

## FERRO CORPORATION REPORTS THIRD-QUARTER 2019 RESULTS

MACROECONOMIC UNCERTAINTIES CONTINUED TO PRESSURE TOP LINE;  
 GROSS PROFIT MARGIN IMPROVED OVER PRIOR YEAR QUARTER; 2019 GUIDANCE REVISED FOR FOREIGN EXCHANGE

### 2019 Third Quarter \*

- GAAP Diluted EPS of \$0.16
- Adjusted EPS of \$0.35
- Net Sales declined 7.4% to \$365.7 million
- Net Sales on a constant currency basis declined 5.8%
- Gross Profit of \$100.3 million with Gross Profit Margin of 27.4%, an increase of 70 basis points
- Net Income<sup>1</sup> declined 20.2% to \$12.8 million and Adjusted EBITDA declined 8.7% to \$58.2 million
- Adjusted EPS and EBITDA guidance revised for foreign exchange and Adjusted Free Cash Flow Conversion reaffirmed



Despite lower sales revenue, we increased gross profit margins in each of our reporting segments compared to the prior year quarter. The increase in gross profit margins resulted from both lower raw material costs and our optimization initiatives.

Looking ahead, we expect global macroeconomic uncertainty to continue for the balance of 2019 and into 2020. Customer sentiment remains cautious and order patterns continue to reflect limited visibility. Weakness persists in some key end markets, including European construction and global auto production.

Whatever the macroeconomic circumstances may be, we continue to execute our optimization initiatives to enhance Ferro's operational efficiency and drive long-term value for our shareholders.

Peter Thomas  
 Chairman, President and CEO, Ferro Corporation



### Key Results \* (amounts in thousands, except EPS)

#### Sales and Gross Profits

	Q3 2019	% Change	YTD	% Change
Net Sales	\$ 365,728	-7.4%	\$ 1,147,178	-5.7%
Net Sales (Constant Currency)	365,728	-5.8%	1,147,178	-2.4%
Gross Profit (GAAP)	100,291	-4.9%	310,405	-11.5%
Adjusted Gross Profit (Constant Currency)	101,867	-2.7%	316,663	-7.3%

#### Net Income, EBITDA and EPS

	Q3 2019	% Change	YTD	% Change
Net Income <sup>1</sup>	\$ 12,820	-20.2%	\$ 37,295	-46.0%
Adjusted EBITDA	58,201	-8.7%	168,791	-16.8%
GAAP diluted EPS	\$ 0.16	-15.8%	\$ 0.45	-44.4%
Adjusted EPS	0.35	-5.4%	0.91	-22.2%

\* Comparative information is relative to prior-year third quarter and year-to-date.

<sup>1</sup> Note: Net Income attributable to Ferro Corporation common shareholders.

## Third Quarter Commentary

Net Sales in the third quarter of 2019 declined 7.4%. The decline was primarily driven by lower volumes and mix of \$29.7 million within Performance Coatings, Performance Colors and Glass, and Color Solutions and foreign currency impact of \$7.1 million. On a constant currency basis, net sales declined 5.8%. Net Income declined 20.2% to \$12.8 million, with Adjusted EBITDA of \$58.2 million. Adjusted EBITDA margin was down slightly at 15.9% of Net Sales compared to 16.1% in the prior year quarter.

Gross Profit decreased 4.9% to \$100.3 million, while Gross Profit Margin increased approximately 70 basis points to 27.4% from 26.7% in the prior year quarter. Adjusted Gross Profit declined 3.4% on a constant currency basis. Impacting Gross Profit was a shift in sales volume and mix, as well as unfavorable manufacturing costs and foreign currency exchange rates, partially offset with higher pricing and lower raw material costs.

During the quarter, the Company did not repurchase any shares of common stock. Approximately \$46.2 million remains available under the current share repurchase authorization.

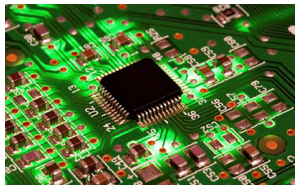
## Segment Results \* (amounts in thousands)



### Performance Coatings

Net Sales	\$ 162,391	-7.7%	\$ 510,970	-7.8%
Net Sales (Constant Currency)	162,391	-6.0%	510,970	-4.2%
Gross Profit (GAAP)	35,436	-2.3%	108,903	-16.4%
Adjusted Gross Profit (Constant Currency)	35,882	0.9%	110,661	-11.4%

	Q3 2019	% Change	YTD	% Change
Net Sales	\$ 162,391	-7.7%	\$ 510,970	-7.8%
Net Sales (Constant Currency)	162,391	-6.0%	510,970	-4.2%
Gross Profit (GAAP)	35,436	-2.3%	108,903	-16.4%
Adjusted Gross Profit (Constant Currency)	35,882	0.9%	110,661	-11.4%



### Performance Colors & Glass

Net Sales	\$ 112,742	-8.5%	\$ 351,991	-4.8%
Net Sales (Constant Currency)	112,742	-6.8%	351,991	-1.5%
Gross Profit (GAAP)	36,829	-8.1%	115,672	-10.2%
Adjusted Gross Profit (Constant Currency)	37,114	-5.6%	116,484	-6.4%

	Q3 2019	% Change	YTD	% Change
Net Sales	\$ 112,742	-8.5%	\$ 351,991	-4.8%
Net Sales (Constant Currency)	112,742	-6.8%	351,991	-1.5%
Gross Profit (GAAP)	36,829	-8.1%	115,672	-10.2%
Adjusted Gross Profit (Constant Currency)	37,114	-5.6%	116,484	-6.4%



### Color Solutions

Net Sales	\$ 90,595	-5.6%	\$ 284,217	-3.0%
Net Sales (Constant Currency)	90,595	-3.9%	284,217	-0.1%
Gross Profit (GAAP)	29,122	-3.5%	87,220	-7.1%
Adjusted Gross Profit (Constant Currency)	29,017	-5.1%	89,128	-4.4%

	Q3 2019	% Change	YTD	% Change
Net Sales	\$ 90,595	-5.6%	\$ 284,217	-3.0%
Net Sales (Constant Currency)	90,595	-3.9%	284,217	-0.1%
Gross Profit (GAAP)	29,122	-3.5%	87,220	-7.1%
Adjusted Gross Profit (Constant Currency)	29,017	-5.1%	89,128	-4.4%

\*Comparative information is relative to prior-year third quarter and year-to-date.

## Full Year 2019 Guidance (as of 11/11/2019)

The Company is updating its guidance for full-year 2019 Adjusted EPS and Adjusted EBITDA, due to the lower USD/EUR exchange rate. The Company is reaffirming its guidance on Adjusted Free Cash Flow Conversion. The table below reflects our updated guidance.

	Adjusted EBITDA	Adjusted EPS	Adjusted Free Cash Flow from Operations Conversion <sup>1</sup>
<b>Updated Guidance (11/11/2019)</b>	\$222M - \$227M	\$1.15 - \$1.20	45% to 50%
2019 Guidance (7/31/2019)	\$225M to \$240M	\$1.17 to 1.27	45% to 50%

*The 2019 guidance assumes no acquisitions, divestitures, restructuring, acquisition-related professional fees, optimization programs spend, or repurchase of common stock.*

*Note: The full-year 2019 guidance uses foreign exchange rates as of Sept 30, 2019, which includes a USD/EUR exchange rate at 1.11.*

*Ferro is providing Adjusted Diluted EPS, Adjusted EBITDA and Adjusted Free Cash Flow from Operations Conversion guidance on a continuing operations basis. While it is likely that Ferro could incur charges for items excluded from Adjusted Diluted EPS, Adjusted EBITDA and Adjusted Free Cash Flow from Operations conversion such as mark-to-market adjustments of pension and other postretirement benefit obligations, restructuring and impairment charges, and legal and professional expenses related to certain business development activities, it is not possible, without unreasonable effort, to identify the amount or significance of these items or the potential for other transactions that may impact future GAAP net income and cash flow from operating activities. Management does not believe these items to be representative of underlying business performance. Management is unable to reconcile, without unreasonable effort, the Company's forecasted range of these adjusted non-GAAP financial measures to their most directly comparable GAAP financial measures.*

### Currency Exposure 2018 Weighting

EUR - Euro	40% to 45%
CNY -Yuan Renminbi	6% to 8%
MXN – Mexican Peso	4% to 6%
EGP – Egyptian Pound	3% to 5%

### 2019 Guidance FX sensitivity

% Change	Operating Profit
+1% all FX change	~ \$1.5 million to ~\$1.7 million
+1% Euro change	~\$1.1 million to ~\$1.3 million

## Constant Currency

Constant currency results reflect the remeasurement of 2018 reported and adjusted local currency results using 2019 exchange rates, which produces constant currency comparative figures to 2019 reported and adjusted results. These non-GAAP financial measures should not be considered as a substitute for the measures of financial performance prepared in accordance with GAAP.

## Conference Call

Ferro will conduct an investor teleconference at 9:00 a.m. EDT Tuesday, November 12, 2019. Investors can access this conference via any of the following:

- Webcast can be accessed by clicking on the Investors link at the top of Ferro's website at [ferro.com](http://ferro.com).
- Live telephone: Call 800-926-7358 within the U.S. or +1 212-231-2937 outside the U.S. Please join the call at least 10 minutes before the start time.
- Webcast replay: Available on Ferro's Investor website at [ferro.com](http://ferro.com) beginning at approximately 4:30 p.m. Eastern Time on November 12, 2019.
- Telephone replay: Call 800-633-8284 within the U.S. or +1 402-977-9140 outside the U.S. (for both U.S. and outside the U.S. access code is 21932210).
- Presentation material and podcast: Earnings presentation material and podcasts can be accessed through the Investors portion of the Company's website at [ferro.com](http://ferro.com).

## About Ferro Corporation

Ferro Corporation ([www.ferro.com](http://www.ferro.com)) is a leading global supplier of technology-based functional coatings and color solutions. Ferro supplies functional coatings for glass, metal, ceramic and other substrates and color solutions in the form of specialty pigments and colorants for a broad range of industries and applications. Ferro products are sold into the building and construction, automotive, electronics, industrial products, household furnishings and appliance markets. The Company's reportable segments include: Performance Coatings (metal and ceramic coatings), Performance Colors and Glass (glass coatings), and Color Solutions. Headquartered in Mayfield Heights, Ohio, the Company has approximately 5,900 associates globally and reported 2018 sales of \$1.6 billion.

## Cautionary Note on Forward-Looking Statements

Certain statements in this press release may constitute “forward-looking statements” within the meaning of federal securities laws. These statements are subject to a variety of uncertainties, unknown risks, and other factors concerning the Company’s operations and business environment. Important factors that could cause actual results to differ materially from those suggested by these forward-looking statements and that could adversely affect the Company’s future financial performance include the following:

- demand in the industries into which Ferro sells its products may be unpredictable, cyclical, or heavily influenced by consumer spending;
- the effectiveness of the Company’s efforts to improve operating margins through sales growth, price increases, productivity gains, and improved purchasing techniques;
- currency conversion rates and economic, social, political, and regulatory conditions in the U.S. and around the world;
- the availability of reliable sources of energy and raw materials at a reasonable cost;
- Ferro’s ability to successfully implement and/or administer its optimization initiatives, including its investment and restructuring programs, and to produce the desired results;
- Ferro’s ability to successfully introduce new products and services or enter into new growth markets;
- Ferro’s ability to identify suitable acquisition candidates, complete acquisitions, effectively integrate the acquired businesses and achieve the expected synergies, as well as the acquisitions being accretive and Ferro achieving the expected returns on invested capital;
- competitive factors, including intense price competition;
- the impact of damage to, or the interruption, failure or compromise of the Company’s information systems due to events including but not limited to aging information systems infrastructure, computer viruses and cyber security breaches;
- the implementation and operations of business information systems and processes;
- increased, and possibly inconsistent, domestic and foreign regulations of privacy and data security;
- restrictive covenants in the Company’s credit facilities could affect its strategic initiatives and liquidity;
- Ferro’s ability to access capital markets, borrowings or financial transactions;
- increasingly aggressive domestic and foreign governmental regulation of hazardous and other materials and regulations affecting health, safety and the environment;
- our ability to address safety, human health, product liability and environmental risks associated with our current and historical products, product life cycles and production processes;
- exposure to lawsuits, governmental investigations and proceedings relating to current and historical operations and products;
- sale of products and materials into highly regulated industries;
- limited or no redundancy for certain of the Company’s manufacturing facilities and possible interruption of operations at those facilities;
- Ferro’s ability to protect its intellectual property, including trade secrets, or to successfully resolve claims of infringement brought against it;
- Ferro’s multi-jurisdictional tax structure and its ability to reduce its effective tax rate, including the impact of the Company’s performance on its ability to utilize significant deferred tax assets;
- the impact of the Tax Cuts and Jobs Act on our business;
- Ferro’s borrowing costs could be affected adversely by interest rate increases;
- stringent labor and employment laws and relationships with the Company’s employees;
- management of Ferro’s general and administrative expenses;
- the impact of requirements to fund employee benefit costs, especially post-retirement costs;
- implementation of business processes and information systems, including the outsourcing of functions to third parties;
- risks associated with the manufacture and sale of material into industries making products for sensitive applications;
- our ability to attract and retain key personnel;

## Cautionary Note on Forward-Looking Statements (continued)

- changes in U.S. and other governments' trade policies;
- risks and uncertainties associated with intangible assets;
- liens on the Company's assets by its lenders affect its ability to dispose of property and businesses;
- amount and timing of any repurchase of Ferro's common stock;
- challenges associated with a multi-national company such as Ferro competing lawfully with local competitors in certain regions of the world;
- the effectiveness of strategies to increase Ferro's return on invested capital, internal rate of return and other return metrics, and the short-term impact that acquisitions may have on such metrics; and
- other factors affecting the Company's business that are beyond its control, including disasters, accidents and governmental actions.

The risks and uncertainties identified above are not the only risks the Company faces. Additional risks and uncertainties not presently known to the Company or that it currently believes to be immaterial also may adversely affect the Company. Should any known or unknown risks and uncertainties develop into actual events, these developments could have material adverse effects on our business, financial condition and results of operations.

This release contains time-sensitive information that reflects management's best analysis only as of the date of this release. The Company does not undertake any obligation to publicly update or revise any forward-looking statements to reflect future events, information or circumstances that arise after the date of this release.

Additional information regarding these risks can be found in our Annual Report on Form 10-K for the year ended December 31, 2018.

## Ferro Corporation

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Director of Investor Relations and Corporate Communications

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**Table 1**  
**Ferro Corporation and Subsidiaries**  
**Condensed Consolidated Statements of Operations (unaudited)**

(In thousands, except per share amounts)

	Three Months Ended		Nine Months Ended	
	September 30,		September 30,	
	2019	2018	2019	2018
<b>Net sales</b>	\$ 365,728	\$ 395,163	\$ 1,147,178	\$ 1,216,934
Cost of sales	265,437	289,676	836,773	866,116
Gross profit	100,291	105,487	310,405	350,818
Selling, general and administrative expenses	67,723	64,344	211,448	207,560
Restructuring and impairment charges	6,226	2,561	18,613	10,435
Other expense (income):				
Interest expense	8,138	8,553	25,198	24,715
Interest earned	(93)	(110)	(329)	(497)
Foreign currency losses, net	3,497	2,554	5,615	7,054
Loss on extinguishment of debt	-	-	-	3,226
Miscellaneous expense (income), net	(2,139)	74	(1,505)	(523)
<b>Income before income taxes</b>	16,939	27,511	51,365	98,848
Income tax expense	3,729	11,368	13,168	29,246
<b>Net income</b>	13,210	16,143	38,197	69,602
Less: Net income attributable to noncontrolling interests	390	85	902	485
<b>Net income attributable to Ferro Corporation common shareholders</b>	\$ 12,820	\$ 16,058	\$ 37,295	\$ 69,117
<b>Earnings per share attributable to Ferro Corporation common shareholders:</b>				
Basic earnings per share	0.16	0.19	0.45	0.82
Diluted earnings per share	0.16	0.19	0.45	0.81
<b>Shares outstanding:</b>				
Weighted-average basic shares	81,942	83,893	82,118	84,154
Weighted-average diluted shares	82,495	85,162	82,956	85,428
End-of-period basic shares	81,968	83,657	81,968	83,657

**Table 2**  
**Ferro Corporation and Subsidiaries**  
**Segment Net Sales, Gross Profit and SG&A (unaudited)**

(Dollars in thousands)

	Three Months Ended		Nine Months Ended	
	September 30,		September 30,	
	2019	2018	2019	2018
<b>Segment Net Sales</b>				
Performance Coatings	\$ 162,391	\$ 175,939	\$ 510,970	\$ 554,036
Performance Colors and Glass	112,742	123,277	351,991	369,809
Color Solutions	90,595	95,947	284,217	293,089
Total segment net sales	\$ 365,728	\$ 395,163	\$ 1,147,178	\$ 1,216,934
<b>Segment Gross Profit</b>				
Performance Coatings	\$ 35,436	\$ 36,257	\$ 108,903	\$ 130,319
Performance Colors and Glass	36,829	40,095	115,672	128,785
Color Solutions	29,122	30,174	87,220	93,864
Other costs of sales	(1,096)	(1,039)	(1,390)	(2,150)
Total gross profit	\$ 100,291	\$ 105,487	\$ 310,405	\$ 350,818
<b>Selling, general and administrative expenses</b>				
Strategic services	\$ 35,686	\$ 37,084	\$ 114,507	\$ 117,905
Functional services	31,130	26,388	88,835	79,430
Incentive compensation	607	(489)	2,161	5,008
Stock-based compensation	300	1,361	5,945	5,217
Total selling, general and administrative expenses	\$ 67,723	\$ 64,344	\$ 211,448	\$ 207,560



**Table 3**  
**Ferro Corporation and Subsidiaries**  
**Condensed Consolidated Balance Sheets (unaudited)**

(Dollars in thousands)

	September 30, 2019	December 31, 2018
<b>ASSETS</b>		
<b>Current assets</b>		
Cash and cash equivalents	\$ 51,741	\$ 104,301
Accounts receivable, net	320,359	306,882
Inventories	358,301	356,998
Other receivables	90,209	91,143
Other current assets	23,239	23,960
Total current assets	843,849	883,284
<b>Other assets</b>		
Property, plant and equipment, net	382,842	381,341
Goodwill	203,595	216,464
Intangible assets, net	169,947	184,953
Deferred income taxes	103,648	103,488
Operating leased assets	23,206	-
Other non-current assets	55,595	42,930
Total assets	<u>\$ 1,782,682</u>	<u>\$ 1,812,460</u>
<b>LIABILITIES AND EQUITY</b>		
<b>Current liabilities</b>		
Loans payable and current portion of long-term debt	\$ 18,136	\$ 10,260
Accounts payable	178,412	256,573
Accrued payrolls	34,931	39,989
Accrued expenses and other current liabilities	91,185	77,995
Total current liabilities	322,664	384,817
<b>Other liabilities</b>		
Long-term debt, less current portion	827,791	811,137
Postretirement and pension liabilities	168,218	173,046
Operating leased non-current liabilities	14,905	-
Other non-current liabilities	62,306	57,611
Total liabilities	1,395,884	1,426,611
<b>Equity</b>		
Total Ferro Corporation shareholders' equity	377,586	376,631
Noncontrolling interests	9,212	9,218
Total liabilities and equity	<u>\$ 1,782,682</u>	<u>\$ 1,812,460</u>

**Table 4**  
**Ferro Corporation and Subsidiaries**  
**Condensed Consolidated Statements of Cash Flows (unaudited)**

(Dollars in thousands)

	Three Months Ended		Nine Months Ended	
	September 30,		September 30,	
	2019	2018	2019	2018
<b>Cash flows from operating activities</b>				
Net income	\$ 13,210	\$ 16,143	\$ 38,197	\$ 69,602
(Gain) loss on sale of assets	272	197	(947)	485
Depreciation and amortization	16,791	13,272	45,141	40,238
Interest amortization	968	911	2,780	2,684
Restructuring and impairment	3,079	(1,202)	9,837	4,277
Loss on extinguishment of debt	-	-	-	3,226
Accounts receivable	(7,252)	14,325	(78,082)	(36,439)
Inventories	5,919	6,531	(9,182)	(58,833)
Accounts payable	(4,980)	12,634	(63,452)	11,103
Other current assets and liabilities, net	4,280	1,469	3,735	(17,331)
Other adjustments, net	(20,578)	9,081	(15,267)	16,674
Net cash used in operating activities	11,709	73,361	(67,240)	35,686
<b>Cash flows from investing activities</b>				
Capital expenditures for property, plant and equipment and other long lived assets	(3,186)	(20,585)	(40,820)	(64,154)
Collections of financing receivables	19,633	-	60,904	-
Business acquisitions, net of cash acquired	-	(42,882)	(251)	(47,802)
Other investing activities	32	6	1,930	37
Net cash provided by (used in) investing activities	16,479	(63,461)	21,763	(111,919)
<b>Cash flows from financing activities</b>				
Net borrowings (repayments) under loans payable	692	(15,354)	8,220	(17,182)
Principal payments on term loan facility - Credit Facility	-	-	-	(304,060)
Principal payments on term loan facility - Amended Credit Facility	(2,050)	(2,050)	(6,150)	(4,100)
Proceeds from revolving credit facility - Credit Facility	-	-	-	134,950
Principal payments on revolving credit facility - Credit Facility	-	-	-	(212,950)
Proceeds from revolving credit facility - Amended Credit Facility	50,646	167,443	216,066	168,023
Proceeds from term loan facility - Amended Credit Facility	-	-	-	466,075
Principal payments on revolving credit facility - Amended Credit Facility	(70,652)	(56,090)	(193,595)	(56,090)
Payment of debt issuance costs	-	-	-	(3,466)
Acquisition-related contingent consideration payment	(5,200)	(9,116)	(5,200)	(9,464)
Purchase of treasury stock	-	(10,985)	(25,000)	(16,999)
Other financing activities	(189)	(1,129)	(757)	(3,516)
Net cash (used in) provided by financing activities	(26,753)	72,719	(6,416)	141,221
Effect of exchange rate changes on cash and cash equivalents	(1,005)	(1,227)	(667)	(2,261)
<b>Decrease in cash and cash equivalents</b>	430	81,392	(52,560)	62,727
Cash and cash equivalents at beginning of period	51,311	44,886	104,301	63,551
<b>Cash and cash equivalents at end of period</b>	<b>\$ 51,741</b>	<b>\$ 126,278</b>	<b>\$ 51,741</b>	<b>\$ 126,278</b>
Cash paid during the period for:				
Interest	\$ 8,518	\$ 8,407	\$ 25,475	\$ 24,857
Income taxes	\$ 4,594	\$ 3,199	\$ 12,845	\$ 17,577

**Table 5**  
**Ferro Corporation and Subsidiaries**  
**Supplemental Information**  
**Reconciliation of Reported Income to Adjusted Income**  
**For the Three Months Ended September 30 (unaudited)**

(Dollars in thousands, except per share amounts)	Cost of sales	Selling general and administrative expenses	Restructuring and impairment charges	Other expense, net	Income tax expense <sup>4</sup>	Net income attributable to common shareholders	Diluted earnings per share
<b>2019</b>							
As reported	\$ 265,437	\$ 67,723	\$ 6,226	\$ 9,403	\$ 3,729	\$ 12,820	\$ 0.16
Adjustments:							
Restructuring	-	-	(6,226)	-	-	6,226	0.08
Acquisition related costs <sup>1</sup>	(479)	(8,387)	-	-	-	8,866	0.11
Costs related to optimization projects	(1,097)	(1,053)	-	-	-	2,150	0.03
Costs related to divested businesses and assets	-	(926)	-	(62)	-	988	0.01
Other <sup>3</sup>	-	-	-	(1,323)	-	1,323	-
Tax on adjustments	-	-	-	-	3,720	(3,720)	(0.05)
Total adjustments <sup>5</sup>	(1,576)	(10,366)	(6,226)	(1,385)	3,720	15,833	0.19
As adjusted	\$ 263,861	\$ 57,357	\$ -	\$ 8,018	\$ 7,449	\$ 28,653	\$ 0.35
<b>2018</b>							
As reported	\$ 289,676	\$ 64,344	\$ 2,561	\$ 11,071	\$ 11,368	\$ 16,058	\$ 0.19
Adjustments:							
Restructuring	-	-	(2,561)	-	-	2,561	0.03
Acquisition related costs <sup>2</sup>	(789)	(5,684)	-	(88)	-	6,561	0.08
Costs related to optimization projects	(316)	(2,509)	-	-	-	2,825	0.03
Costs related to divested businesses and assets	-	-	-	(180)	-	180	-
Other <sup>3</sup>	-	-	-	(987)	-	987	0.01
Tax on adjustments	-	-	-	-	(2,405)	2,405	0.03
Total adjustments <sup>5</sup>	(1,105)	(8,193)	(2,561)	(1,255)	(2,405)	15,519	0.18
As adjusted	\$ 288,571	\$ 56,151	\$ -	\$ 9,816	\$ 8,963	\$ 31,577	\$ 0.37

- (1) The adjustments to "Cost of Sales" primarily include environmental costs related to our recent acquisitions. The adjustments to "Selling general and administrative expenses" primarily include legal, professional and other expenses related to acquisition costs. The adjustments to "Other expense, net" relate to purchase price adjustments related to an acquisition that is beyond the measurement period.
- (2) The adjustments to "Cost of Sales" primarily include the amortization of purchase accounting adjustments related to our recent acquisitions and environmental costs related to our recent acquisitions. The adjustments to "Selling general and administrative expenses" primarily include legal, professional and other expenses related to acquisition costs. The adjustments to "Other expense, net" relate to earn out adjustments related to an acquisition that are beyond the measurement period.
- (3) The adjustments to "Other expense, net" primarily relate to impacts of currency related items in Argentina.
- (4) Income tax expense reflects the reported expense, adjusted for adjustments being tax effected at the respective statutory rate where the item originated.
- (5) Due to rounding, total earnings per share related to adjustments does not always add to the total adjusted earnings per share.

It should be noted that adjusted net income, earnings per share and other adjusted items referred to above are financial measures not required by, or presented in accordance with, accounting principles generally accepted in the United States (U.S. GAAP). These Non-GAAP financial measures should be considered as a supplement to, and not as a substitute for, the financial measures prepared in accordance with U.S. GAAP, and a reconciliation of these financial measures to the most comparable U.S. GAAP financial measures is presented. We believe this data provides investors with additional useful information on the underlying operations and trends of the business and enables period-to-period comparability of financial performance.

**Table 6**  
**Ferro Corporation and Subsidiaries**  
**Supplemental Information**  
**Reconciliation of Reported Income to Adjusted Income**  
**For the Nine Months Ended September 30 (unaudited)**

(Dollars in thousands, except per share amounts)	Cost of sales	Selling general and administrative expenses	Restructuring and impairment charges	Other expense, net	Income tax expense <sup>5</sup>	Net income attributable to common shareholders	Diluted earnings per share	
								2019
As reported	\$ 836,773	\$ 211,448	\$ 18,613	\$ 28,979	\$ 13,168	\$ 37,295	\$ 0.45	
Adjustments:								
Restructuring	-	-	(18,613)	-	-	18,613	0.22	
Acquisition related costs <sup>1</sup>	(875)	(16,115)	-	(768)	-	17,758	0.21	
Costs related to optimization projects	(5,383)	(3,688)	-	(50)	-	9,121	0.11	
Costs related to divested businesses and assets	-	(1,732)	-	(201)	-	1,933	0.02	
Other <sup>3</sup>	-	-	-	(86)	-	86	-	
Tax on adjustments	-	-	-	-	9,108	(9,108)	(0.11)	
Total adjustments <sup>6</sup>	(6,258)	(21,535)	(18,613)	(1,105)	9,108	38,403	0.45	
As adjusted	\$ 830,515	\$ 189,913	\$ -	\$ 27,874	\$ 22,276	\$ 75,698	\$ 0.91	
	2018							
As reported	\$ 866,116	\$ 207,560	\$ 10,435	\$ 33,975	\$ 29,246	\$ 69,117	\$ 0.81	
Adjustments:								
Restructuring	-	-	(10,435)	-	-	10,435	0.12	
Acquisition related costs <sup>2</sup>	(1,741)	(11,479)	-	(854)	-	14,074	0.16	
Costs related to optimization projects	(949)	(4,874)	-	-	-	5,823	0.07	
Costs related to divested businesses and assets	-	(384)	-	(269)	-	653	-	
Other <sup>4</sup>	-	-	-	(2,567)	-	2,567	0.03	
Tax on adjustments	-	-	-	-	2,862	(2,862)	(0.03)	
Total adjustments <sup>6</sup>	(2,690)	(16,737)	(10,435)	(3,690)	2,862	30,690	0.35	
As adjusted	\$ 863,426	\$ 190,823	\$ -	\$ 30,285	\$ 32,108	\$ 99,807	\$ 1.17	

- (1) The adjustments to "Cost of Sales" primarily include the amortization of purchase accounting adjustments related to our recent acquisitions and environmental costs related to our recent acquisitions. The adjustments to "Selling general and administrative expenses" primarily include legal, professional and other expenses related to acquisition costs. The adjustments to "Other expense, net" relate to purchase price adjustments related to an acquisition that is beyond the measurement period.
- (2) The adjustments to "Cost of Sales" primarily include the amortization of purchase accounting adjustments related to our recent acquisitions and environmental costs related to our recent acquisitions. The adjustments to "Selling general and administrative expenses" primarily include legal, professional and other expenses related to acquisition costs. The adjustments to "Other expense, net" primarily relate to earn out adjustments related to an acquisition that are beyond the measurement period.
- (3) The adjustments to "Other expense, net" relate to gains and losses on asset sales and impacts of currency related items in Argentina.
- (4) The adjustments to "Other expense, net" primarily relate to impacts of currency related items in Argentina, debt extinguishment charges, fees expensed associated with the Amended Credit Facility and a gain recognized on increasing our ownership interest in FMU.
- (5) Income tax expense reflects the reported expense, adjusted for adjustments being tax effected at the respective statutory rate where the item originated.
- (6) Due to rounding, total earnings per share related to adjustments does not always add to the total adjusted earnings per share.

It should be noted that adjusted net income, earnings per share and other adjusted items referred to above are financial measures not required by, or presented in accordance with, accounting principles generally accepted in the United States (U.S. GAAP). These Non-GAAP financial measures should be considered as a supplement to, and not as a substitute for, the financial measures prepared in accordance with U.S. GAAP, and a reconciliation of these financial measures to the most comparable U.S. GAAP financial measures is presented. We believe this data provides investors with additional useful information on the underlying operations and trends of the business and enables period-to-period comparability of financial performance.

**Table 7**  
**Ferro Corporation and Subsidiaries**  
**Supplemental Information**  
**Reconciliation of Adjusted Gross Profit**

(Dollars in thousands)

	Three Months Ended		Nine Months Ended	
	September 30,		September 30,	
	2019	2018	2019	2018
Performance Coatings	\$ 162,391	\$ 175,939	\$ 510,970	\$ 554,036
Performance Colors and Glass	112,742	123,277	351,991	369,809
Color Solutions	90,595	95,947	284,217	293,089
Total net sales	<u>\$ 365,728</u>	<u>\$ 395,163</u>	<u>\$ 1,147,178</u>	<u>\$ 1,216,934</u>
Total net sales	\$ 365,728	\$ 395,163	\$ 1,147,178	\$ 1,216,934
Adjusted cost of sales <sup>1</sup>	<u>263,861</u>	<u>288,571</u>	<u>830,515</u>	<u>863,426</u>
Adjusted gross profit	<u>\$ 101,867</u>	<u>\$ 106,592</u>	<u>\$ 316,663</u>	<u>\$ 353,508</u>
Adjusted gross profit percentage	27.9%	27.0%	27.6%	29.0%

- (1) Refer to Table 5 for the reconciliation of adjusted cost of sales for the three months ended September 30, 2019 and 2018, respectively. Refer to Table 6 for the reconciliation of adjusted cost of sales for the nine months ended September 30, 2019 and 2018, respectively.

It should be noted that adjusted gross profit is a financial measure not required by, or presented in accordance with, accounting principles generally accepted in the United States (U.S. GAAP). This Non-GAAP financial measure should be considered as a supplement to, and not as a substitute for, the financial measures prepared in accordance with U.S. GAAP and a reconciliation of this financial measure to the most comparable U.S. GAAP financial measure is presented. We believe this data provides investors with additional useful information on the underlying operations and trends of the business and enables period-to-period comparability of financial performance.

**Table 8**  
**Ferro Corporation and Subsidiaries**  
**Supplemental Information**  
**Constant Currency Schedule of Adjusted Operating Profit (unaudited)**

(Dollars in thousands)	Three Months Ended September 30,			
	2018	Adjusted 2018 <sup>1</sup>	2019	2019 vs Adjusted 2018
<b>Segment net sales</b>				
Performance Coatings	\$ 175,939	\$ 172,835	\$ 162,391	\$ (10,444)
Performance Colors and Glass	123,277	120,930	112,742	(8,188)
Color Solutions	95,947	94,288	90,595	(3,693)
<b>Total segment net sales</b>	<b>\$ 395,163</b>	<b>\$ 388,053</b>	<b>\$ 365,728</b>	<b>\$ (22,325)</b>
<b>Segment adjusted gross profit</b>				
Performance Coatings	\$ 36,257	\$ 35,562	\$ 35,882	\$ 320
Performance Colors and Glass	40,095	39,335	37,114	(2,221)
Color Solutions	31,018	30,565	29,017	(1,548)
Other costs of sales	(778)	(759)	(146)	613
<b>Total adjusted gross profit<sup>2</sup></b>	<b>\$ 106,592</b>	<b>\$ 104,703</b>	<b>\$ 101,867</b>	<b>\$ (2,836)</b>
<b>Adjusted selling, general and administrative expenses</b>				
Strategic services	\$ 36,313	\$ 35,403	\$ 35,597	\$ 194
Functional services	18,966	18,866	20,853	1,987
Incentive compensation	(489)	(590)	607	1,197
Stock-based compensation	1,361	1,361	300	(1,061)
<b>Total adjusted selling, general and administrative expenses<sup>3</sup></b>	<b>\$ 56,151</b>	<b>\$ 55,040</b>	<b>\$ 57,357</b>	<b>\$ 2,317</b>
<b>Adjusted operating profit</b>	<b>\$ 50,441</b>	<b>\$ 49,663</b>	<b>\$ 44,510</b>	<b>\$ (5,153)</b>
<b>Adjusted operating profit as a % of net sales</b>	<b>12.8%</b>	<b>12.8%</b>	<b>12.2%</b>	

(1) Reflects the remeasurement of 2018 reported and adjusted local currency results using 2019 exchange rates, resulting in constant currency comparative figures to 2019 reported and adjusted results. See Table 5 for Non-GAAP adjustments applicable to the three month period.

(2) Refer to Table 7 for the reconciliation of adjusted gross profit for the three months ended September 30, 2019 and 2018, respectively.

(3) Refer to Table 5 for the reconciliation of adjusted SG&A expenses for the three months ended September 30, 2019 and 2018, respectively.

It should be noted that adjusted net sales, gross profit, SG&A expenses, and operating profit are financial measures not required by, or presented in accordance with, accounting principles generally accepted in the United States (U.S. GAAP). These Non-GAAP financial measures should be considered as a supplement to, and not as a substitute for, the financial measures prepared in accordance with U.S. GAAP and a reconciliation of these financial measures to the most comparable U.S. GAAP financial measures are presented within this table, as well as Table 5 and Table 7. We believe this data provides investors with additional useful information on the underlying operations and trends of the business and enables period-to-period comparability of financial performance.

**Table 9**  
**Ferro Corporation and Subsidiaries**  
**Supplemental Information**  
**Constant Currency Schedule of Adjusted Operating Profit (unaudited)**

(Dollars in thousands)	Nine Months Ended September 30,			
	2018	Adjusted 2018 <sup>1</sup>	2019	2019 vs Adjusted 2018
<b>Segment net sales</b>				
Performance Coatings	\$ 554,036	\$ 533,276	\$ 510,970	\$ (22,306)
Performance Colors and Glass	369,809	357,253	351,991	(5,262)
Color Solutions	293,089	284,373	284,217	(156)
<b>Total segment net sales</b>	<b>\$ 1,216,934</b>	<b>\$ 1,174,902</b>	<b>\$ 1,147,178</b>	<b>\$ (27,724)</b>
<b>Segment adjusted gross profit</b>				
Performance Coatings	\$ 130,186	\$ 124,892	\$ 110,661	\$ (14,231)
Performance Colors and Glass	128,789	124,395	116,484	(7,911)
Color Solutions	95,661	93,244	89,128	(4,116)
Other costs of sales	(1,128)	(1,104)	390	1,494
<b>Total adjusted gross profit<sup>2</sup></b>	<b>\$ 353,508</b>	<b>\$ 341,427</b>	<b>\$ 316,663</b>	<b>\$ (24,764)</b>
<b>Adjusted selling, general and administrative expenses</b>				
Strategic services	\$ 116,993	\$ 112,286	\$ 114,176	\$ 1,890
Functional services	63,612	62,593	68,156	5,563
Incentive compensation	5,001	4,702	2,161	(2,541)
Stock-based compensation	5,217	5,216	5,420	204
<b>Total adjusted selling, general and administrative expenses<sup>3</sup></b>	<b>\$ 190,823</b>	<b>\$ 184,797</b>	<b>\$ 189,913</b>	<b>\$ 5,116</b>
<b>Adjusted operating profit</b>	<b>\$ 162,685</b>	<b>\$ 156,630</b>	<b>\$ 126,750</b>	<b>\$ (29,880)</b>
<b>Adjusted operating profit as a % of net sales</b>	<b>13.4%</b>	<b>13.3%</b>	<b>11.0%</b>	

(1) Reflects the remeasurement of 2018 reported and adjusted local currency results using 2019 exchange rates, resulting in constant currency comparative figures to 2019 reported and adjusted results. See Table 6 for Non-GAAP adjustments applicable to the nine month period.

(2) Refer to Table 7 for the reconciliation of adjusted gross profit for the nine months ended September 30, 2019 and 2018, respectively.

(3) Refer to Table 6 for the reconciliation of adjusted SG&A expenses for the nine months ended September 30, 2019 and 2018, respectively.

It should be noted that adjusted net sales, gross profit, SG&A expenses, and operating profit are financial measures not required by, or presented in accordance with, accounting principles generally accepted in the United States (U.S. GAAP). These Non-GAAP financial measures should be considered as a supplement to, and not as a substitute for, the financial measures prepared in accordance with U.S. GAAP and a reconciliation of these financial measures to the most comparable U.S. GAAP financial measures are presented within this table, as well as Table 6 and Table 7. We believe this data provides investors with additional useful information on the underlying operations and trends of the business and enables period-to-period comparability of financial performance.

**Table 10**  
**Ferro Corporation and Subsidiaries**  
**Supplemental Information**  
**Reconciliation of Net income attributable to Ferro Corporation**  
**common shareholders to Adjusted EBITDA (unaudited)**

(Dollars in thousands)

	Three Months Ended		Nine Months Ended	
	September 30,		September 30,	
	2019	2018	2019	2018
Net income attributable to Ferro Corporation common shareholders	\$ 12,820	\$ 16,058	\$ 37,295	\$ 69,117
Net income attributable to noncontrolling interests	390	85	902	485
Restructuring and impairment charges	6,226	2,561	18,613	10,435
Other expense, net	1,265	2,518	3,781	9,260
Interest expense	8,138	8,553	25,198	24,715
Income tax expense	3,729	11,368	13,168	29,246
Depreciation and amortization	14,659	14,183	44,821	42,922
Less: interest amortization expense and other	(968)	(911)	(2,780)	(2,684)
Cost of sales adjustments <sup>1</sup>	1,576	1,105	6,258	2,690
SG&A adjustments <sup>1</sup>	10,366	8,193	21,535	16,737
<b>Adjusted EBITDA</b>	<b>\$ 58,201</b>	<b>\$ 63,713</b>	<b>\$ 168,791</b>	<b>\$ 202,923</b>
Net sales	\$ 365,728	\$ 395,163	\$ 1,147,178	\$ 1,216,934
Adjusted EBITDA as a % of net sales	15.9%	16.1%	14.7%	16.7%

(1) For details of Non-GAAP adjustments, refer to Table 5 and Table 6 for the reconciliation of adjusted cost of sales and adjusted SG&A for the three and nine months ended September 30, 2019 and 2018, respectively.

It should be noted that adjusted EBITDA is a financial measure not required by, or presented in accordance with, accounting principles generally accepted in the United States (U.S. GAAP). This Non-GAAP financial measure should be considered as a supplement to, and not as a substitute for, the financial measures prepared in accordance with U.S. GAAP and a reconciliation of this financial measure to the most comparable U.S. GAAP financial measure is presented. We believe this data provides investors with additional useful information on the underlying operations and trends of the business and enables period-to-period comparability of financial performance.



**Table 11**  
**Ferro Corporation and Subsidiaries**  
**Supplemental Information**  
**Change in Net Debt (unaudited)**

(Dollars in thousands)

	Three Months Ended		Nine Months Ended	
	September 30,		September 30,	
	2019	2018	2019	2018
<b>Beginning of period</b>				
Gross debt	\$ 872,184	\$ 846,039	\$ 826,224	\$ 759,078
Cash	51,311	44,886	104,301	63,551
Debt, net of cash	820,873	801,153	721,923	695,527
Unamortized debt issuance costs	4,356	5,285	4,827	7,451
Debt, net of cash and unamortized debt issuance costs	816,517	795,868	717,096	688,076
<b>End of period</b>				
Gross debt	850,048	938,340	850,048	938,340
Cash	51,741	126,278	51,741	126,278
Debt, net of cash	798,307	812,062	798,307	812,062
Unamortized debt issuance costs	4,121	5,063	4,121	5,063
Debt, net of cash and unamortized debt issuance costs	794,186	806,999	794,186	806,999
Change from FX on Euro term loan	-	-	-	(5,657)
Unamortized debt issuance costs	(235)	(222)	(706)	(2,388)
FX on cash	(1,005)	(1,227)	(667)	(2,261)
Period (increase) in debt, net of cash, unamortized debt issuance costs and FX	\$ 23,571	\$ (9,682)	\$ (75,717)	\$ (108,617)
Period (increase) in debt, net of cash and unamortized debt issuance costs	\$ 22,331	\$ (11,131)	\$ (77,090)	\$ (118,923)

It should be noted that the change in net debt is a financial measure not required by, or presented in accordance with, accounting principles generally accepted in the United States (U.S. GAAP). This Non-GAAP financial measure should be considered as a supplement to, and not as a substitute for, the financial measures prepared in accordance with U.S. GAAP and a reconciliation of this financial measure to the most comparable U.S. GAAP financial measure is presented. We believe this data provides investors with additional useful information on the underlying operations and trends of the business and enables period-to-period comparability of financial performance.

**Table 12**  
**Ferro Corporation and Subsidiaries**  
**Supplemental Information**  
**Reconciliation of Net Cash Provided by Operating Activities (GAAP) to**  
**Adjusted Free Cash Flow from Continuing Operations (Non-GAAP) (unaudited)**

(Dollars in thousands)	Three Months Ended September		Nine Months Ended September	
	2019	2018	2019	2018
Cash flows from operating activities				
Net income	\$ 13,210	\$ 16,143	\$ 38,197	\$ 69,602
(Gain) loss on sale of assets	272	197	(947)	485
Depreciation and amortization	13,691	13,272	42,041	40,238
Interest amortization	968	911	2,780	2,684
Restructuring and impairment	3,079	(1,202)	9,837	4,277
Loss on extinguishment of debt	-	-	-	3,226
Accounts receivable	(7,252)	14,325	(78,082)	(36,439)
Inventories	5,919	6,531	(9,182)	(58,833)
Accounts payable	(4,980)	12,634	(63,452)	11,103
Other current assets and liabilities, net	4,280	1,469	3,735	(17,331)
Other adjustments, net	(17,478)	9,081	(12,167)	16,674
Net cash provided by (used in) operating activities (GAAP)	\$ 11,709	\$ 73,361	\$ (67,240)	\$ 35,686
Less: Capital Expenditures	(3,186)	(20,585)	(40,820)	(64,154)
Plus: Cash collected for AR securitization	19,633	-	60,904	-
Free Cash Flow provided by (used in) Continuing Operations (Non-GAAP)	28,156	52,776	(47,156)	(28,468)
Plus: cash used for restructuring	3,141	2,638	8,770	6,158
Plus: cash used for capital expenditures related to optimization projects <sup>(1)</sup>	5,011	11,885	19,026	31,787
Plus: Cash used for net working capital investment related to optimization projects <sup>(2)</sup>	(2,237)	3,372	12,687	5,423
Plus: Cash used for acquisition related professional fees <sup>(3)</sup>	9,471	5,591	16,702	10,297
Plus: Cash used for optimization projects <sup>(3)</sup>	2,150	2,825	9,561	5,823
Plus: Cash used for divested businesses and assets <sup>(3)</sup>	988	-	1,866	384
Plus: Other	-	-	(1,725)	-
Adjusted Free Cash Flow used in Continuing Operations (Non-GAAP)	46,680	79,087	19,731	31,404
Net Income Attributable to Ferro Corporation Common Shareholders	12,820	16,058	37,295	69,117
Net Cash Provided by Operating Activities Conversion of Net Income Attributable to Ferro Corporation Common Shareholders	91.3%	456.9%	-180.3%	51.6%
Adjusted EBITDA (Non-GAAP) - From Table 10	58,201	63,713	168,791	202,923
Adjusted Free Cash Flow Conversion of Adjusted EBITDA from Continuing Operations (Non-GAAP)	80.2%	124.1%	11.7%	15.5%
Adjusted Free Cash Flow Conversion of Adjusted EBITDA from Continuing Operations, adjusted for AR Securitization impact (Non-GAAP) <sup>(4)</sup>	81.1%	124.1%	10.1%	15.5%

(1) The adjustment to capital expenditures represents capital spend for certain optimization projects that are not expected to recur in the long-term at the current rate. See Table 11 for the reconciliation of period change in debt, net of cash, unamortized debt issuance costs and FX.

(2) The adjustment to net working capital represents spend for the build in inventory related to the optimization project noted in (1) above. This build in inventory is considered to be outside of the normal operations of the underlying business, and expected to be temporary in nature.

(3) The adjustment represents those cash outlays for (a) acquisition related professional fees, (b) costs related to certain optimization projects, and (c) costs related to divested businesses and assets, as detailed in the description of Non-GAAP adjustments in Table 5 for the three months ended September 30, 2019 and 2018, respectively and Table 6 for the nine months ended September 30, 2019 and 2018, respectively.

(4) Adjusted free cash flow conversion of adjusted EBITDA from continuing operations adjusted for the change in the cash proceeds collected of (\$5) million and \$2.7 million for the three and nine months ended September 30, 2019, respectively, that is required to be remitted back to the financial institution under the international receivable sales program.

It should be noted that adjusted free cash flow from continuing operations is a financial measure not required by, or presented in accordance with, accounting principles generally accepted in the United States (U.S. GAAP). The Non-GAAP financial measure should be considered as a supplement to, and not as a substitute for, the financial measures prepared in accordance with U.S. GAAP and a reconciliation of these financial measures to the most comparable U.S. GAAP financial measures is presented. We believe this data provides investors with additional useful information on the underlying operations and trends of the business and enables period-to-period comparability of financial performance. Additionally, certain elements of these measures are used in the calculation of certain incentive compensation programs for management.