152,251	\$ 5,722	3.8 %
Latin America	53,570	49,410	4,160	8.4 %
Asia Pacific	44,406	44,069	337	0.8 %
United States	22,362	22,983	(621)	(2.7) %
Total	\$ 278,311	\$ 268,713	\$ 9,598	3.6 %

The net sales increase of \$9.6 million was driven by increases in sales from Europe, Latin America and Asia Pacific, partially offset by a decrease in sales from the United States. The increase in sales from Europe was primarily driven by sales from SPC of \$5.7 million and an increase in sales of porcelain enamel of \$1.5 million, partially offset by a decrease in sales of digital inks of \$1.3 million. The sales increase from Latin America was primarily driven by higher sales of frits and glazes and digital inks of \$2.7 million and \$1.4 million, respectively. The decrease in sales from the United States was attributable to lower sales of porcelain enamel.

Performance Colors and Glass

	Six Months Ended			% Change	Change due to				
	June 30, 2017	2016			\$ Change	Volume /	Price	Mix	Currency
	(Dollars in thousands)								
Segment net sales	\$ 210,155	\$ 184,103	\$ 26,052	14.2 %	\$ 1,182	\$ 2,782	\$ (3,105)	\$ 25,193	\$ —
Segment gross profit	77,505	68,543	8,962	13.1 %	1,182	(345)	(1,132)	9,528	(271)
Gross profit as a % of segment net sales	36.9 %	37.2 %							

The net sales increase of \$26.1 million was driven by sales from ESL of \$21.3 million and higher sales of electronic products of \$3.7 million. The increase in net sales was driven by acquisitions of \$25.2 million, favorable volume and mix of \$2.8 million and higher product pricing of \$1.2 million, partially offset by unfavorable foreign currency impacts of \$3.1 million. Gross profit increased

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from the prior-year same period, primarily due to gross profit from acquisitions of \$9.5 million, favorable manufacturing costs of \$1.3 million and higher product pricing of \$1.2 million, partially offset by unfavorable raw material costs of \$1.6 million, unfavorable foreign currency impacts of \$1.1 million and lower sales volumes and mix of \$0.3 million.

	Six Months Ended June 30,		\$ Change	% Change
	2017	2016		
	(Dollars in thousands)			
Segment net sales by Region				
Europe	\$ 92,178	\$ 81,057	\$ 11,121	13.7 %
United States	76,936	64,909	12,027	18.5 %
Asia Pacific	30,429	28,990	1,439	5.0 %
Latin America	10,612	9,147	1,465	16.0 %
Total	\$ 210,155	\$ 184,103	\$ 26,052	14.2 %

The net sales increase of \$26.1 million was driven by higher sales from all regions. The increase in sales from the United States was driven by sales from ESL of \$13.1 million, partially offset by a decrease in sales of industrial products. The increase in sales from Europe was primarily driven by \$8.2 million and \$3.9 million in sales from ESL and Pinturas, respectively, partially offset by a decrease in sales of industrial products. The increase from Latin America was primarily driven by an increase in sales of decoration products of \$1.6 million. The increase from Asia Pacific was primarily due to higher sales of automobile and electronics products of \$0.9 million and \$0.5 million, respectively.

Color Solutions

	Six Months Ended June 30,		\$ Change	% Change	Change due to				
	2017	2016			Volume /	Price	Mix	Currency	Acquisitions
	(Dollars in thousands)								
Segment net sales	\$ 180,721	\$ 122,612	\$ 58,109	47.4 %	\$ 1,430	\$ 17,703	\$ (1,177)	\$ 40,153	\$ —

Segment gross profit	56,598	42,690	13,908	32.6 %	1,430	2,359	(370)	8,467	2,022
Gross profit as a % of segment net sales	31.3 %	34.8 %							

Net sales increased compared with the prior-year same period, primarily due to sales from Cappelle of \$38.1 million, and higher sales of pigments and surface technology products of \$11.2 million and \$6.8 million, respectively. The increase in net sales was driven by acquisitions of \$40.2 million, higher volumes and mix of \$17.7 million and higher product pricing of \$1.4 million, partially offset by unfavorable foreign currency impacts of \$1.2 million. Gross profit increased from the prior-year same period due to gross profit from acquisitions of \$8.5 million, lower manufacturing costs of \$6.1 million, higher sales volumes and mix of \$2.4 million and higher product pricing of \$1.4 million, partially offset by unfavorable raw material costs of \$4.1 million and unfavorable foreign currency impacts of \$0.4 million.

Six Months Ended
June 30,

	2017	2016	\$ Change	% Change
(Dollars in thousands)				
Segment net sales by Region				
United States	\$ 77,696	\$ 59,131	\$ 18,565	31.4 %
Europe	70,138	34,283	35,855	104.6 %
Asia Pacific	17,034	14,765	2,269	15.4 %
Latin America	15,853	14,433	1,420	9.8 %
Total	\$ 180,721	\$ 122,612	\$ 58,109	47.4 %

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The net sales increase of \$58.1 million was driven by higher sales from all regions. The increase in sales from Europe was primarily driven by sales from Cappelle of \$31.9 million. The increase in sales from the United States was primarily driven by sales from Cappelle of \$6.2 million, surface technology products of \$6.7 million and pigments of \$3.6 million. The increases in sales from Asia Pacific and Latin America were driven by an increase in pigment products of \$2.2 million and \$1.4 million, respectively.

Summary of Cash Flows for the six months ended June 2017 and 2016

	Six Months Ended		
	June 30,		
	2017	2016	\$ Change
	(Dollars in thousands)		
Net cash provided by (used in) operating activities	\$ 14,705	\$ (1,975)	\$ 16,680
Net cash used in investing activities	(31,501)	(17,086)	(14,415)
Net cash provided by financing activities	47,924	10,822	37,102
Effect of exchange rate changes on cash and cash equivalents	2,156	(725)	2,881
Increase (decrease) in cash and cash equivalents	\$ 33,284	\$ (8,964)	\$ 42,248

The following table includes details of net cash provided by operating activities.

	Six Months Ended		
	June 30,		
	2017	2016	\$ Change
	(Dollars in thousands)		
Cash flows from operating activities:			
Net income	\$ 43,350	\$ 9,382	\$ 33,968
Loss (gain) on sale of assets and business	1,285	(3,774)	5,059
Depreciation and amortization	23,156	21,929	1,227
Interest amortization	1,432	644	788
Restructuring and impairment	3,874	23,651	(19,777)
Loss on extinguishment of debt	3,905	—	3,905
Accounts receivable	(48,183)	(41,687)	(6,496)

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Inventories	(28,659)	(17,695)	(10,964)
Accounts payable	14,122	3,226	10,896
Other current assets and liabilities, net	(5,111)	2,968	(8,079)
Other adjustments, net	5,534	(619)	6,153
Net cash provided by (used in) operating activities	\$ 14,705	\$ (1,975)	\$ 16,680

Cash flows from operating activities. Cash flows provided by operating activities increased \$16.7 million in the first half of 2017 compared with the prior-year same period. The increase was primarily due to higher earnings after consideration of non-cash items, partially offset by higher cash outflows for other current assets and liabilities of \$8.1 million, and net working capital.

Cash flows from investing activities. Cash flows used in investing activities increased \$14.4 million in the first half of 2017 compared with the prior-year same period. The increase was primarily due to higher cash outflows for business acquisitions of \$8.1 million, and lower proceeds from asset sales of \$3.5 million, which primarily consisted of the proceeds from a closed site in Australia during the six months ended June 30, 2016, and higher capital expenditures.

Cash flows from financing activities. Cash flows provided by financing activities increased \$37.1 million in the first half of 2017 compared with the prior-year same period. As further discussed in Note 8, during the six months ended June 30, 2017, we paid off our Previous Credit Facility and entered into our Credit Facility, consisting of a \$400 million secured revolving line of credit, a \$357.5 million secured term loan facility and a €250 million secured euro term loan facility. This transaction resulted in additional borrowings in the first six months of \$48.1 million compared to the prior-year same period. Further, compared to the prior-year same period, net repayments under loans payable was \$8.7 million higher. Additionally, during the first half of 2017, we paid \$12.9 million

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in debt issuance costs related to the Credit Facility entered into during the period, partially offset by lower purchases of treasury stock during the first half of 2017.

Capital Resources and Liquidity

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 June 30, 2017, the Company had borrowed \$356.6 million under the secured term loan facility at an interest rate of 3.73% and €249.4 million under the secured euro term loan facility at an interest rate of 2.75%. At June 30, 2017, there were no additional borrowings available under the term loan facilities.

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%.

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- 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 June 30, 2017, there were no borrowings under the revolving credit line. After reductions for outstanding letters of credit secured by these facilities, we had \$395.3 million of additional borrowings available under the revolving credit facilities at June 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 Agreement may be accelerated and become immediately due and payable. At June 30, 2017, we were in compliance with the covenants of the Credit Facility.

Off Balance Sheet Arrangements

Consignment and Customer Arrangements for Precious Metals. We use precious metals, primarily silver, in the production of some of our products. We obtain precious metals from financial institutions under consignment agreements. The financial institutions retain ownership of the precious metals and charge us fees based on the amounts we consign and the period of consignment. These fees were \$0.3 million and \$0.2 million for the three months ended June 30, 2017 and 2016. We had on hand precious metals owned by participants in our precious metals program of \$33.4 million at June 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.

The consignment agreements under our precious metals program involve short-term commitments that typically mature within 30 to 90 days of each transaction and are typically renewed on an ongoing basis. As a result, the Company relies on the continued willingness of financial institutions to participate in these arrangements to maintain this source of liquidity. On occasion, we have been required to deliver cash collateral. While no deposits were outstanding at June 30, 2017, or December 31, 2016, we may be required to furnish cash collateral in the future based on the quantity and market value of the precious metals under consignment and the amount of collateral-free lines provided by the financial institutions. The amount of cash collateral required is subject to review by the financial institutions and can be changed at any time at their discretion, based in part on their assessment of our creditworthiness.

Bank Guarantees and Standby Letters of Credit.

At June 30, 2017, the Company and its subsidiaries had bank guarantees and standby letters of credit issued by financial institutions that totaled \$7.1 million. These agreements primarily relate to Ferro's insurance programs, foreign energy purchase contracts and foreign tax payments.

Other Financing Arrangements

We maintain other lines of credit to provide global flexibility for Ferro's short-term liquidity requirements. These facilities are uncommitted lines for our international operations and totaled \$63.3 million and \$7.3 million at June 30, 2017, and December 31, 2016, respectively. We had \$40.4 million and \$6.7 million of additional borrowings available under these lines at June 30, 2017, and December 31, 2016, respectively.

Liquidity Requirements

Our primary sources of liquidity are available cash and cash equivalents, available lines of credit under the revolving credit facility, and cash flows from operating activities. As of June 30, 2017, we had \$78.9 million of cash and cash equivalents. Cash generated in the U.S. is generally used to pay down amounts outstanding under our revolving credit facility and for general corporate purposes, including acquisitions. If needed, we could repatriate the majority of cash held by foreign subsidiaries without the need to accrue and pay U.S. income taxes. We do not anticipate a liquidity need requiring such repatriation of these funds to the U.S.

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Our liquidity requirements and uses primarily include debt service, purchase commitments, labor costs, working capital requirements, restructuring expenditures, acquisition costs, capital investments, precious metals cash collateral requirements, and postretirement obligations. We expect to meet these requirements in the long term through cash provided by operating activities and availability under existing credit facilities or other financing arrangements. Cash flows from operating activities are primarily driven by earnings before non-cash charges and changes in working capital needs. We had additional borrowing capacity of \$435.7 million at June 30, 2017, and \$112.0 million at December 31, 2016, available under our various credit facilities, primarily our revolving credit facility.

Our revolving credit facility subjects us to a customary financial covenant regarding the Company's maximum leverage ratio. This covenant under our credit facility restricts the amount of our borrowings, reducing our flexibility to fund ongoing operations and strategic initiatives.

As of June 30, 2017, we were in compliance with our maximum leverage ratio covenant of 4.25x as our actual ratio was 2.63x, providing \$85.6 million of EBITDA cushion on the leverage ratio, as defined within the Credit Facility. To the extent that economic conditions in key markets deteriorate or we are unable to meet our business projections and EBITDA falls below approximately \$130 million for rolling four quarters, based on reasonably consistent net debt levels with those as of March 31, 2017, we could become unable to maintain compliance with our leverage ratio covenant. In such case, our lenders could demand immediate payment of outstanding amounts and we would need to seek alternate financing sources to pay off such debts and to fund our ongoing operations. Such financing may not be available on favorable terms, if at all.

Difficulties experienced in global capital markets could affect the ability or willingness of counterparties to perform under our various lines of credit, forward contracts, and precious metals program. These counterparties are major, reputable, multinational institutions, all having investment-grade credit ratings. Accordingly, we do not anticipate counterparty default. However, an interruption in access to external financing could adversely affect our business prospects and financial condition.

We assess on an ongoing basis our portfolio of businesses, as well as our financial and capital structure, to ensure that we have sufficient capital and liquidity to meet our strategic objectives. As part of this process, from time to time we evaluate the possible divestiture of businesses that are not critical to our core strategic objectives and, where appropriate, pursue the sale of such businesses and assets. We also evaluate and pursue acquisition opportunities that we believe will enhance our strategic position. Generally, we publicly announce divestiture and acquisition transactions only when we have closed on those transactions.

Critical Accounting Policies and Their Application

There were no material changes to our critical accounting policies described in "Critical Accounting Policies" within Item 7 of our Annual Report on Form 10-K for the year ended December 31, 2016.

Impact of Newly Issued Accounting Pronouncements

Refer to Note 2 to the condensed consolidated financial statements under Item 1 of this Quarterly Report on Form 10-Q for a discussion of accounting standards we recently adopted or will be required to adopt.

Risk Factors

Certain statements contained here and in future filings with the SEC reflect the Company's expectations with respect to future performance and constitute "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. These statements are subject to a variety of uncertainties, unknown risks and other factors concerning the Company's operations and business environment, which are difficult to predict and are beyond the control of the Company. Factors that could adversely affect our future financial performance include those described under the heading "Risk Factors" in Item 1A of Part I of our Annual Report on Form 10-K for the year ended December 31, 2016.

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Item 3. Quantitative and Qualitative Disclosures About Market Risk

The primary objective of the following information is to provide forward-looking quantitative and qualitative information about our exposure to instruments that are sensitive to fluctuations in interest rates, foreign currency exchange rates, and costs of raw materials and energy.

Our exposure to interest rate risk arises from our debt portfolio. We manage this risk by controlling the mix of fixed versus variable-rate debt after considering the interest rate environment and expected future cash flows. Our objective is to limit variability in earnings, cash flows and overall borrowing costs caused by changes in interest rates, while preserving operating flexibility.

We operate internationally and enter into transactions denominated in foreign currencies. These transactions expose us to gains and losses arising from exchange rate movements between the dates foreign currencies are recorded and the dates they are settled. We manage this risk by entering into forward currency contracts that substantially offset these gains and losses.

The notional amounts, carrying amounts of assets (liabilities), and fair values associated with our exposure to these market risks and sensitivity analysis about potential gains (losses) resulting from hypothetical changes in market rates are presented in the table below.

	June 30, 2017	December 31, 2016
	(Dollars in thousands)	
Variable-rate debt:		
Carrying amount	\$ 647,971	\$ 562,537
Fair value	648,130	581,893
Change in annual interest expense from 1% change in interest rates	6,561	5,611
Fixed-rate debt:		
Carrying amount	7,727	8,228
Fair value	6,870	7,315
Change in fair value from 1% increase in interest rates	NM	NM
Change in fair value from 1% decrease in interest rates	NM	NM
Foreign currency forward contracts:		
Notional amount	192,469	338,186
Carrying amount and fair value	(1,188)	350
Change in fair value from 10% appreciation of U.S. dollar	4,266	15,589
Change in fair value from 10% depreciation of U.S. dollar	(5,214)	(19,054)

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Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Ferro is committed to maintaining disclosure controls and procedures that are designed to ensure that information required to be disclosed in its Exchange Act reports is recorded, processed, summarized, and reported within the time periods specified in the U.S. Securities and Exchange Commission's rules and forms, and that such information is accumulated and communicated to its management, including its Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

As required by Rule 13a-15(b) of the Exchange Act, Ferro has carried out an evaluation, under the supervision and with the participation of its management, including its Chief Executive Officer and its Chief Financial Officer, of the effectiveness of the design and operation of its disclosure controls and procedures. The evaluation examined those disclosure controls and procedures as of June 30, 2017, the end of the period covered by this report. Based on that evaluation, our Chief Executive Officer and our Chief Financial Officer concluded that the disclosure controls and procedures were effective as of June 30, 2017.

Changes in Internal Control over Financial Reporting

During the second quarter of 2017, there were no changes in our internal control over financial reporting that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

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PART II — OTHER INFORMATION

Item 1. Legal Proceedings

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

Item 1A. Risk Factors

There were no material changes to the risk factors disclosed in the Company's Annual Report on Form 10-K for the year ended December 31, 2016.

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

Our ability to pay common stock dividends is limited by certain covenants in our Credit Facility other than dividends payable solely in Capital Securities, as defined in the agreement.

The following table summarizes purchases of our common stock by the Company and affiliated purchasers during the three months ended June 30, 2017:

	Total Number of Shares Purchased (Dollars in thousands, except for per share amounts)	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Maximum Dollar Amount that May Yet Be Purchased Under the Plans or Programs
April 1, 2017 to April 30, 2017	—	\$ —	—	\$ 50,000,000
May 1, 2017 to May 31, 2017	—	\$ —	—	\$ 50,000,000
June 1, 2017 to June 30, 2017	—	\$ —	—	\$ 50,000,000
Total	—	—	—	—

Item 3. Defaults Upon Senior Securities

Not applicable.

Item 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

Not applicable.

Item 6. Exhibits

The exhibits listed in the attached Exhibit Index are the exhibits required by Item 601 of Regulation S-K.

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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.

FERRO CORPORATION

(Registrant)

Date: July 26, 2017

/s/ Peter T. Thomas
Peter T. Thomas
Chairman, President and Chief Executive Officer

(Principal Executive Officer)

Date: July 26, 2017

/s/ Benjamin J. Schlater
Benjamin J. Schlater
Vice President and Chief Financial Officer

(Principal Financial Officer)

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EXHIBIT INDEX

The following exhibits are filed with this report or are incorporated here by reference to a prior filing in accordance with Rule 12b-32 under the Securities and Exchange Act of 1934.

Exhibit:

- 2 Plan of acquisition, reorganization, arrangement, liquidation or succession
- 2.1 Sale and Purchase Agreement, dated April 29, 2015, by and among Ferro Corporation, the sellers party thereto, Corporación Química Vhem, S.L. and Dibon USA, LLC. (incorporated by reference to Exhibit 2.1 to Ferro Corporation's Current Report on Form 8-K, filed July 9, 2015)**
- 3 Articles of incorporation and by-laws:
 - 3.1 Eleventh Amended Articles of Incorporation of Ferro Corporation (incorporated by reference to Exhibit 4.1 to Ferro Corporation's Registration Statement on Form S 3, filed March 5, 2008).
 - 3.2 Certificate of Amendment to the Eleventh Amended Articles of Incorporation of Ferro Corporation filed December 29, 1994 (incorporated by reference to Exhibit 4.2 to Ferro Corporation's Registration Statement on Form S 3, filed March 5, 2008).
 - 3.3 Certificate of Amendment to the Eleventh Amended Articles of Incorporation of Ferro Corporation filed on June 23, 1998 (incorporated by reference to Exhibit 4.3 to Ferro Corporation's Registration Statement on Form S 3, filed March 5, 2008).
 - 3.4 Certificate of Amendment to the Eleventh Amended Articles of Incorporation of Ferro Corporation filed on October 14, 2011 (incorporated by reference to Exhibit 3.1 to Ferro Corporation's Current Report on Form 8-K, filed October 17, 2011).
 - 3.5 Certificate of Amendment to the Eleventh Amended Articles of Incorporation of Ferro Corporation filed on April 25, 2014 (incorporated by reference to Exhibit 3.5 to Ferro's Quarterly Report on Form 10-Q, for the quarter ended June 30, 2014).
 - 3.6 Ferro Corporation Amended and Restated Code of Regulations (incorporated by reference to Exhibit 3.1 to Ferro Corporation's current Report on Form 8-K filed December 12, 2016.)
- 4 Instruments defining rights of security holders, including indentures:
 - 4.1 Senior Indenture, dated as of March 5, 2008, by and between Ferro Corporation and U.S. Bank National Association (incorporated by reference to Exhibit 4.5 to Ferro Corporation's Registration Statement on Form S 3, filed March 5, 2008).
 - 4.2 First Supplemental Indenture, dated August 19, 2008, by and between Ferro Corporation and U.S. Bank National Association (with Form of 6.50% Convertible Senior Note due 2013) (incorporated by reference to Exhibit 4.2 to Ferro Corporation's Current Report on Form 8 K, filed August 19, 2008).
 - 4.3 Form of Indenture, by and between Ferro Corporation and Wilmington Trust FSB (incorporated by reference to Exhibit 4.1 to Ferro Corporation's Registration Statement on Form S 3ASR, filed July 27, 2010).
 - 4.4 First Supplemental Indenture, dated August 24, 2010, by and between Ferro Corporation and Wilmington Trust FSB (with Form of 7.875% Senior Notes due 2018) (incorporated by reference to Exhibit 4.1 to Ferro Corporation's Current Report on Form 8 K, filed August 24, 2010).
 - 4.5 Second Supplemental Indenture, dated July 31, 2014, by and between Ferro Corporation and Wilmington Trust, National Association (incorporated by reference to Exhibit 10.1 to Ferro Corporation's current Report on Form 8-K, filed August 5, 2014).

The Company agrees, upon request, to furnish to the U.S. Securities and Exchange Commission a copy of any instrument authorizing long-term debt that does not authorize debt in excess of 10% of the total assets of the Company and its subsidiaries on a consolidated basis.

- 10.1 Credit Agreement, dated as of February 14, 2017, among Ferro Corporation, the lenders party thereto, PNC Bank, National Association, as the administrative agent, collateral agent and a letter of credit issuer, Deutsche Bank AG New York Branch, as the syndication agent and as a letter of credit issuer, and the various financial institutions and other persons from time to time party thereto (incorporated by reference to Exhibit 10.1 to Ferro Corporation's current Report on Form 8-K, filed February 17, 2017).
- 10.2 Second Incremental Assumption Agreement, dated August 29, 2016, by and among Ferro Corporation, PNC Bank, National Association, as the administrative agent, the collateral agent and as an issuer, JPMorgan Chase Bank, N.A., as an issuer, and various financial institutions as lenders. (incorporated by reference to Exhibit 4.1 to Ferro Corporation's current Report on Form 8K, filed August 30, 2016).
- 10.3 Retention Agreement, dated September 1, 2016, by and between Jeffrey L. Rutherford and Ferro Corporation (incorporated by reference to Exhibit 10.2 to Ferro Corporation's Quarterly Report on Form 10-Q for the quarter ended September 30, 2016).*
- 10.4 Separation Agreement and Release, dated January 3, 2017, by and between Jeffrey L. Rutherford and Ferro Corporation.*
- 10.5 Change in Control Agreement, dated September 1, 2016, by and between Benjamin Schlater and Ferro Corporation.*

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Exhibit:

31	Certifications:
31.1	Certification of Principal Executive Officer Pursuant to Rule 13a-14(a)/15d-14(a).
31.2	Certification of Principal Financial Officer Pursuant to Rule 13a-14(a)/15d-14(a).
32.1	Certification of Principal Executive Officer Pursuant to 18 U.S.C. 1350.
32.2	Certification of Principal Financial Officer Pursuant to 18 U.S.C. 1350.
101	XBRL Documents:
101.INS	XBRL Instance Document
101.SCH	XBRL Schema Document
101.CAL	XBRL Calculation Linkbase Document
101.LAB	XBRL Labels Linkbase Document
101.PRE	XBRL Presentation Linkbase Document
101.DEF	XBRL Definition Linkbase Document

*Indicates management contract or compensatory plan, contract or arrangement in which one or more Directors and/or executives of Ferro Corporation may be participants.

** Certain exhibits and schedules have been omitted and the registrant agrees to furnish a copy of any omitted exhibits and schedules to the Securities and Exchange Commission