FERRO CORP
Form 10-K
March 05, 2013
Table of Contents

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 10-K

(Mark One)

x **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the fiscal year ended December 31, 2012

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 of Corporation)	*(IRS Employer Identification No.)*
6060 Parkland Blvd.	
Mayfield Heights, OH	**44124**
(Address of principal executive offices)	*(Zip Code)*

Registrant s telephone number, including area code: 216-875-5600

Securities Registered Pursuant to section 12(b) of the Act:

Title of Each Class	**Name of Each Exchange on Which Registered**

Common Stock, par value $1.00	New York Stock Exchange

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. YES ¨ NO x

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. YES ¨ NO x

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 x 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 x NO ¨

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained here, and will not be contained, to the best of registrant s knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ¨

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of large accelerated filer, accelerated filer and smaller reporting company in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer ¨	Accelerated filer x	Non-accelerated filer ¨ (Do not check if a smaller reporting company)	Smaller reporting company ¨

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). YES ¨ NO x

The aggregate market value of Ferro Corporation Common Stock, par value $1.00, held by non-affiliates and based on the closing sale price as of June 30, 2012, was approximately $408,872,000.

On February 28, 2013, there were 86,559,660 shares of Ferro Corporation Common Stock, par value $1.00 outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Proxy Statement for Ferro Corporation s 2013 Annual Meeting of Shareholders are incorporated into Part III of this Annual Report on Form 10-K.

Table of Contents

TABLE OF CONTENTS

	PART I	
Item 1	Business	Page 3
Item 1A	Risk Factors	Page 8
Item 1B	Unresolved Staff Comments	Page 16
Item 2	Properties	Page 16
Item 3	Legal Proceedings	Page 17
Item 4	Mine Safety Disclosures	Page 17
	PART II	
Item 5	Market for Registrant s Common Equity, Related Stockholder Matters, and Issuer Purchases of Equity Securities	Page 19
Item 6	Selected Financial Data	Page 20
Item 7	Management s Discussion and Analysis of Financial Condition and Results of Operations	Page 20
Item 7A	Quantitative and Qualitative Disclosures about Market Risk	Page 41
Item 8	Financial Statements and Supplementary Data	Page 43
Item 9	Changes in and Disagreements with Accountants on Accounting and Financial Disclosure	Page 101
Item 9A	Controls and Procedures	Page 101
Item 9B	Other Information	Page 103
	PART III	
Item 10	Directors, Executive Officers and Corporate Governance	Page 104
Item 11	Executive Compensation	Page 104
Item 12	Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters	Page 104
Item 13	Certain Relationships and Related Transactions, and Director Independence	Page 105
Item 14	Principal Accountant Fees and Services	Page 105
	PART IV	
Item 15	Exhibits and Financial Statement Schedules	Page 106

Table of Contents

PART I

Item 1 ***Business***

History, Organization and Products

Ferro Corporation was incorporated in Ohio in 1919 as an enameling company. When we use the terms Ferro, we, us or the Company, we are referring to Ferro Corporation and its subsidiaries unless we indicate otherwise. Today, we are a leading producer of specialty materials and chemicals that are sold to a broad range of manufacturers who, in turn, make products for many end-use markets. We operate approximately 40 facilities around the world that manufacture the following types of products:

Electronic, Color and Glass Materials Conductive metal powders, polishing materials, glazes, enamels, pigments, decoration colors, and other performance materials; and

Polymer and Ceramic Engineered Materials Polymer additives, engineered plastic compounds, pigment dispersions, glazes, frits, porcelain enamel, pigments, inks, and high-potency pharmaceutical active ingredients.

We refer to our products as performance materials and chemicals because we formulate them to perform specific functions in the manufacturing processes and end products of our customers. The products we develop often are delivered to our customers in combination with customized technical service. The value of our products stems from the benefits they deliver in actual use. We develop and deliver innovative products to our customers through our key strengths in:

Particle Engineering Our ability to design and produce very small particles made of a broad variety of materials, with precisely controlled characteristics of shape, size and size distribution. We understand how to disperse these particles within liquid, paste and gel formulations.

Color and Glass Science Our understanding of the chemistry required to develop and produce pigments that provide color characteristics ideally suited to customers applications. We have a demonstrated ability to provide glass-based coatings with properties that precisely meet customers needs in a broad variety of applications.

Surface Chemistry and Surface Application Technology Our understanding of chemicals and materials used to develop products and processes that involve the interface between layers and the surface properties of materials.

Product Formulation Our ability to develop and manufacture combinations of materials that deliver specific performance characteristics designed to work within customers particular products and manufacturing processes.

Polymer Science/Organic Synthesis Our ability to develop and produce polymers and supporting additives by utilizing organic synthesis expertise to create and modify materials with a variety of innovative characteristics and desired capabilities. We understand how to craft and transform resin systems to fulfill customer requirements.

We deliver these key technical strengths to our customers in a way that creates additional value through our integrated applications support. Our applications support personnel provide assistance to our customers in their material specification and evaluation, product design and manufacturing process characterization in order to help them optimize the efficient and cost-effective application of our products.

Table of Contents

We divide our operations into eight business units, which comprise six reportable segments. We have grouped these units by their product group below:

Polymer and Ceramic Engineered Materials
- Polymer Additives
- Specialty Plastics
- Pharmaceuticals
- Tile Coating Systems(1)
- Porcelain Enamel(1)

Electronic, Color and Glass Materials
- Electronic Materials
- Glass Systems(2)
- Performance Pigments and Colors(2)

(1) Tile Coating Systems and Porcelain Enamel are combined into one reportable segment, Performance Coatings, for financial reporting purposes.
(2) Glass Systems and Performance Pigments and Colors are combined into one reportable segment, Color and Glass Performance Materials, for financial reporting purposes.

Financial information about our segments is included herein in Note 17 to the consolidated financial statements under Item 8 of this Annual Report on Form 10-K.

Markets and Customers

Ferro s products are used in a variety of product applications in markets including:

- Appliances
- Automobiles
- Building and renovation
- Electronics
- Household furnishings
- Industrial products
- Packaging
- Pharmaceuticals

Many of our products are used as coatings on our customers products, such as glazes and decorations on tile, glass and dinnerware. Other products are supplied to customers as powders that are used to manufacture electronic components and other products. Still other products are added during our customers manufacturing processes to provide desirable properties to their end product. Often, our products are a small portion of the total cost of our customers products, but they can be critical to the appearance or functionality of those products.

Our leading customers include manufacturers of ceramic tile, major appliances, construction materials, automobile parts, glass, bottles, vinyl flooring and wall coverings, and pharmaceuticals. Many of our customers, including makers of major appliances and automobile parts, purchase materials from more than one of our business units. Our customer base is well diversified both geographically and by end market.

We generally sell our products directly to our customers. However, a portion of our business uses indirect sales channels, such as agents and distributors, to deliver products to market. In 2012, no single customer or related group of customers represented more than 10% of net sales. In addition, none of our reportable segments is dependent on any single customer or related group of customers.

Backlog of Orders and Seasonality

Generally, there is no significant lead time between customer orders and delivery in any of our business segments. As a result, we do not consider that the dollar amount of backlogged orders believed to be firm is material information for an understanding of our business. We also do not regard any material part of our business to be seasonal. However, customer demand has historically been higher in the second quarter when building and renovation markets are particularly active, and this quarter is normally the strongest for sales and operating profit.

Table of Contents

Competition

In most of our markets, we have a substantial number of competitors, none of which is dominant. Due to the diverse nature of our product lines, no single competitor directly matches all of our product offerings. Our competition varies by product and by region, and is based primarily on price, product quality and performance, customer service and technical support, and our ability to develop custom products to meet specific customer requirements.

We are a worldwide leader in the production of glass enamels, porcelain enamels, and ceramic glaze coatings. There is strong competition in our markets, ranging from large multinational corporations to local producers. While many of our customers purchase customized products and formulations from us, our customers could generally buy from other sources, if necessary.

Raw Materials and Supplier Relations

Raw materials widely used in our operations include:

Metal Oxides:
- Aluminum oxide(2)(3)
- Cerium oxide(3)
- Cobalt oxide(1)(2)
- Nickel oxide(1)(2)
- Titanium dioxide(1)(2)(3)(4)
- Zinc oxide(2)
- Zirconium dioxide(2)

Precious and Non-precious Metals:
- Aluminum(2)(3)
- Bismuth(1)
- Chrome(1)(2)
- Copper(1)(3)
- Gold(1)(3)
- Palladium(3)
- Platinum(3)
- Silver(3)

Polymers:(4)
- Polyethylene
- Polypropylene
- Polystyrene
- Unsaturated polyester

Other Inorganic Materials:
- Boric acid(2)
- Clay(2)
- Feldspar(2)
- Fiberglass(4)
- Lithium(2)
- Silica(2)
- Zircon(2)

Other Organic Materials:(5)
- Butanol
- Phenol
- Phthalic anhydride
- Soybean oil
- Tallow
- Toluene

Energy:
- Electricity
- Natural gas

(1) Primarily used by Glass Systems and Performance Pigments and Colors.
(2) Primarily used by Tile Coating Systems and Porcelain Enamel.
(3) Primarily used by Electronic Materials.
(4) Primarily used by Specialty Plastics.
(5) Primarily used by Polymer Additives.

These raw materials make up a large portion of our product costs in certain of our product lines, and fluctuations in the cost of raw materials may have a significant impact on the financial performance of the related businesses. We attempt to pass through to our customers raw material cost increases, including those related to precious metals.

Table of Contents

We have a broad supplier base and, in many instances, multiple sources of essential raw materials are available worldwide if problems arise with a particular supplier. We maintain many comprehensive supplier agreements for strategic and critical raw materials. We did not encounter raw material shortages in 2012 that significantly affected our manufacturing operations, but we are subject to volatile raw material costs that can affect our results of operations.

Environmental Matters

As part of the production of some of our products, we handle, process, use and store hazardous materials. As a result, we operate manufacturing facilities that are subject to a broad array of environmental laws and regulations in the countries in which we operate, particularly for plant wastes and emissions. In addition, some of our products are subject to restrictions under laws or regulations such as California Proposition 65 or the European Union s (EU) chemical substances directive. The costs to comply with complex environmental laws and regulations are significant and will continue for the industry and us for the foreseeable future. These routine costs are expensed as they are incurred. While these costs may increase in the future, they are not expected to have a material impact on our financial position, liquidity or results of operations. We believe that we are in substantial compliance with the environmental regulations to which our operations are subject and that, to the extent we may not be in compliance with such regulations, non-compliance will not have a materially adverse effect on our financial position, liquidity or results of operations.

Our policy is to operate our plants and facilities in a manner that protects the environment and the health and safety of our employees and the public. We intend to continue to make expenditures for environmental protection and improvements in a timely manner consistent with available technology. Although we cannot precisely predict future environmental spending, we do not expect the costs to have a material impact on our financial position, liquidity or results of operations. Capital expenditures for environmental protection were $0.9 million in 2012, $2.0 million in 2011, and $1.5 million in 2010.

We also accrue for environmental remediation costs when it is probable that a liability has been incurred and we can reasonably estimate the amount. We determine the timing and amount of any liability based upon assumptions regarding future events, and inherent uncertainties exist in such evaluations primarily due to unknown conditions, changing governmental regulations and legal standards regarding liability, and evolving technologies. We adjust these liabilities periodically as remediation efforts progress, the nature and extent of contamination becomes more certain, or as additional technical or legal information becomes available.

Research and Development

We are involved worldwide in research and development activities relating to new and existing products, services and technologies required by our customers continually changing markets. Our research and development resources are organized into centers of excellence that support our regional and worldwide major business units. We also conduct research and development activities at our Posnick Center of Innovative Technology in Independence, Ohio. These centers are augmented by local laboratories that provide technical service and support to meet customer and market needs in various geographic areas.

Total expenditures for product and application technology, including research and development, customer technical support and other related activities, were $39.5 million in 2012, $42.4 million in 2011, and $37.2 million in 2010. These amounts include expenditures for company-sponsored research and development activities of approximately $30.0 million in 2012, $30.4 million in 2011, and $27.3 million in 2010.

Patents, Trademarks and Licenses

We own a substantial number of patents and patent applications relating to our various products and their uses. While these patents are of importance to us and we exercise diligence to ensure that they are valid, we do not believe that the invalidity or expiration of any single patent or group of patents would have a material adverse

Table of Contents

effect on our businesses. Our patents will expire at various dates through the year 2032. We also use a number of trademarks that are important to our businesses as a whole or to a particular segment. We believe that these trademarks are adequately protected.

Employees

At December 31, 2012, we employed 4,948 full-time employees, including 3,360 employees in our foreign consolidated subsidiaries and 1,588 in the United States (U.S.). Total employment decreased by 72 in our foreign subsidiaries and by 100 in the U.S. from the prior year end due to the net effect of reductions made in areas where sales activity declined and additions related to new business opportunities.

Collective bargaining agreements cover approximately 19% of our U.S. workforce. Approximately 5% of all U.S. employees are affected by labor agreements that expire in 2013, and we expect to complete renewals of these agreements with no significant disruption to the related businesses. We consider our relations with our employees, including those covered by collective bargaining agreements, to be good.

Our employees in Europe have protections afforded them by local laws and regulations through unions and works councils. Some of these laws and regulations may affect the timing, amount and nature of restructuring and cost reduction programs in that region.

Domestic and Foreign Operations

We began international operations in 1927. Our products are manufactured and/or distributed through our consolidated subsidiaries and unconsolidated affiliates in the following countries:

Consolidated Subsidiaries:			
Argentina	France	Malaysia	Taiwan
Australia	Germany	Mexico	Thailand
Belgium	India	Netherlands	United Kingdom
Brazil	Indonesia	Portugal	United States
China	Italy	Russia	Venezuela
Egypt	Japan	Spain	

Unconsolidated Affiliates:			
Italy	Spain	South Korea	Thailand

Financial information for geographic areas is included in Note 17 to the consolidated financial statements under Item 8 of this Annual Report on Form 10-K. More than 50% of our net sales are outside of the U.S. Our customers represent more than 30 industries and operate in approximately 100 countries.

Our U.S. parent company receives technical service fees and/or royalties from many of its foreign subsidiaries. As a matter of corporate policy, the foreign subsidiaries have historically been expected to remit a portion of their annual earnings to the U.S. parent company as dividends. To the extent earnings of foreign subsidiaries are not remitted to the U.S. parent company, those earnings are indefinitely re-invested in those subsidiaries.

Available Information

Our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, and Current Reports on Form 8-K, including any amendments, will be made available free of charge on our Web site, www.ferro.com, as soon as reasonably practical, following the filing of the reports with the U.S. Securities and Exchange Commission (SEC). Our Corporate Governance Principles, Legal and Ethical Policies, Guidelines for Determining Director

Table of Contents

Independence, and charters for our Audit Committee, Compensation Committee, and Governance and Nomination Committee are available free of charge on our Web site or to any shareholder who requests them from the Ferro Corporation Investor Relations Department located at 6060 Parkland Blvd., Mayfield Heights, Ohio, 44124.

Forward-looking Statements

Certain statements contained here and in future filings with the SEC reflect our 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 our operations and the business environment, which are difficult to predict and are beyond our control.

Item 1A ***Risk Factors***

Many factors could cause our actual results to differ materially from those suggested by statements contained in this filing and could adversely affect our future financial performance. Such factors include the following:

We sell our products into industries where demand has been unpredictable, cyclical or heavily influenced by consumer spending, and such demand and our results of operations may be further impacted by macro economic circumstances and uncertainty in credit markets.

We sell our products to a wide variety of customers who supply many different market segments. Many of these market segments, such as building and renovation, major appliances, transportation, and electronics, are cyclical or closely tied to consumer demand. Consumer demand is difficult to accurately forecast and incorrect forecasts of demand or unforeseen reductions in demand can adversely affect costs and profitability due to factors such as underused manufacturing capacity, excess inventory, or working capital needs. Our forecasting systems and modeling tools may not accurately predict changes in demand for our products or other market conditions.

Our results of operations are materially affected by conditions in capital markets and economies in the U.S. and elsewhere around the world. General economic conditions around the world deteriorated sharply at the end of 2008, and difficult economic conditions continue to exist in some locations. Concerns over fluctuating prices, energy costs, geopolitical issues, government deficits and debt loads, the availability and cost of credit, the U.S. mortgage market and a weakened real estate market have contributed to increased volatility, diminished expectations, and uncertainty regarding economies around the world. These factors, combined with reduced business and consumer confidence, increased unemployment, and volatile raw materials costs, precipitated an economic slowdown and recession in a number of markets around the world. As a result of these conditions and the continuing effects, our customers may experience cash flow problems and may modify, delay, or cancel plans to purchase our products. Additionally, if customers are not successful in generating sufficient revenue or are precluded from securing financing, they may not be able to pay, or may delay payment of, accounts receivable that are owed to us. A reduction in demand or inability of our current and/or potential customers to pay us for our products may adversely affect our earnings and cash flow.

We have undertaken cost-savings initiatives, including restructuring programs, to improve our operating performance, but we may not be able to implement and/or administer these initiatives in the manner contemplated and these initiatives may not produce the desired results.

We have undertaken cost-savings initiatives, including restructuring programs, and may undertake additional cost-savings initiatives in the future. These initiatives involve, among other things, restructuring programs that involve plant closures and staff reductions. Although we expect these initiatives to help us achieve

Table of Contents

incremental cost savings and operational efficiencies, we may not be able to implement and/or administer these initiatives, including plant closures and staff reductions, in the manner contemplated, which could cause the initiatives to fail to achieve the desired results. Additionally, the implementation of these initiatives may result in impairment charges, some of which could be material. Even if we do implement and administer these initiatives in the manner contemplated, they may not produce the desired results. Accordingly, the initiatives that we have implemented and those that we may implement in the future may not improve our operating performance and may not help us achieve cost savings. Failure to successfully implement and/or administer these initiatives could have an adverse effect on our financial performance.

We are subject to a number of restrictive covenants under our credit facilities and the indenture governing our senior notes, which could affect our flexibility to fund ongoing operations and strategic initiatives, and, if we are unable to maintain compliance with such covenants, could lead to significant challenges in meeting our liquidity requirements.

Our credit facilities and the indenture governing our senior notes contain a number of restrictive covenants, including those described in more detail in Note 6 to the consolidated financial statements under Item 8 of this Annual Report on Form 10-K. These covenants include customary operating restrictions that limit our ability to engage in certain activities, including additional loans and investments; prepayments, redemptions and repurchases of debt; and mergers, acquisitions and asset sales. We are also subject to customary financial covenants under our credit facilities, including a leverage ratio and an interest coverage ratio. These covenants under our credit facilities restrict the amount of our borrowings, reducing our flexibility to fund ongoing operations and strategic initiatives. These facilities and our senior notes are described in more detail in Capital Resources and Liquidity under Item 7 and in Note 6 to the consolidated financial statements under Item 8 of this Annual Report on Form 10-K.

The most critical of these ratios is the leverage ratio. As of December 31, 2012, we were in compliance with our maximum leverage ratio covenant of 4.25x as our actual ratio was 3.34x, providing $22.6 million of EBITDA, as defined within our credit facilities and senior notes indenture, cushion on the leverage ratio. Our leverage ratio covenants decrease in 2013 to 3.50x. To the extent that economic conditions in key markets deteriorate or we are unable to meet our business projections and EBITDA falls below approximately $100 million for rolling four quarters, based on reasonably consistent debt levels with those as of December 31, 2012, could make us unable to maintain compliance with our leverage ratio covenant , in which 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.

We depend on external financial resources, and the economic environment and credit market uncertainty could interrupt our access to capital markets, borrowings, or financial transactions to hedge certain risks, which could adversely affect our financial condition.

At December 31, 2012, we had approximately $346.8 million of short-term and long-term debt with varying maturities and approximately $121.9 million of off balance sheet arrangements, including consignment arrangements for precious metals, bank guarantees, and standby letters of credit. These arrangements have allowed us to make investments in growth opportunities and fund working capital requirements. In addition, we may enter into financial transactions to hedge certain risks, including foreign exchange, commodity pricing, and sourcing of certain raw materials. Our continued access to capital markets, the stability of our lenders, customers and financial partners and their willingness to support our needs are essential to our liquidity and our ability to meet our current obligations and to fund operations and our strategic initiatives. An interruption in our access to external financing or financial transactions to hedge risk could adversely affect our business prospects and financial condition. See further information regarding our liquidity in Capital Resources and Liquidity under Item 7 and in Note 6 to the consolidated financial statements under Item 8 of this Annual Report on Form 10-K.

We strive to improve operating margins through sales growth, price increases, productivity gains, and improved purchasing techniques, but we may not achieve the desired improvements.

We work to improve operating profit margins through activities such as growing sales to achieve increased economies of scale, increasing prices, improving manufacturing processes, and adopting purchasing techniques

Table of Contents

that lower costs or provide increased cost predictability to realize cost savings. However, these activities depend on a combination of improved product design and engineering, effective manufacturing process control initiatives, cost-effective redistribution of production, and other efforts that may not be as successful as anticipated. The success of sales growth and price increases depends not only on our actions but also on the strength of customer demand and competitors pricing responses, which are not fully predictable. Failure to successfully implement actions to improve operating margins could adversely affect our financial performance.

We depend on reliable sources of energy and raw materials, including petroleum-based materials, minerals and other supplies, at a reasonable cost, but the availability of these materials and supplies could be interrupted and/or their prices could escalate and adversely affect our sales and profitability.

We purchase energy and many raw materials, including petroleum-based materials and other supplies, which we use to manufacture our products. Changes in their availability or price could affect our ability to manufacture enough products to meet customers demands or to manufacture products profitably. We try to maintain multiple sources of raw materials and supplies where practical, but this may not prevent unanticipated changes in their availability or cost and, for certain raw materials, there may not be alternative sources. We may not be able to pass cost increases through to our customers. Significant disruptions in availability or cost increases could adversely affect our manufacturing volume or costs, which could negatively affect product sales or profitability of our operations.

The global scope of our operations exposes us to risks related to currency conversion rates, new and different regulatory schemes and changing economic, regulatory, social and political conditions around the world.

More than 50% of our net sales during 2012 were outside of the U.S. In order to support global customers, access regional markets and compete effectively, our operations are located around the world. We may encounter difficulties expanding into additional growth markets around the world. Our operations have additional complexity due to economic, regulatory, social and political conditions in multiple locations and we are subject to risks relating to currency conversion rates. Other risks inherent in international operations include the following:

- New and different legal and regulatory requirements and enforcement mechanisms in local jurisdictions;
- U.S. and other export licenses may be difficult to obtain and we may be subject to export duties or import quotas or other trade restrictions or barriers;
- Increased costs, and decreased availability, of transportation or shipping;
- Credit risk and financial conditions of local customers and distributors;
- Risk of nationalization of private enterprises by foreign governments or restrictions on investments;
- Potentially adverse tax consequences, including imposition or increase of withholding and other taxes on remittances and other payments by subsidiaries; and
- Local political, economic and social conditions, including the possibility of hyperinflationary conditions, deflation, and political instability in certain countries.

We have subsidiaries in Venezuela, a country that has established rigid controls over the ability of foreign companies to repatriate cash, and in Egypt, a country with recent political instability. Such conditions could potentially impact our ability to recover both the cost of our investments and earnings from those investments. While we attempt to anticipate these changes and manage our business appropriately in each location where we do business, these changes are often beyond our control and difficult to forecast.

The consequences of these risks may have significant adverse effects on our results of operations or financial position, and if we fail to comply with applicable laws and regulations, we could be exposed to civil and criminal penalties, reputational harm, and restrictions on our operations.

Table of Contents

We have a growing presence in the Asia-Pacific region where it can be difficult for a multi-national company, such as Ferro, to compete lawfully with local competitors, which may cause us to lose business opportunities.

Many of our most promising growth opportunities are in the Asia-Pacific region, including the People s Republic of China. Although we have been able to compete successfully in those markets to date, local laws and customs can make it difficult for a multi-national company such as Ferro to compete on a level playing field with local competitors without engaging in conduct that would be illegal under U.S. or other countries anti-bribery laws. Our strict policy of observing the highest standards of legal and ethical conduct may cause us to lose some otherwise attractive business opportunities to local competition in the region.

Regulatory authorities in the U.S., European Union and elsewhere are taking a much more aggressive approach to regulating hazardous materials and other substances, and those regulations could affect sales of our products.

Legislation and regulations concerning hazardous materials and other substances can restrict the sale of products and/or increase the cost of producing them. Some of our products are subject to restrictions under laws or regulations such as California Proposition 65 or the EU s chemical substances directive. The EU REACH registration system requires us to perform studies of some of our products or components of our products and to register the information in a central database, increasing the cost of these products. As a result of such regulations, customers may avoid purchasing some products in favor of less hazardous or less costly alternatives. It may be impractical for us to continue manufacturing heavily regulated products, and we may incur costs to shut down or transition such operations to alternative products. These circumstances could adversely affect our business, including our sales and operating profits.

Our businesses depend on a continuous stream of new products, and failure to introduce new products could affect our sales, profitability and liquidity.

One way that we remain competitive is by developing and introducing new and improved products on an ongoing basis. Customers continually evaluate our products in comparison to those offered by our competitors. A failure to introduce new products at the right time that are price competitive and that provide the features and performance required by customers could adversely affect our sales, or could require us to compensate by lowering prices. In addition, when we invest in new product development, we face risks related to production delays, cost over-runs and unanticipated technical difficulties, which could impact sales, profitability and/or liquidity.

Our strategy includes seeking opportunities in new growth markets, and failure to identify or successfully enter such markets could affect our ability to grow our revenues and earnings.

Certain of our products are sold into mature markets and part of our strategy is to identify and enter into markets growing more rapidly. These growth opportunities may involve new geographies, new product lines, new technologies, or new customers. We may not be successful capitalizing on such opportunities and our ability to increase our revenue and earnings could be impacted.

Sales of our products to certain customers or into certain industries may expose us to different and complex regulatory regimes.

We seek to expand our customer base and the industries into which we sell. Selling products to certain customers or into certain industries, such as governments or the defense industry, requires compliance with regulatory regimes that do not apply to sales involving other customers or industries and that can be complex and difficult to navigate. Our failure to comply with these regulations could result in liabilities or damage to our reputation with customers, which could negatively impact our business, financial condition, or results of operations.

Table of Contents

We have limited or no redundancy for certain of our manufacturing facilities, and damage to those facilities could interrupt our operations, increase our costs of doing business and impair our ability to deliver our products on a timely basis.

If certain of our existing production facilities become incapable of manufacturing products for any reason, we may be unable to meet production requirements, we may lose revenue and we may not be able to maintain our relationships with our customers. Without operation of certain existing production facilities, we may be limited in our ability to deliver products until we restore the manufacturing capability at the particular facility, find an alternative manufacturing facility or arrange an alternative source of supply. Although we carry business interruption insurance to cover lost revenue and profits in an amount we consider adequate, this insurance does not cover all possible situations. In addition, our business interruption insurance would not compensate us for the loss of opportunity and potential adverse impact on relations with our existing customers resulting from our inability to produce products for them.

We may not be able to complete future acquisitions or successfully integrate future acquisitions into our business, which could adversely affect our business or results of operations.

As part of our strategy, we intend to pursue acquisitions. Our success in accomplishing growth through acquisitions may be limited by the availability and suitability of acquisition candidates and by our financial resources, including available cash and borrowing capacity. Acquisitions involve numerous risks, including difficulty determining appropriate valuation, integrating operations, technologies, services and products of the acquired product lines or businesses, personnel turnover and the diversion of management s attention from other business matters. In addition, we may be unable to achieve anticipated benefits from these acquisitions in the time frame that we anticipate, or at all, which could adversely affect our business or results of operations.

The markets for our products are highly competitive and subject to intense price competition, which could adversely affect our sales and earnings performance.

Our customers typically have multiple suppliers from which to choose. If we are unwilling or unable to provide products at competitive prices, and if other factors, such as product performance and value-added services do not provide an offsetting competitive advantage, customers may reduce, discontinue, or decide not to purchase our products. If we could not secure alternate customers for lost business, our sales and earnings performance could be adversely affected.

If we are unable to protect our intellectual property rights or to successfully resolve claims of infringement brought against us, our product sales and financial performance could be adversely affected.

Our performance may depend in part on our ability to establish, protect and enforce intellectual property rights with respect to our products, technologies and proprietary rights and to defend against any claims of infringement, which involves complex legal, scientific and factual questions and uncertainties. We may have to rely on litigation to enforce our intellectual property rights. In addition, we may face claims of infringement that could interfere with our ability to use technology or other intellectual property rights that are material to our business operations. If litigation that we initiate is unsuccessful, we may not be able to protect the value of some of our intellectual property. In the event a claim of infringement against us is successful, we may be required to pay royalties or license fees to continue to use technology or other intellectual property rights that we have been using or we may be unable to obtain necessary licenses from third parties at a reasonable cost or within a reasonable time.

Our operations are subject to operating hazards and, as a result, to stringent environmental, health and safety regulations, and compliance with those regulations could require us to make significant investments.

Our production facilities are subject to hazards associated with the manufacture, handling, storage, and transportation of chemical materials and products. These hazards can cause personal injury and loss of life, severe damage to, or destruction of, property and equipment and environmental contamination and other environmental damage and could have an adverse effect on our business, financial condition or results of operations.

Table of Contents

We strive to maintain our production facilities and conduct our manufacturing operations in a manner that is safe and in compliance with all applicable environmental, health and safety regulations. Compliance with changing regulations may require us to make significant capital investments, incur training costs, make changes in manufacturing processes or product formulations, or incur costs that could adversely affect our profitability, and violations of these laws could lead to substantial fines and penalties. These costs may not affect competitors in the same way due to differences in product formulations, manufacturing locations or other factors, and we could be at a competitive disadvantage, which might adversely affect financial performance.

If we are unable to manage our general and administrative expenses, our business, financial condition or results of operations could be harmed.

The level of our administrative expenses can affect our profitability, and we may not be able to manage our administrative expense in all circumstances. While we attempt to effectively manage such expenses, including through projects designed to create administrative efficiencies, increases in staff-related and other administrative expenses may occur from time to time. Recently, we have made significant efforts to achieve general and administrative cost savings and improve our operational performance. As a part of these initiatives, we have and will continue to consolidate business and management operations and enter into arrangements with third parties offering additional cost savings. It cannot be assured that our strategies to reduce our general and administrative costs and improve our operation performance will be successful or achieve the anticipated savings.

Our multi-jurisdictional tax structure may not provide favorable tax efficiencies.

We conduct our business operations in a number of countries and are subject to taxation in those jurisdictions. While we seek to minimize our worldwide effective tax rate, our corporate structure may not optimize tax efficiency opportunities. We develop our tax position based upon the anticipated nature and structure of our business and the tax laws, administrative practices and judicial decisions now in effect in the countries in which we have assets or conduct business, all of which are subject to change or differing interpretations. In addition, our effective tax rate could be adversely affected by several other factors, including: increases in expenses that are not deductible for tax purposes, the tax effects of restructuring charges or purchase accounting for acquisitions, changes related to our ability to ultimately realize future benefits attributed to our deferred tax assets, including those related to other-than-temporary impairment, and a change in our decision to indefinitely reinvest foreign earnings. Further, we are subject to review and audit by both domestic and foreign tax authorities, which may result in adverse decisions. Increased tax expense could have a negative effect on our operating results and financial condition.

We have significant deferred tax assets, and if we are unable to utilize these assets, our results of operations may be adversely affected.

To fully realize the carrying value of our net deferred tax assets, we will have to generate adequate taxable profits in various tax jurisdictions. At December 31, 2012, we had $27.8 million of net deferred tax assets, after valuation allowances. If we do not generate adequate profits within the time periods required by applicable tax statutes, the carrying value of the tax assets will not be realized. If it becomes unlikely that the carrying value of our net deferred tax assets will be realized, the valuation allowances may need to be increased in our consolidated financial statements, adversely affecting results of operations. Further information on our deferred tax assets is presented in Note 8 to the consolidated financial statements under Item 8 of this Annual Report on Form 10-K.

We may not be successful in implementing our strategies to increase our return on invested capital.

We are taking steps to generate a higher return on invested capital. There are risks associated with the implementation of these steps, which may be difficult to implement and may not generate the intended returns. To the extent we are unsuccessful in achieving these strategies, our results of operations may be adversely affected.

Table of Contents

We are subject to stringent labor and employment laws in certain jurisdictions in which we operate, we are party to various collective bargaining arrangements, and our relationship with our employees could deteriorate, which could adversely impact our operations.

A majority of our full-time employees are employed outside the U.S. In certain jurisdictions where we operate, labor and employment laws are relatively stringent and, in many cases, grant significant job protection to certain employees, including rights on termination of employment. In addition, in certain countries where we operate, our employees are members of unions or are represented by works councils. We are often required to consult and seek the consent or advice of these unions and/or works councils. These regulations and laws, coupled with the requirement to consult with the relevant unions or works councils, could have a significant impact on our flexibility in managing costs and responding to market changes.

Furthermore, approximately 19% of our U.S. employees as of December 31, 2012, are subject to collective bargaining arrangements or similar arrangements, and approximately 5% are subject to labor agreements that expire in 2013. While we expect to complete renewal of these agreements without significant disruption to our business, there can be no assurance that we will be able to negotiate labor agreements on satisfactory terms or that actions by our employees will not be disruptive to our business. If these workers were to engage in a strike, work stoppage or other slowdown or if other employees were to become unionized, we could experience a significant disruption of our operations and/or higher ongoing labor costs, which could adversely affect our business, financial condition and results of operations.

Employee benefit costs, especially postretirement costs, constitute a significant element of our annual expenses, and funding these costs could adversely affect our financial condition.

Employee benefit costs are a significant element of our cost structure. Certain expenses, particularly postretirement costs under defined benefit pension plans and healthcare costs for employees and retirees, may increase significantly at a rate that is difficult to forecast and may adversely affect our financial results, financial condition or cash flows. Declines in global capital markets may cause reductions in the value of our pension plan assets. Such circumstances could have an adverse effect on future pension expense and funding requirements. Further information regarding our retirement benefits is presented in Note 10 to the consolidated financial statements under Item 8 of this Annual Report on Form 10-K.

Our implementation of new business information systems and processes could adversely affect our results of operations and cash flow.

We have been designing and implementing a new information system and related business processes to consolidate our legacy operating systems into an integrated system, an objective of which is to standardize and streamline business processes. The first stage of implementation occurred during 2012. We may be unable or choose not to complete the implementation in certain locations or in accordance with our timeline and we could incur additional costs. Decisions or constraints related to implementation could result in operating inefficiencies and could impact our ability to perform business transactions. These risks could adversely impact our results of operations, financial condition, and cash flows.

We rely on information systems to conduct our business and interruption, or damage to, or failure or compromise of, these systems may adversely affect our business and results of operations.

We rely on information systems to obtain, process, analyze and manage data to forecast and facilitate the purchase and distribution of our products; to receive, process, and ship orders on a timely basis; to account for other product and service transactions with customers; to manage the accurate billing and collections for thousands of customers; to process payments to suppliers; and to manage data and records relating to our employees, contractors, and other individuals. Our business and results of operations may be adversely affected if these systems are interrupted, damaged, or compromised or if they fail for any extended period of time, due to events including but not limited to programming errors, computer viruses and security breaches. Information

Table of Contents

privacy and security risks have generally increased in recent years because of the proliferation of new technologies and the increased sophistication and activities of perpetrators of cyber attacks. Although we believe that we have appropriate information privacy and security controls in place, prevention of information and privacy security breaches cannot be assured, particularly as cyber threats continue to evolve. We may be required to expend additional resources to continue to enhance our information privacy and security measures and/or to investigate and remediate any information security vulnerabilities. In addition, third-party service providers are responsible for managing a significant portion of our information systems, and we are subject to risk as a result of possible information privacy and security breaches of those third parties. The consequences of these risks could adversely impact our results of operations, financial condition, and cash flows.

There are risks associated with the manufacture and sale of our products into the pharmaceutical industry.

The manufacture and sale of products into the pharmaceutical industry involves the risk of injury to consumers, as well as commercial risks. Injury to consumers could result from, among other things, tampering by unauthorized third parties or the introduction into the product of foreign objects, substances, chemicals and other agents during the manufacturing, packaging, storage, handling or transportation phases. Shipment of adulterated products may be a violation of law and may lead to an increased risk of exposure to product liability or other claims, product recalls and increased scrutiny by federal and state regulatory agencies. Such claims or liabilities may not be covered by our insurance or by any rights of indemnity or contribution that we may have against third parties. In addition, the negative publicity surrounding any assertion that our products caused illness or injury could have a material adverse effect on our reputation with existing and potential customers, which could negatively impact our business, operating results or financial condition.

We are exposed to lawsuits in the normal course of business, which could harm our business.

We are from time to time exposed to certain legal proceedings, which may include claims involving product liability, infringement of intellectual property rights of third parties and other claims. Due to the uncertainties of litigation, we can give no assurance that we will prevail on claims made against us in the lawsuits that we currently face or that additional claims will not be made against us in the future. We do not believe that lawsuits we currently face are likely to have a material adverse effect on our business, operating results or financial condition. Future claims or lawsuits, if they were to result in a ruling adverse to us, could give rise to substantial liability, which could have a material adverse effect on our business, operating results or financial condition.

We are exposed to intangible asset risk, and a write down of our intangible assets could have an adverse impact to our operating results and financial position.

We have recorded intangible assets, including goodwill, in connection with business acquisitions. We are required to perform goodwill impairment tests on at least an annual basis and whenever events or circumstances indicate that the carrying value may not be recoverable from estimated future cash flows. As a result of our annual and other periodic evaluations, we may determine that the intangible asset values need to be written down to their fair values, which could result in material charges that could be adverse to our operating results and financial position. See further information regarding our goodwill and other intangible assets in Critical Accounting Policies under Item 7 and in Note 5 to the consolidated financial statements under Item 8 of this Form 10-K.

Interest rates on some of our borrowings are variable, and our borrowing costs could be adversely affected by interest rate increases.

Portions of our debt obligations have variable interest rates. Generally, when interest rates rise, our cost of borrowings increases. We estimate, based on the debt obligations outstanding at December 31, 2012, that a one percent increase in interest rates would cause interest expense to increase by $0.5 million annually. Continued interest rate increases could raise the cost of borrowings and adversely affect our financial performance. See

Table of Contents

further information regarding our interest rates on our debt obligations in Quantitative and Qualitative Disclosures about Market Risk under Item 7A and in Note 6 to the consolidated financial statements under Item 8 of this Form 10-K.

Many of our assets are encumbered by liens that have been granted to lenders, and those liens affect our flexibility to dispose of property and businesses.

Certain of our debt obligations are secured by substantially all of our assets. These liens could reduce our ability and/or extend the time to dispose of property and businesses, as these liens must be cleared or waived by the lenders prior to any disposition. These security interests are described in more detail in Note 6 to the consolidated financial statements under Item 8 of this Annual Report on Form 10-K.

We may not pay dividends on our common stock at any time in the foreseeable future.

Holders of our common stock are entitled to receive such dividends as our Board of Directors from time to time may declare out of funds legally available for such purposes. Our Board of Directors has no obligation to declare dividends under Ohio law or our amended Articles of Incorporation. We may not pay dividends on our common stock at any time in the foreseeable future. Any determination by our Board of Directors to pay dividends in the future will be based on various factors, including our financial condition, results of operations and current, anticipated cash needs and any limits our then-existing credit facility and other debt instruments place on our ability to pay dividends.

We are exposed to risks associated with acts of God, terrorists and others, as well as fires, explosions, wars, riots, accidents, embargoes, natural disasters, strikes and other work stoppages, quarantines and other governmental actions, and other events or circumstances that are beyond our control.

Ferro is exposed to risks from various events that are beyond our control, which may have significant effects on our results of operations. While we attempt to mitigate these risks through appropriate loss prevention measures, insurance, contingency planning and other means, we may not be able to anticipate all risks or to reasonably or cost-effectively manage those risks that we do anticipate. As a result, our operations could be adversely affected by circumstances or events in ways that are significant and/or long lasting.

The risks and uncertainties identified above are not the only risks that we face. Additional risks and uncertainties not presently known to us or that we currently believe to be immaterial also may adversely affect us. If any known or unknown risks and uncertainties develop into actual events, these developments could have material adverse effects on our financial position, results of operations, and cash flows.

Item 1B ***Unresolved Staff Comments***

None.

Item 2 ***Properties***

We lease our corporate headquarters offices, which are located at 6060 Parkland Blvd., Mayfield Heights, Ohio. The Company owns other corporate facilities, including a centralized research and development facility, which is located in Independence, Ohio. We own principal manufacturing plants that range in size from 29,000 sq. ft. to over 800,000 sq. ft. Plants we own with more than 250,000 sq. ft. are located in: Spain; Germany; Cleveland, Ohio; Penn Yan, New York; and Mexico. The locations of our principal manufacturing plants by reportable segment are as follows:

Electronic Materials U.S.: Penn Yan, New York; and South Plainfield, New Jersey. Outside the U.S.: China.

Performance Coatings U.S.: Cleveland, Ohio. Outside the U.S.: Argentina, Brazil, China, Egypt, France, Indonesia, Italy, Mexico, Spain, Thailand and Venezuela.

Table of Contents

Color and Glass Performance Materials U.S.: Washington, Pennsylvania, and Orrville, Ohio. Outside the U.S.: Brazil, China, France, Germany, Mexico, Spain, the United Kingdom and Venezuela.

Polymer Additives U.S.: Bridgeport, New Jersey; Cleveland, Ohio; Walton Hills, Ohio; and Fort Worth, Texas. Outside the U.S.: Belgium and the United Kingdom.

Specialty Plastics U.S.: Evansville, Indiana; Plymouth, Indiana; Edison, New Jersey; and Stryker, Ohio. Outside the U.S.: Spain.

Pharmaceuticals U.S.: Waukegan, Illinois.

Ferro s revolving credit facility has a security interest in the real estate of the parent company and its domestic material subsidiaries.

In addition, we lease manufacturing facilities for the Electronic Materials segment in Germany, Japan, South Plainfield, New Jersey, and Vista, California; for the Color and Glass Performance Materials segment in Japan and Italy; and for the Specialty Plastics segment in Carpentersville, Illinois. In some instances, the manufacturing facilities are used by two or more segments. Leased facilities range in size from 18,000 sq. ft. to over 100,000 sq. ft. at the plant located in Carpentersville, Illinois.

Item 3 ***Legal Proceedings***

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

Item 4 ***Mine Safety Disclosures***

Not applicable.

Table of Contents

Executive Officers of the Registrant

The executive officers of the Company as of March 5, 2013, are listed below, along with their ages and positions held during the past five years. The year indicates when the individual was named to the indicated position. No family relationship exists between any of Ferro s executive officers.

Peter T. Thomas 57

Interim President and Chief Executive Officer, 2012

Vice President, Polymer and Ceramic Engineered Materials, 2009

Vice President, Organic Specialties, 2006

Mark H. Duesenberg 51

Vice President, General Counsel and Secretary, 2008

Executive Director, Legal and Government Affairs, Lenovo Group Ltd., a global manufacturer of personal computers and electronic devices, 2008

Legal Director Europe, Middle East and Africa, Lenovo Group Ltd., 2005

Ann E. Killian 58

Vice President, Human Resources, 2005

Jeffrey L. Rutherford 52

Vice President and Chief Financial Officer, 2012

Vice President and Chief Financial Officer, Park-Ohio Holdings Corp., an industrial supply chain logistics and diversified manufacturing business, 2008

Senior Vice President and Chief Financial Officer, UAP Holding Corp., an independent distributor of agricultural inputs and professional non-crop products, 2007

Table of Contents

PART II

Item 5 ***Market for Registrant s Common Equity, Related Stockholder Matters, and Issuer Purchases of Equity Securities***

Our common stock is listed on the New York Stock Exchange under the ticker symbol FOE. On February 28, 2013, we had 1,319 shareholders of record for our common stock, and the closing price of the common stock was $5.10 per share.

The chart below compares Ferro s cumulative total shareholder return for the five years ended December 31, 2012, to that of the Standard & Poor s 500 Index and the Standard & Poor s MidCap Specialty Chemicals Index. In all cases, the information is presented on a dividend-reinvested basis and assumes investment of $100.00 on December 31, 2007. At December 31, 2012, the closing price of our common stock was $4.18 per share.

COMPARISON OF FIVE-YEAR

CUMULATIVE TOTAL RETURNS

The quarterly high and low intra-day sales prices and dividends declared per share for our common stock during 2012 and 2011 were as follows:

	2012			2011		
	High	Low	Dividends	High	Low	Dividends
First Quarter	$ 7.50	$ 4.84	$	$ 17.02	$ 13.40	$
Second Quarter	5.96	4.02		17.84	11.62	
Third Quarter	5.06	2.65		14.28	6.00	
Fourth Quarter	4.28	2.38		7.36	4.27	

If we pay cash dividends in excess of a base dividend amount in any single quarterly period, the conversion rate on our 6.50% Convertible Senior Notes will be increased by formula. The base dividend amount is $0.145 per share, subject to adjustment in certain events.

The restrictive covenants contained in our credit facility limit the amount of dividends we can pay on our common stock. For further discussion, see Management s Discussion and Analysis of Financial Condition and Results of Operations under Item 7 of this Annual Report on Form 10-K.

Table of Contents

The following table summarizes purchases of our common stock by the Company and affiliated purchasers during the three months ended December 31, 2012:

	Total Number of Shares Purchased (1)	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Maximum Number of Shares that May Yet Be Purchased Under the Plans or Programs
		(In thousands, except for per share amounts)		
October 1, 2012 to October 31, 2012		$		
November 1, 2012 to November 30, 2012				
December 1, 2012 to December 31, 2012				
Total				

Item 6 ***Selected Financial Data***

The following table presents selected financial data for the last five years ended December 31st:

	2012	2011	2010	2009	2008
	(Dollars in thousands, except per share data)				
Net sales	$ 1,768,631	$ 2,155,792	$ 2,101,865	$ 1,657,569	$ 2,245,152
Income (loss) from continuing operations	(373,034)	5,134	15,403	(17,796)	(123,428)
Basic earnings (loss) per share from continuing operations attributable to Ferro Corporation common shareholders	(4.34)	0.05	0.15	(0.41)	(2.91)
Diluted earnings (loss) per share from continuing operations attributable to Ferro Corporation common shareholders	(4.34)	0.05	0.15	(0.41)	(2.91)
Cash dividends declared per common share				0.01	0.58
Total assets	1,079,103	1,440,651	1,434,355	1,526,355	1,544,117
Long-term debt, including current portion, and redeemable preferred stock	298,177	300,769	303,269	409,231	577,290

In 2008, we sold our Fine Chemicals business, which is presented as discontinued operations in 2008 and 2009.

In 2012, we changed our method of recognizing defined benefit pension and other postretirement benefit expense. Under the new method, we recognize actuarial gains and losses in our operating results in the year in which the gains or losses occur. All prior periods have been adjusted to apply the new method retrospectively.

Item 7 ***Management s Discussion and Analysis of Financial Condition and Results of Operations***

Overview

During 2012, we experienced continued decline in the performance of our Electronic Materials segment, specifically our solar pastes, metal powders and surface finishing products businesses, which ultimately led us to begin exploring strategic options for the solar pastes business during the third quarter of 2012. We also

Table of Contents

experienced weak demand in Europe, with our Color and Glass Performance Materials, Performance Coatings and Polymer Additives segments the most significantly impacted. On February 6, 2013, we sold assets related to solar pastes and exited the product line.

To further address the challenges that we are facing, in the second quarter of 2012, we initiated cost cutting initiatives to reduce the cost structure of the Performance Coatings business in Europe. We have also taken action to improve Electronic Materials results through actions to restructure the management team and significantly reduce operating costs. Additionally, we have announced cost savings initiatives that are aimed at driving efficiencies across our global footprint. We expect to achieve $25 million to $30 million of cost savings in 2013 and more than $50 million in 2014 through a combination of improved manufacturing efficiency and consolidation of certain global commercial and support functions.

For the year ended December 31, 2012, Ferro s net loss was $373.0 million, compared with net income of $5.1 million in 2011, and net loss attributable to common shareholders was $374.3 million, compared with net income attributable to common shareholders of $4.2 million in 2011. Our total segment operating income for 2012 was $65.5 million, compared with $160.7 million in 2011. During 2012, we incurred charges totaling $214.8 million related to impairment of the goodwill and certain property, plant and equipment in our Electronic Materials reporting unit, as well as impairments of real estate assets related to certain idled facilities in Europe. Further, we initiated restructuring activities that resulted in total charges of $10.4 million and primarily consisted of actions related to our Performance Coatings business in Europe and certain corporate actions, including exiting the lease of our corporate aircraft.

Outlook

For the full year 2013, we expect organic sales volume growth to approximate global GDP growth, with sales revenue growth expected to track below volume growth primarily due to expected changes in foreign currency rates, including the Euro. The expected improvements in the Company s cost structure are expected to be partially offset by inflationary pressures on expenditures.

The sale of assets related to our solar pastes business during the first quarter of 2013 is expected to improve segment operating income in Electronic Materials by approximately $16 million annually compared with 2012 results.

Factors that could adversely affect our future financial performance are described under the heading Risk Factors in Item 1A.

Results of Operations - Consolidated

Comparison of the years ended December 31, 2012 and 2011

For the year ended December 31, 2012, Ferro net loss was $373.0 million, compared with net income of $5.1 million in 2011. For the year ended December 31, 2012, Ferro net loss attributable to common shareholders was $374.3 million, or $4.34 per share, compared with Ferro net income attributable to common shareholders of $4.2 million, or $0.05 per share, reflecting $0.2 million of preferred stock dividends, in 2011.

Net Sales

	2012	2011	$ Change	% Change
	(Dollars in thousands)			
Net sales excluding precious metals	$ 1,595,881	$ 1,756,721	$ (160,840)	(9.2)%
Sales of precious metals	172,750	399,071	(226,321)	(56.7)%
Net sales	1,768,631	2,155,792	(387,161)	(18.0)%
Cost of sales	1,470,769	1,743,560	(272,791)	(15.6)%
Gross profit	$ 297,862	$ 412,232	$ (114,370)	(27.7)%

Table of Contents

Net sales decreased by 18.0% in the year ended December 31, 2012, compared with the prior year. Lower sales volumes in our Electronic Materials segment, specifically for solar pastes and metal powders, in combination with unfavorable price and mix, and weakness in Europe due to macro economic conditions, were the primary drivers of the decrease. Further, as a result of the decrease in Electronic Materials volumes, precious metals sales decreased 56.7% from 2011, or 58.5% of the overall decrease in sales in 2012. Across our segments, changes in product prices and mix accounted for approximately 8% of sales decline, lower sales volumes reduced sales by approximately 8% and changes in foreign currency exchange rates reduced sales an additional 2%.

Gross Profit

Gross profit decreased 27.7% in 2012 to $297.9 million, compared with $412.2 million in 2011. The most significant driver was the performance of the Electronic Materials segment, which accounted for approximately 80% of the total decline. Weakness in Europe also contributed to the reduction in gross profit, particularly in the Color and Glass Performance Materials, Performance Coatings and Polymer Additives segments. Gross profit percentage declined to 16.8% of net sales from 19.1% of net sales in 2011.

Selling, General and Administrative Expense

Selling, general and administrative (SG&A) expenses were $302.7 million in 2012 and $335.3 million in 2011, $32.7 million lower in 2012 compared with 2011; however, as a percentage of net sales, SG&A expenses increased 1.5% to 17.1% in 2012, compared with 15.6% in 2011. The most significant driver of the decline in SG&A expenses in 2012 was the change in accounting principle that was elected during the third quarter of 2012, under which we now recognize actuarial gains and losses on our defined benefit pension and other postretirement benefit plans in the year in which the gains or losses occur. Also contributing to the reduction from 2011 were favorable foreign currency exchange impacts, reduced depreciation and amortization expense, and lower stock-based compensation expense driven by certain personnel actions during the year. Partially offsetting the favorability were increased severance costs, higher bad debt expense, and increased costs related to an initiative to streamline and standardize business processes and improve management information systems tools.

The following represent the components with significant changes between 2012 and 2011:

	2012	2011	$ Change	% Change
	(Dollars in thousands)			
Pension and other postretirement benefits	$ 29,065	$ 57,611	$ (28,546)	(49.5)%
Foreign currency exchange	(6,244)		(6,244)	NM
Depreciation and amortization	11,184	15,093	(3,909)	(25.9)%
Stock-based compensation	3,057	4,462	(1,405)	(31.5)%
Idle sites	2,077	2,612	(535)	(20.5)%
Severance	5,578	451	5,127	NM
Bad debt	5,217	2,349	2,868	122.1%
Management information systems tools	8,977	6,461	2,516	38.9%
Other		1,914	(2,525)	NM
Total change			$ (32,653)	

NM Not meaningful

Restructuring and Impairment Charges

	2012	2011	$ Change	% Change
	(Dollars in thousands)			
Goodwill	$ 153,566	$ 3,881	$ 149,685	NM
Property, plant and equipment	46,800	4,436	42,364	NM
Assets held for sale	14,913	3,809	11,104	NM
Corporate aircraft	3,214		3,214	NM
Restructuring	7,326	4,904	2,422	49.4%
Restructuring and impairment	$ 225,819	$ 17,030	$ 208,789	NM

NM Not meaningful

Table of Contents

Restructuring and impairment charges increased significantly in 2012 compared with 2011. The primary driver of the impairment charges taken against goodwill and property, plant and equipment in the current year was the decline in profitability of our solar pastes business and the related impact on the forecast for Electronic Materials. In addition to the impacts related to Electronic Materials, we continued to aggressively liquidate our portfolio of real estate related to idled facilities that is classified as held for sale, which drove incremental impairment charges during the year. Our idled facilities are principally located in Europe, which continued to experience difficult economic conditions. Idled assets in France, the Netherlands and the U.S. were sold in 2012. The restructuring charges incurred in 2012 primarily related to our Performance Coatings business in Europe and the disposal of the leased corporate aircraft.

Interest Expense

Interest expense in 2012 did not change significantly from 2011. The components of interest expense are as follows:

	2012	2011	$ Change	% Change
	(Dollars in thousands)			
Interest expense	$ 26,808	$ 27,025	$ (217)	(0.8)%
Interest capitalization	(780)	(499)	(281)	56.3%
Amortization of bank fees	1,951	1,883	68	3.6%
Interest expense	$ 27,979	$ 28,409	$ (430)	(1.5)%

Income Tax Expense

In 2012, income tax expense was $109.5 million, while in the prior year, we recorded income tax expense of $19.3 million. The current year tax expense was driven by a $182.7 million charge to increase the valuation allowances to more accurately measure the portion of the deferred tax assets that more likely than not will be realized, a $4.1 million charge related to the expiration of certain tax credits, and the tax impact of the goodwill impairment. The prior year expense was also affected by an $11.3 million charge to increase the valuation allowances related to deferred tax assets.

Comparison of the years ended December 31, 2011 and 2010

For the year ended December 31, 2011, Ferro net income was $5.1 million, compared with net income of $15.4 million in 2010. For the year ended December 31, 2011, Ferro net income attributable to common shareholders was $4.2 million, or $0.05 per share, reflecting $0.2 million of preferred stock dividends, compared with Ferro net income attributable to common shareholders of $13.2 million, or $0.15 per share, reflecting $0.7 million of preferred stock dividends, in 2010.

Net Sales

	2011	2010	$ Change	% Change
	(Dollars in thousands)			
Net sales excluding previous metals	$ 1,756,721	$ 1,723,431	$ 33,290	1.9%
Sales of precious metals	399,071	378,434	20,637	5.5%
Net sales	2,155,792	2,101,865	53,927	2.6%
Cost of sales	1,743,560	1,643,733	99,827	6.1%
Gross profit	$ 412,232	$ 458,132	$ (45,900)	(10.0)%

Table of Contents

Net sales increased by 2.6% in the year ended December 31, 2011, compared with the prior year. Changes in product prices and mix, together with changes in foreign currency exchange rates, were the primary drivers of the increased sales. Increased sales of precious metals, driven by higher prices for silver, also contributed to the overall sales growth. Lower sales volume had a negative effect on sales, particularly in the Electronic Materials segment. The lower sales volume also was the result of decisions we made in 2010 to exit certain markets served by the Color and Glass Performance Materials and Electronic Materials segments. For the year, changes in product prices and mix accounted for approximately 10% of sales growth, and changes in foreign currency exchange rates contributed an additional 2% to higher sales. Lower sales volume reduced sales by approximately 9%. Higher precious metal prices contributed approximately 1 % to the overall sales increase during the year, including effects from changes in volume and prices of the precious metals.

Gross Profit

Gross profit declined during 2011 primarily as a result of reduced sales volume of conductive pastes used in solar cell applications. In addition, increased raw material costs and product mix changes combined to reduce gross profit or to limit the growth in gross profit in certain business segments where sales increased. In aggregate, raw material costs increased by approximately $113 million during 2011 and these increased costs were offset by increased product prices. Gross profit percentage declined to 19.1% of net sales from 21.8% of net sales in the prior-year period. Charges that were primarily related to residual costs at closed manufacturing sites involved in earlier restructuring initiatives reduced gross profit by $4.8 million during 2011. Gross profit was reduced by charges of $9.0 million during 2010, primarily due to costs related to manufacturing rationalization activities.

Selling, General and Administrative Expense

Selling, general and administrative (SG&A) expenses were $335.3 million in 2011 and $279.7 million in 2010, $55.6 million higher in 2011 compared with 2010. As a percentage of net sales, SG&A expenses increased 2.3% to 15.6% in 2011, compared with 13.3% in 2010. The most significant driver of the increase in SG&A expenses in 2011 was a result of the retrospective application of the change in accounting principle that was elected during the third quarter of 2012, under which we now recognize actuarial gains and losses on our defined benefit pension and other postretirement benefit plans in the year in which the gains or losses occur. Also contributing to the increase from 2010 were increased costs related to an initiative to streamline and standardize business processes and improve management information systems tools, unfavorable foreign currency exchange impacts, costs at idled sites that were closed as part of historical restructuring actions, and higher stock-based compensation expense. Partially offsetting the increased costs were lower depreciation and severance in 2011.

The following represent the components with significant changes between 2011 and 2010:

	2011	2010	$Change	% Change
	(Dollars in thousands)			
Pension and other postretirement benefits	$ 57,611	$ 15,835	$ 41,776	263.8%
Management information systems tools	6,461		6,461	NM
Foreign currency exchange	5,952		5,952	NM
Idle sites	2,612		2,612	NM
Stock-based compensation	4,462	1,903	2,559	134.5%
Depreciation and amortization	11,184	16,310	(5,126)	(31.4)%
Severance	451	2,386	(1,935)	(81.1)%
Bad debt	2,349	2,935	(586)	(20.0)%
Other	3,930		3,930	NM
Total change			$ 55,643	

NM Not meaningful

Table of Contents

Restructuring and Impairment Charges

	2011	2010	$ Change	% Change
	(Dollars in thousands)			
Goodwill	$ 3,881	$	$ 3,881	NM
Property, plant and equipment	4,436		4,436	NM
Assets held for sale	3,809		3,809	NM
Restructuring	4,904	63,732	(58,828)	(92.3)%
Restructuring and impairment	$ 17,030	$ 63,732	$ (46,702)	(73.3)%

NM Not meaningful

Restructuring and impairment charges were $17.0 million, down from $63.7 million in 2010. The lower charges reflected the winding down of certain multi-year manufacturing rationalization activities. Included in restructuring and impairment charges during 2011 were impairment charges of $12.1 million resulting from an impairment of goodwill in the Performance Coatings segment and fixed asset impairment charges related to property, plant and equipment and property held for sale. The impaired property related to sites that were closed due to prior-period restructuring actions, and the impairments reflect ongoing deterioration in commercial real estate markets.

Interest Expense

	2011	2010	$ Change	% Change
	(Dollars in thousands)			
Interest expense	$ 27,025	$ 36,295	$ (9,270)	(25.5)%
Interest capitalization	(499)	(28)	(471)	NM
Amortization of bank fees	1,883	8,301	(6,418)	(77.3)%
Interest expense	$ 28,409	$ 44,568	$ (16,159)	(36.3)%

NM Not meaningful

Interest expense declined by $16.2 million during 2011 compared with 2010. Lower average borrowing levels, reduced interest rates on borrowings and reduced amortization of debt issuance costs contributed to the decline in interest expense. Interest expense in 2010 included nonrecurring charges of $2.3 million for a noncash write-off of debt issuance costs related to prepayments of our term loans prior to their scheduled repayment.

Income Tax Expense

In 2011, income tax expense was $19.3 million, or 79.0% of income before income taxes. In 2010, we recorded income tax expense of $21.9 million, or 58.7% of income before income taxes. The 2011 effective tax rate was greater than the statutory income tax rate of 35% primarily as a result of an $11.3 million charge to increase the valuation allowances to more accurately measure the portion of the deferred tax assets that more likely than not will be realized. The 2010 tax expense was also affected by a $9.6 million increase to valuation allowances related to deferred tax assets, a tax expense of $1.5 million related to the 2010 passage of the U.S. Patient Protection and Affordable Care Act, partially offset by a decrease in tax expense of $2.1 million related to a tax benefit resulting from a domestic production activity deduction in the United States.

Table of Contents

Results of Operations Segment Information

Comparison of the years ended December 31, 2012 and 2011

Electronic Materials

	2012	2011	$ Change	% Change
	(Dollars in thousands)			
Net sales excluding precious metals	$ 149,182	$ 257,991	$ (108,809)	(42.2)%
Precious metal sales	144,658	364,986	(220,328)	(60.4)%
Segment net sales	293,840	622,977	(329,137)	(52.8)%
Segment (loss) income	(16,122)	68,024	(84,146)	(123.7)%
Segment (loss) income as a % of net sales excluding precious metals	(10.8)%	26.4%		

Sales declined in Electronic Materials primarily as a result of reduced demand for conductive pastes used in solar cells and metal powders used in other electronics applications. Further, sales of our polishing materials declined in 2012 compared with 2011 due to significantly lower costs for the key raw material used in the manufacture of the products. Unfavorable product pricing and mix accounted for approximately $174 million of the decrease in sales, while volumes drove approximately $154 million of the decline. Sales of precious metals also declined significantly in 2012, in line with the overall reduction in volumes year over year, as the costs of precious metals are passed through to our customers. While sales and gross profit declined, SG&A increased slightly, further driving the operating loss. Electronic Materials operates principally in North America and Asia-Pacific, and both regions experienced significant declines in performance during 2012.

Performance Coatings

	2012	2011	$ Change	% Change
	(Dollars in thousands)			
Segment net sales	$ 587,698	$ 602,566	$ (14,868)	(2.5)%
Segment income	26,306	34,033	(7,727)	(22.7)%
Segment income as a % of net sales	4.5%	5.6%		

Sales in Performance Coatings declined in 2012 primarily due to unfavorable foreign currency exchange impacts of approximately $24 million. This was partially offset by increased volume impacts of approximately $6 million and slightly favorable price and mix of approximately $3 million. We experienced volume growth in Europe and Latin America. However, price was adversely impacted in Europe by overall European economic conditions and the highly price-competitive end markets into which Performance Coatings sells. This was partially mitigated by favorable pricing in Latin America. Gross margin declined in 2012 compared with 2011, and in addition to the unfavorable impacts on net sales, higher raw material costs also significantly impacted the Performance Coatings segment. SG&A was relatively flat year over year and consistent as a percentage of net sales.

Color and Glass Performance Materials

	2012	2011	$ Change	% Change
	(Dollars in thousands)			
Net sales excluding precious metals	$ 343,631	$ 362,232	$ (18,601)	(5.1)%
Precious metal sales	28,092	34,085	(5,993)	(17.6)%
Segment net sales	371,723	396,317	(24,594)	(6.2)%
Segment income	26,115	29,672	(3,557)	(12.0)%
Segment income as a % of net sales excluding precious metals	7.6%	8.2%		

Table of Contents

Color and Glass Performance Materials sales were affected by significant unfavorable impacts in volume and foreign currency exchange. Volumes accounted for approximately $15 million of the reduction, declining most significantly in Europe, with Asia-Pacific and Latin America also down. The foreign currency exchange impact was approximately $15 million unfavorable. Partially offsetting the volume and foreign currency impacts were favorable price and mix of approximately $5 million. In addition to reduced sales, gross margin was also impacted unfavorably by higher costs of raw materials in 2012 compared with 2011. SG&A was approximately $4 million lower year over year, which partially mitigated the unfavorable impacts on sales and gross margin.

Polymer Additives

	2012	2011	$ Change	% Change
	(Dollars in thousands)			
Segment net sales	$ 320,635	$ 336,965	$ (16,330)	(4.8)%
Segment income	12,711	15,784	(3,073)	(19.5)%
Segment income as a % of net sales	4.0%	4.7%		

Sales in Polymer Additives were significantly impacted by declines in volume and price compared with 2011. The lower volume was primarily in Europe and North America, which are the principal markets for our Polymer Additives products, and driven by reduced demand for certain plasticizer products resulting from changing environmental regulations, as well as overall economic conditions in Europe. Partially offsetting the negative effects of volume and price on sales and gross margin was reduced SG&A, which was approximately $1 million lower in 2012 compared with 2011.

Specialty Plastics

	2012	2011	$ Change	% Change
	(Dollars in thousands)			
Segment net sales	$ 170,717	$ 172,028	$ (1,311)	(0.8)%
Segment income	14,057	9,428	4,629	49.1%
Segment income as a % of net sales	8.2%	5.5%		

Sales in Specialty Plastics were relatively flat in 2012 compared with 2011. Reduced volumes in North America and Europe lowered sales by approximately $7 million, however we were able to mitigate the majority of the shortfall through pricing actions, which were favorable by approximately $6 million. Partially offsetting the favorable impact of price on gross margin were slightly higher raw material costs in 2012 compared with 2011. SG&A expenses were down approximately $1 million in 2012 compared with 2011.

Pharmaceuticals

	2012	2011	$ Change	% Change
	(Dollars in thousands)			
Segment net sales	$ 24,018	$ 24,939	$ (921)	(3.7)%
Segment income	2,409	3,744	(1,335)	(35.7)%
Segment income as a % of net sales	10.0%	15.0%		

Sales in Pharmaceuticals declined in 2012 compared with 2011 due to changes in product pricing and mix. Additionally, Pharmaceuticals incurred higher manufacturing costs in 2012, which negatively impacted gross profit and segment income.

Table of Contents

	2012	2011	$ Change	% Change
	(Dollars in thousands)			
Geographic Revenues				
United States	$ 764,596	$ 1,022,120	$ (257,524)	(25.2)%
International	1,004,035	1,133,672	(129,637)	(11.4)%
Total geographic revenues	$ 1,768,631	$ 2,155,792	$ (387,161)	(18.0)%

The primary driver of the decrease in net sales, both in the United States and in international regions, was the underperformance of Electronic Materials. Electronic Materials net sales were down approximately $329 million in 2012 compared with 2011, of which approximately $264 million was in the United States and approximately $65 million was in international regions, principally Asia-Pacific. The decline in Electronic Materials in the United States was partially mitigated by higher sales in Color and Glass Performance Materials. In addition to the impact of Electronic Materials, the balance of the international sales decline was due to lower sales emanating from Europe in other segments. Sales that are recorded in each region include products exported to customers located in other regions.

Comparison of the years ended December 31, 2011 and 2010

Electronic Materials

	2011	2010	$ Change	% Change
	(Dollars in thousands)			
Net sales excluding precious metals	$ 257,991	$ 321,990	$ (63,999)	(19.9)%
Precious metal sales	364,986	353,411	11,575	3.3%
Segment net sales	622,977	675,401	(52,424)	(7.8)%
Segment income	68,024	132,009	(63,985)	(48.5)%
Segment income as a % of net sales excluding precious metals	26.4%	41.0%		

Sales declined in Electronic Materials primarily as a result of reduced demand for conductive pastes used in solar cell applications. The decline in demand for these products was a consequence of lower end-market demand and excess inventory of completed solar power modules. Due to the excess inventory and reduced demand, solar cell production was significantly reduced by our customers. We decided to exit the market for commodity dielectric materials during 2010. As a result, the absence of sales of these products in 2011 also contributed to the lower sales volume in Electronic Materials during the year. Lower sales volume reduced sales by approximately $124 million compared with the prior year. Changes in product pricing and mix offset approximately $60 million of the sales decline during the year, and changes in foreign currency exchange rates increased sales by an additional $12 million. Sales of precious metals increased by $12 million within the Electronic Materials business, including the effects of increased metal prices and reduced sales volume. The costs of precious metals are passed through to our customers as an element of our product prices. Sales of products produced in the U.S. and Europe declined, while sales of products produced in Asia increased during 2011. Operating income declined primarily due to a $53 million reduction in gross profit driven by the lower sales volume of conductive pastes, which was only partially offset by increased sales volume of other Electronic Materials products.

Performance Coatings

	2011	2010	$ Change	% Change
	(Dollars in thousands)			
Segment net sales	$ 602,566	$ 555,023	$ 47,543	8.6%
Segment income	34,033	31,403	2,630	8.4%
Segment income as a % of net sales	5.6%	5.7%		

Table of Contents

Sales increased in Performance Coatings primarily due to higher product prices and changes in foreign currency exchange rates, partially offset by reduced sales volume. The higher product prices were largely due to higher raw material costs compared with the prior year. Changes in product prices and mix accounted for approximately $49 million of the sales growth during the year. Changes in foreign currency exchange rates added an additional $15 million to the sales growth. Lower sales volume offset approximately $16 million of the growth in sales. Sales increased in the Europe-Middle East-Africa region, with additional sales growth contributions from Latin America, the U.S., and Asia-Pacific. Operating profit increased as a result of an approximately $3 million increase in gross profit.

Color and Glass Performance Materials

	2011	2010	$ Change	% Change
	(Dollars in thousands)			
Net sales excluding precious metals	$ 362,232	$ 357,359	$ 4,873	1.4%
Precious metal sales	34,085	24,796	9,289	37.5%
Segment net sales	396,317	382,155	14,162	3.7%
Segment income	29,672	26,032	3,640	14.0%
Segment income as a % of net sales excluding precious metals	8.2%	7.3%		

Sales increased in Color and Glass Performance Materials as a result of higher product prices, changes in product mix and changes in foreign currency exchange rates. Partially offsetting the increases was a decline in sales volume. Sales volume of certain metal oxide products was curtailed as a result of the closing of a manufacturing plant in Portugal, and sales volume was also lower due to reduced precious metal preparations sales as a result of a business divestiture during 2010. Changes in product prices and mix increased sales by approximately $38 million, and changes in foreign currency exchange rates contributed an additional $14 million to sales growth during the year. Lower sales volume reduced sales growth by approximately $38 million. The sales growth was primarily driven by increased sales in Europe-Middle East-Africa. Operating profit increased as a result of a $4 million increase in gross profit. The increase in gross profit was driven by the benefits from manufacturing rationalization activities completed in prior periods. During the second half of 2011, both gross profit and SG&A expenses were negatively impacted by costs associated with consolidating production from a plant in Austria to one of our existing plants in Germany.

Polymer Additives

	2011	2010	$ Change	% Change
	(Dollars in thousands)			
Segment net sales	$ 336,965	$ 302,352	$ 34,613	11.4%
Segment income	15,784	16,027	(243)	(1.5)%
Segment income as a % of net sales	4.7%	5.3%		

Sales increased in Polymer Additives primarily as a result of higher product prices. The higher product prices largely reflected higher raw material costs compared with the prior year. Changes in product prices and mix increased sales by approximately $37 million during 2011. Changes in foreign currency exchange rates increased sales by approximately $4 million, while lower sales volume reduced sales by $6 million. Sales increased in the U.S. and Europe-Middle East-Africa, the primary regions where we market our polymer additives. Operating income declined as a result of a $3 million decline in gross profit caused by changes in product mix, increased manufacturing costs, and increased SG&A expense, which was approximately $1 million unfavorable to the prior year.

Table of Contents

Specialty Plastics

	2011	2010	$ Change	% Change
	(Dollars in thousands)			
Segment net sales	$ 172,028	$ 163,058	$ 8,970	5.5%
Segment income	9,428	13,413	(3,985)	(29.7)%
Segment income as a % of net sales	5.5%	8.2%		

Sales increased in Specialty Plastics primarily as a result of changes in product prices and mix, which were partially offset by the effects of lower sales volume. Changes in product price and mix contributed approximately $17 million to the overall sales growth, and changes in foreign currency exchange rates increased sales by an additional $3 million. Lower sales volume reduced sales by approximately $11 million. Sales growth was primarily driven by increased sales in the United States. Operating profit declined primarily as a result of reduced gross profit that resulted from reduced production volume.

Pharmaceuticals

	2011	2010	$ Change	% Change
	(Dollars in thousands)			
Segment net sales	$ 24,939	$ 23,876	$ 1,063	4.5%
Segment income	3,744	4,699	(955)	(20.3)%
Segment income as a % of net sales	15.0%	19.7%		

Sales increased in Pharmaceuticals primarily as a result of changes in product mix compared with the prior year. Operating income decreased primarily due to higher SG&A expense compared with prior years.

	2011	2010	$ Change	% Change
	(Dollars in thousands)			
Geographic Revenues				
United States	$ 1,022,120	$ 1,039,457	$ (17,337)	(1.7)%
International	1,133,672	1,062,408	71,264	6.7%
Total geographic revenues	$ 2,155,792	$ 2,101,865	$ 53,927	2.6%

International sales increased during 2011 while sales in the United States declined. The decline in sales in the United States was primarily driven by lower sales of Electronic Materials that were shipped from our U.S. manufacturing locations. This decline was partially offset by higher U.S. sales in each of our other business segments. During 2011, sales originating in the United States were 47% of total net sales, down from 49% of net sales during 2010. Sales increased in all international regions during 2011, led by increased sales in Europe-Middle East-Africa. Sales that are recorded in each region include products exported to customers that are located in other regions.

Summary of Cash Flows for the years ended December 31, 2012, 2011, and 2010

	2012	2011	2010
	(Dollars in thousands)		
Net cash provided by operating activities	$ 23,658	$ 53,233	$ 198,865
Net cash used for investing activities	(55,308)	(65,127)	(33,322)
Net cash provided by (used for) financing activities	36,457	5,904	(157,264)
Effect of exchange rate changes on cash	1,778	(54)	2,249
Increase (decrease) in cash and cash equivalents	$ 6,585	$ (6,044)	$ 10,528

Table of Contents

Operating activities. Cash flows from operating activities decreased $29.6 million from 2011 to 2012. Cash flows decreased $378.2 million due to lower net income, $28.1 million due to the return of precious metal deposits, and $23.1 million due to changes in accounts payable. These decreases were mostly offset by increases of $214.1 million in non-cash restructuring and impairment charges, $87.0 million due to changes in deferred taxes, $52.1 million due to changes in inventories, $35.6 million due to changes in accrued expenses and other current liabilities, and $32.9 million due to changes in other receivables and other current assets.

We recorded a net loss in 2012 compared with net income in 2011, primarily as a result of restructuring and impairment charges and additional income tax expense. Restructuring and impairment charges included a $153.6 million impairment of goodwill associated with the Electronic Materials segment and a $38.9 million impairment of long-lived assets, primarily in the Electronic Materials segment. These impairments were the result of reduced forecasts for future profitability in Electronic Materials. In addition, impairment charges included a $14.9 million impairment to reduce the value of assets held for sale, primarily properties and buildings related to manufacturing sites that were closed as part of earlier restructuring activities. We also recorded a charge of $182.7 million to reserve for a significant portion of our deferred tax assets. The reserve for the deferred tax assets was primarily driven by the significant impairment charges that were incurred during 2012.

Inventories, other receivables and other current assets, and accounts payable increased in 2011 as a result of higher production activity driven by improved customer demand compared with the final months of 2010. They decreased in 2012 due to lower production activity driven by lower customer demand compared with the final months of 2011. The return of precious metal deposits provided $28.1 million of cash in 2011 due to additional credit lines not requiring collateral. Changes in accrued expenses and other current liabilities were relatively flat in 2012, but used $31.2 million of cash in 2011, primarily from the payment of 2010 year-end incentive compensation.

Cash flows from operating activities decreased $145.6 million from 2010 to 2011. Cash flows declined $68.0 million from decreases in accrued expenses, primarily from the payment of 2010 year-end incentive compensation. The return of precious metal deposits provided $28.1 million in 2011 and $84.3 million in 2010 due to additional credit lines not requiring collateral. Adjustments to reconcile net income to cash provided by operating activities include noncash losses on extinguishment of debt, depreciation and amortization, and deferred income taxes, as well as payments toward retirement benefits greater than the expenses recognized. The net positive effects of adjustments for these items declined by $27.8 million from 2010 to 2011. Partially offsetting these decreases was an improvement of $10.3 million in net income as a result of reduced restructuring and impairment charges, reduced losses on extinguishment of debt and lower interest expense.

Investing activities. Capital expenditures decreased $14.0 million from 2011 to 2012 and increased $28.0 million from 2010 to 2011. In 2010, we continued capital spending on manufacturing rationalization programs, but we made a concerted effort to defer or scale back new projects in order to conserve cash during a period of reduced customer demand associated with the global economic downturn. In 2011, our capital spending increased to support a higher level of business activity and also included certain deferred projects. In 2012, we again deferred or scaled back new projects in response to another period of reduced customer demand. In 2012, we received proceeds of $3.0 million from the sale of assets, primarily property, plant and equipment in Toccoa, Georgia; Uden, Netherlands; and Limoges, France. In 2011, we received proceeds of $6.4 million from the sale of assets, primarily property, plant and equipment in Australia and our former corporate headquarters in Cleveland, Ohio. In 2010, we received proceeds of $11.4 million from the sale of assets and businesses, primarily property, plant and equipment in the Netherlands and our business operations in precious metal preparations in Asia.

Financing activities. In 2011, we entered into several international programs to sell with recourse trade accounts receivable to financial institutions. Advances under these programs are accounted for as borrowings

Table of Contents

secured by the receivables. We also redeemed in cash all outstanding Series A Preferred Stock for $9.4 million. In 2010, we entered into a $350.0 million multi-currency senior revolving credit facility, maturing in 2015. We also issued $250.0 million of 7.875% Senior Notes in a high yield bond offering, repurchased $136.7 million of our 6.50% Convertible Senior Notes through a tender offer and subsequent market purchases, and repaid all outstanding term loans totaling $231.4 million and our revolving credit line of a net $1.7 million associated with the 2009 Amended and Restated Credit Facility.

We had net proceeds from all credit facilities of $34.8 million in 2012 and $15.6 million in 2011, for a net increase in 2012 of $19.2 million in our rate of borrowing. In 2010, we had net repayments of $144.3 million, for a net increase in 2011 of $159.9 million in our rate of borrowing. In 2010, we paid $5.7 million to issue the 7.875% Senior Notes and $4.1 million to enter into our 2010 Credit Facility.

We have paid no dividends on our common stock since 2009. Dividends paid on our preferred stock totaled $0.2 million in 2011 and $0.7 million in 2010.

Capital Resources and Liquidity

Major debt instruments that were outstanding during 2012 are described below.

7.875% Senior Notes

In 2010, we issued $250 million of 7.875% Senior Notes due 2018 (the Senior Notes). We used portions of the proceeds from the offering to repay all of the remaining term loans and revolving borrowings outstanding under a credit facility originally entered into in 2006 and as amended and restated through November 2009 (the 2009 Amended and Restated Credit Facility). We also used portions of the proceeds from the offering to repurchase the 6.50% Convertible Senior Notes that were tendered pursuant to a related tender offer. The Senior Notes were issued at par and bear interest at a rate of 7.875% per year, payable semi-annually in arrears on February 15 and August 15 of each year. The Senior Notes mature on August 15, 2018, and are unsecured. The principal amount outstanding was $250.0 million at December 31, 2012. At December 31, 2012, we were in compliance with the covenants under the Senior Notes indenture.

6.50% Convertible Senior Notes

In 2008, Ferro issued $172.5 million of 6.50% Convertible Senior Notes due 2013 (the Convertible Notes). The Convertible Notes bear interest at a rate of 6.5% per year, payable semi-annually in arrears on February 15 and August 15 of each year. The Convertible Notes mature on August 15, 2013. In 2010, we purchased $136.7 million of the Convertible Notes through a tender offer or on the open market. In 2011, we purchased an additional $0.7 million of the Convertible Notes on the open market. In connection with these transactions, we recognized losses on extinguishment of debt of $13.1 million in 2010 and less than $0.1 million in 2011, consisting of unamortized debt issuance costs and the difference between the carrying value and the fair value of these notes. The principal amount outstanding was $35.1 million at December 31, 2012. We separately account for the liability and equity components of the Convertible Notes in a manner that will reflect our nonconvertible debt borrowing rate when interest cost is recognized in subsequent periods. The effective interest rate on the liability component is 9.5%. At December 31, 2012, we were in compliance with the covenants under the Convertible Notes indenture.

Revolving Credit Facility

In 2010, we entered into the Third Amended and Restated Credit Agreement with a group of lenders for a five-year, $350 million multi-currency senior revolving credit facility (the 2010 Credit Facility). In 2012, we amended the 2010 Credit Facility (the 2012 Amended Credit Facility) primarily to provide additional operating flexibility. Under this facility, we had borrowed $2.6 million at at December 31, 2012. After reductions for

Table of Contents

standby letters of credit secured by this facility, we had $343.2 million available at December 31, 2012. The interest rate under the 2010 Credit Facility is the sum of (A) either (1) LIBOR or (2) the higher of the Federal Funds Rate plus 0.5%, the Prime Rate, or LIBOR plus 1.0% and (B) a variable margin based on the Company s leverage. At December 31, 2012, the interest rate was 3.7%.

The 2012 Amended Credit Facility matures on August 24, 2015, and is secured by substantially all of Ferro s assets, generally including 100% of the shares of the parent company s domestic subsidiaries and 65% of the shares of the foreign subsidiaries directly owned by the parent company, but excluding trade receivables legally sold pursuant to our accounts receivable sales programs.

We are subject to a number of financial covenants under our 2012 Amended Credit Facility. The covenants include requirements for a leverage ratio, an interest coverage ratio, and capital expenditures. The leverage ratio must be less than (i) 4.25 to 1.00 on the last day of the third and fourth quarters of 2012 and (ii) 3.50 to 1.00 on the last day of any subsequent quarter, each calculated using the last four fiscal quarters. In the leverage ratio, the numerator is total debt, which consists of borrowings and certain letters of credit outstanding on the 2012 Amended Credit Facility and our international facilities, the principal amount outstanding on our senior notes and convertible notes, capitalized lease obligations, and amounts outstanding on our domestic and international receivables sales programs, and the denominator is the sum of earnings before interest, income taxes, depreciation, and amortization (EBITDA), and special charges. The interest coverage ratio must be not less than (i) 2.50 for the second and third quarters of 2012, (ii) 2.75 for the fourth quarter of 2012, and (iii) 3.00 thereafter. In the interest coverage ratio, the numerator is EBITDA and the denominator is cash paid for interest expense and certain other financing expenses. Capital expenditures are limited to (i) $20.0 million for the three months ended June 30, 2012, (ii) $35.0 million for the six months ended September 30, 2012, (iii) $50.0 million for the nine months ended December 31, 2012, (iv) $65.0 million for the twelve months ended March 31, 2013, and (v) $65.0 million for the 2013 fiscal year and each fiscal year thereafter. Certain unused capital expenditures will be permitted to be carried forward to the following fiscal year. Our ability to meet these covenants is primarily driven by our net income before interest, income taxes, depreciation, and amortization; our total debt; our interest payments; and our capital expenditures. Our total debt is primarily driven by cash flow items, including net income before amortization, depreciation, and other noncash charges; our capital expenditures; requirements for deposits from participants in our precious metals consignment program; our customers ability to make payments for purchases and the timing of such payments; and our ability to manage inventory and other working capital items. Our interest payments are driven by our debt level, external fees, and interest rates, primarily the Prime rate and LIBOR. Our capital expenditures are driven by our desire to invest in growth opportunities, to maintain existing property, plant and equipment, and to meet environmental, health and safety requirements. At December 31, 2012, we were in compliance with the covenants of the 2012 Amended Credit Facility.

Our ability to pay common stock dividends is limited by certain covenants in our 2012 Amended Credit Facility and the bond indenture governing the Senior Notes. The covenant in our 2012 Amended Credit Facility is the more limiting of the two covenants and limits our ability to make restricted payments, which include, but are not limited to, common stock dividends and the repurchase of equity interests. We are not permitted to make restricted payments in excess of $30 million in any calendar year. However, if we make less than $30 million of restricted payments in any calendar year, the unused amount can be carried over for restricted payments in future years, provided that the maximum amount of restricted payments in any calendar year does not exceed $60 million.

Domestic Receivable Sales Program

We have an asset securitization program for Ferro s U.S. trade accounts receivable. This program accelerates cash collections at favorable financing costs and helps us manage the Company s liquidity requirements. We sell undivided variable percentage interests in our domestic receivables to various purchasers, and we may obtain up to $50.0 million in the form of cash or letters of credit. Advances received under this program are accounted for as borrowings secured by the receivables and included in net cash provided by

Table of Contents

financing activities. The purchasers have no recourse to Ferro s other assets for failure of payment of the receivables as a result of the lack of creditworthiness, or financial inability to pay, of the related obligor. In May 2012, we extended the maturity of this credit facility through May 2013. At December 31, 2012, we had borrowed $40.0 million under this facility. After reductions for non-qualifying receivables, we had $9.0 million of additional borrowings available under the program at December 31, 2012. At December 31, 2012, the interest rate was 0.6%.

International Receivable Sales Programs

We have several international programs to sell with recourse trade accounts receivable to financial institutions. Advances received under these programs are accounted for as borrowings secured by the receivables and included in net cash provided by financing activities. At December 31, 2012, the commitments supporting these programs totaled $18.5 million, the advances received of $6.1 million were secured by $9.3 million of accounts receivable, and no additional borrowings were available under the programs. The interest rates under these programs are based on EURIBOR rates plus 1.75%. At December 31, 2012, the weighted-average interest rate was 1.9%.

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 most precious metals from financial institutions under consignment agreements (generally referred to as our precious metals consignment program). 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 $6.5 million for 2012. At December 31, 2012, we had on hand precious metals owned by participants in our precious metals consignment program of $112.2 million, measured at fair value based on market prices for identical assets and net of credits. We also process precious metals owned by our customers.

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 December 31, 2012, 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 December 31, 2012, the Company and its subsidiaries had bank guarantees and standby letters of credit issued by financial institutions that totaled $9.7 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 $9.1 million at December 31, 2012. We had $9.1 million of additional borrowings available under these lines at December 31, 2012.

Liquidity Requirements

Our liquidity requirements primarily include debt service, purchase commitments, labor costs, working capital requirements, restructuring expenditures, capital investments, precious metals cash collateral requirements, and postretirement obligations. We expect to meet these requirements in the long term through cash provided by

Table of Contents

operating activities and availability under existing credit facilities or other financing arrangements. Cash flows from operating activities are primarily driven by earnings before noncash charges and changes in working capital needs. In 2012, cash flows from financing and operating activities were used to fund our investing activities. We had additional borrowing capacity of $361.5 million at December 31, 2012, available under various credit facilities, primarily our revolving credit facility. We have taken a variety of actions to enhance liquidity and to ensure short-term covenant compliance, including ongoing restructuring activities, suspension of dividend payments on our common stock in 2009, and sale of assets related to our solar pastes business in 2013.

Our level of debt, debt service requirements, and ability to access credit markets could have important consequences to our business operations and uses of cash flows. The Company has recently accessed credit markets for the following transactions. In 2010, we issued 7.875% Senior Notes, which mature in 2018, and entered into the 2010 Credit Facility, which matures in 2015. In 2011, we entered into several international accounts receivable sales programs. In 2012, we extended our domestic asset securitization facility and amended the 2010 Credit Facility to provide additional operating flexibility.

Our credit facilities and the indenture governing our senior notes contain a number of restrictive covenants, including those described in more detail in Note 6 to the consolidated financial statements under Item 8 of this Annual Report on Form 10-K. These covenants include customary operating restrictions that limit our ability to engage in certain activities, including additional loans and investments; prepayments, redemptions and repurchases of debt; and mergers, acquisitions and asset sales. We are also subject to customary financial covenants under our credit facilities, including a leverage ratio and an interest coverage ratio. These covenants under our credit facilities restrict the amount of our borrowings, reducing our flexibility to fund ongoing operations and strategic initiatives. These facilities and our senior notes are described in more detail in Capital Resources and Liquidity under Item 7 and in Note 6 to the consolidated financial statements under Item 8 of this Annual Report on Form 10-K.

The most critical of these ratios is the leverage ratio. As of December 31, 2012, we were in compliance with our maximum leverage ratio covenant of 4.25x as our actual ratio was 3.34x, providing $22.6 million of EBITDA, as defined within our credit facilities and senior notes indenture, cushion on the leverage ratio. Our leverage ratio covenants decrease in 2013 to 3.50x. To the extent that economic conditions in key markets deteriorate or we are unable to meet our business projections and EBITDA falls below approximately $100 million for rolling four quarters, based on reasonably consistent debt levels with those as of December 31, 2012, could make us unable to maintain compliance with our leverage ratio covenant, in which 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.

We may from time to time seek to retire or repurchase our outstanding debt through open market purchases, privately negotiated transactions, or otherwise. Such repurchases, if any, will depend on prevailing market conditions, our liquidity requirements, contractual restrictions, and other factors. The amounts involved may be material.

Difficulties experienced in global capital markets could affect the ability or willingness of counterparties to perform under our various lines of credit, receivable sales programs, forward contracts, and precious metals program. These counterparties are major, reputable, multinational institutions, all having investment-grade credit ratings, except for one, which is not rated. 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. A reduced forecast for our solar pastes sales and a

Table of Contents

diminished outlook for our future opportunities in the solar market led to our decision to sell assets related to our solar pastes business in 2013. 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 entered into definitive agreements relating to those transactions.

The Company s aggregate amount of contractual obligations for the next five years and thereafter is set forth below:

	2013	2014	2015	2016	2017	Thereafter	Totals
	(Dollars in thousands)						
Short-term debt	$ 48,599	$	$	$	$	$	$ 48,599
Long-term debt(1)	37,650	1,503	4,124	1,215	1,182	255,748	301,422
Interest(2)	21,967	19,688	19,688	19,688	19,688	19,688	120,407
Operating lease obligations	13,463	10,521	8,303	5,700	4,694	21,745	64,426
Purchase commitments(3)	18,475	2,664	2,145	588			23,872
Taxes(4)	2,510						2,510
Retirement and other postemployment benefits(5)	29,328	34,358					63,686
	$ 171,992	$ 68,734	$ 34,260	$ 27,191	$ 25,564	$ 297,181	$ 624,922

(1) Long-term debt excludes unamortized discounts on the Convertible Notes and imputed interest and executory costs on capitalized lease obligations.
(2) Interest represents only contractual payments for fixed-rate debt.
(3) Purchased commitments are non-cancelable contractual obligations for raw materials and energy.
(4) We have not projected payments past 2013 due to uncertainties in estimating the amount and period of any payments. We have $28.7 million in gross liabilities related to unrecognized tax benefits, including $1.0 million of accrued interest and penalties, that are not included in the above table since we cannot reasonably predict the timing of cash settlements with various taxing authorities.
(5) The funding amounts are based on the minimum contributions required under our various plans and applicable regulations in each respective country. We have not projected contributions past 2014 due to uncertainties regarding the assumptions involved in estimating future required contributions.

Critical Accounting Policies

When we prepare our consolidated financial statements we are required to make estimates and assumptions that affect the amounts we report in the consolidated financial statements and footnotes. We consider the policies discussed below to be more critical than other policies because their application requires our most subjective or complex judgments. These estimates and judgments arise because of the inherent uncertainty in predicting future events. Management has discussed the development, selection and disclosure of these policies with the Audit Committee of the Board of Directors.

Revenue Recognition

We recognize sales typically when we ship goods to our customers and when all of the following criteria are met:

Persuasive evidence of an arrangement exists;

The selling price is fixed or determinable;

Collection is reasonably assured; and

Title and risk of loss has passed to our customers.

Table of Contents

In order to ensure the revenue recognition in the proper period, we review material sales contracts for proper cut-off based upon the business practices and legal requirements of each country. For sales of products containing precious metals, we report revenues gross along with their corresponding cost of sales to arrive at gross profit. We record revenues this way because we act as the principal in the transactions into which we enter.

Restructuring and Cost Reduction Programs

In recent years, we have developed and initiated several restructuring programs across a number of our business segments with the objectives of leveraging our global scale, realigning and lowering our cost structure, and optimizing capacity utilization. The programs are primarily associated with North America, Europe and Asia-Pacific. Management continues to evaluate our businesses, and therefore, there may be additional provisions for new plan initiatives, as well as changes in estimates to amounts previously recorded, as payments are made or actions are completed.

Restructuring charges include both termination benefits and asset writedowns. We estimate accruals for termination benefits based on various factors including length of service, contract provisions, local legal requirements, projected final service dates, and salary levels. We also analyze the carrying value of long-lived assets and record estimated accelerated depreciation through the anticipated end of the useful life of the assets affected by the restructuring or record an asset impairment. In all likelihood, this accelerated depreciation will result in reducing the net book value of those assets to zero at the date operations cease. While we believe that changes to our estimates are unlikely, the accuracy of our estimates depends on the successful completion of numerous actions. Changes in our estimates could increase our restructuring costs to such an extent that it could have a material impact on the Company s results of operations, financial position, or cash flows. Other events, such as negotiations with unions and work councils, may also delay the resulting cost savings.

Goodwill

We review goodwill for impairment each year using a measurement date of October 31st or more frequently in the event of an impairment indicator. We estimate the fair values of the reporting units associated with these assets using the average of both the income approach and the market approach, which we believe provides a reasonable estimate of the reporting units fair values, unless facts and circumstances exist that indicate more representative fair values. The income approach uses projected cash flows attributable to the reporting units over their useful lives and allocates certain corporate expenses to the reporting units. We use historical results, trends and our projections of market growth, internal sales efforts and anticipated cost structure assumptions to estimate future cash flows. Using a risk-adjusted, weighted-average cost of capital, we discount the cash flow projections to the measurement date. The market approach estimates a price reasonably expected to be paid by a market participant in the purchase of similar businesses. If the fair value of any of the reporting units were determined to be less than its carrying value, we would proceed to the second step and obtain comparable market values or independent appraisals of its assets to determine the amount of any impairment.

The significant assumptions and ranges of assumptions we used in our impairment analyses of goodwill at July 31, 2012, and October 31, 2012 and 2011, were as follows:

Significant Assumptions	2012	2011
Weighted-average cost of capital	12.0% - 15.5%	13.0% - 14.0%
Residual growth rate	3.0%	3.0%

Our estimates of fair value can be adversely affected by a variety of factors. Reductions in actual or projected growth or profitability at our reporting units due to unfavorable market conditions or significant increases in cost structure could lead to the impairment of any related goodwill. Additionally, an increase in inflation, interest rates or the risk-adjusted, weighted-average cost of capital could also lead to a reduction in the fair value of one or more of our reporting units and therefore lead to the impairment of goodwill.

Table of Contents

In the third quarter of 2012, deterioration in our forecast for our Electronic Materials reporting unit indicated that an interim assessment of the goodwill recorded in the Electronic Materials segment was necessary. We performed the analysis required under ASC Topic 350, Intangibles Goodwill and Other, and concluded under Step 1 that the carrying value of the Electronic Materials reporting unit exceeded its fair value. We estimated this fair value using the average of both the income approach and the market approach. Further analysis under Step 2 resulted in the goodwill with a carrying amount of $153.6 million being written down to a preliminary estimate of its implied fair value of $6.3 million, with the impairment charge of $147.3 million being included in restructuring and impairment charges in our statements of operations for the third quarter of 2012. During the fourth quarter, we finalized our estimate of the implied fair value of the Electronic Materials goodwill and concluded that it was zero, resulting in an incremental impairment charge of $6.3 million.

Based on our 2012 annual impairment test performed as of October 31, 2012, the fair values of the remaining reporting units tested for impairment exceeded the carrying values of the respective reporting units by amounts ranging from 8% to 41% at the 2012 measurement date. The lowest headroom relates to the Performance Pigments and Colors reporting unit, which had a goodwill balance of $25 million at December 31, 2012. A future potential impairment is possible for any of these reporting units if actual results are materially less than forecasted results. Some of the factors that could negatively affect our cash flows and, as a result, not support the carrying values of our reporting units are: new environmental regulations or legal restrictions on the use of our products that would either reduce our product revenues or add substantial costs to the manufacturing process, thereby reducing operating margins; new technologies that could make our products less competitive or require substantial capital investment in new equipment or manufacturing processes; and substantial downturns in economic conditions.

Income Taxes

The breadth of our operations and complexity of income tax regulations require us to assess uncertainties and make judgments in estimating the ultimate amount of income taxes we will pay. Our income tax expense, deferred tax assets and liabilities and reserves for unrecognized tax benefits reflect management s best assessment of estimated current and future taxes to be paid. The final income taxes we pay are based upon many factors, including existing income tax laws and regulations, negotiations with taxing authorities in various jurisdictions, outcomes of tax litigation, and resolution of disputes arising from federal, state, and international income tax audits. The resolution of these uncertainties may result in adjustments to our income tax assets and liabilities in the future.

Deferred income taxes result from differences between the financial and tax basis of our assets and liabilities. We adjust our deferred income tax assets and liabilities for changes in income tax rates and income tax laws when changes are enacted. We record valuation allowances to reduce deferred income tax assets when it is more likely than not that a tax benefit will not be realized. Significant judgment is required in evaluating the need for and the magnitude of appropriate valuation allowances against deferred income tax assets. The realization of these assets is dependent on generating future taxable income, our ability to carry back or carry forward net operating losses and credits to offset tax liabilities in a prior year, as well as successful implementation of various tax strategies to generate tax where net operating losses or credit carryforwards exist. In evaluating our ability to realize the deferred income tax assets, we rely principally on the reversal of existing temporary differences, the availability of tax planning strategies, and forecasted income.

We recognize a tax benefit from an uncertain tax position when it is more likely than not that the position will be sustained upon examination, including resolutions of any related appeals or litigation processes, based on the technical merits. Our estimate of the potential outcome of any uncertain tax positions is subject to management s assessment of relevant risks, facts, and circumstances existing at that time. We record a liability for the difference between the benefit recognized and measured based on a more-likely-than-not threshold and the tax position taken or expected to be taken on the tax return. To the extent that our assessment of such tax positions changes, the change in estimate is recorded in the period in which the determination is made. We report tax-related interest and penalties as a component of income tax expense.

Table of Contents

Derivative Financial Instruments

We use derivative financial instruments in the normal course of business to manage our exposure to fluctuations in interest rates, foreign currency exchange rates, commodity prices, and precious metal prices. The accounting for derivative financial instruments can be complex and can require significant judgment. Generally, the derivative financial instruments that we use are not complex, and observable market-based inputs are available to measure their fair value. We do not engage in speculative transactions for trading purposes. Financial instruments, including derivative financial instruments, expose us to counterparty credit risk for non-performance. We manage our exposure to counterparty credit risk through minimum credit standards and procedures to monitor concentrations of credit risk. We enter into these derivative financial instruments with major, reputable, multinational financial institutions. Accordingly, we do not anticipate counter-party default. We continuously evaluate the effectiveness of derivative financial instruments designated as hedges to ensure that they are highly effective. In the event the hedge becomes ineffective, we discontinue hedge treatment. Except as noted below, we do not expect any changes in our risk policies or in the nature of the transactions we enter into to mitigate those risks.

Our exposure to interest rate changes arises from our debt agreements with variable market interest rates. To reduce our exposure to interest rate changes on variable-rate debt, we had entered into interest rate swap agreements. These swaps effectively converted a portion of our variable-rate debt to a fixed rate. In 2010, in conjunction with repayment of our remaining outstanding term loans, we settled these swaps.

We manage foreign currency risks in a wide variety of foreign currencies principally by entering into forward contracts to mitigate the impact of currency fluctuations on transactions arising from international trade. Our objective in entering into these forward contracts is to preserve the economic value of non-functional currency cash flows. Our principal foreign currency exposures relate to the Euro, the British Pound Sterling, the Japanese Yen, and the Chinese Yuan. We mark these forward contracts to fair value based on market prices for comparable contracts and recognize the resulting gains or losses as other income or expense from foreign currency transactions.

Precious metals (primarily silver, gold, platinum and palladium) represent a significant portion of raw material costs in our Electronic Materials products. We also use precious metals in our Color and Glass Performance Materials products. When we enter into a fixed price sales contract at the customer s request to establish the price for the precious metals content of the order, we also enter into a forward purchase arrangement with a precious metals supplier to completely cover the value of the precious metals content. Our current precious metal contracts are designated as normal purchase contracts, which are not marked to market.

We also purchase portions of our energy requirements, including natural gas and electricity, under fixed price contracts to reduce the volatility of cost changes. Our current energy contracts are designated as normal purchase contracts, which are not marked to market.

Pension and Other Postretirement Benefits

We sponsor defined benefit plans in the U.S. and many countries outside the U.S., and we also sponsor retiree medical benefits for a segment of our salaried and hourly work force within the U.S. The U.S. pension plans represent approximately 81% of pension plan assets, 77% of benefit obligations and 63% of net periodic pension cost.

During the third quarter of 2012, we changed our method of recognizing defined benefit pension and other postretirement benefits expense. Historically, we recognized actuarial gains and losses in accumulated other comprehensive income within shareholders equity on our consolidated balance sheets on an annual basis and amortized them into our operating results over the remaining service period of plan participants to the extent such gains and losses were outside of a corridor. We have elected to recognize actuarial gains and losses in operating results in the year in which the gains and losses occur. While the historical method

Table of Contents

of recognizing expense was acceptable, we believe the new method is preferable because it results in recognition in our operating results of actuarial gains and losses as they arise. This change will improve the transparency in our operating results by more quickly recognizing the effects of economic and interest rate trends on plan obligations, investments and assumptions. These gains and losses are generally only measured annually as of December 31 and, accordingly, will be recorded during the fourth quarter of each year. In accordance with ASC Topic 250, Accounting Changes and Error Corrections, all prior periods presented in this Annual Report on Form 10-K have been adjusted to apply the new method retrospectively.

The assumptions we use in actuarial calculations for these plans have a significant impact on benefit obligations and annual net periodic benefit costs. We meet with our actuaries annually to discuss key economic assumptions used to develop these benefit obligations and net periodic costs.

We determine the discount rate for the U.S. pension and retiree medical plans based on a bond model. Using the pension plans projected cash flows, the bond model considers all possible bond portfolios that produce matching cash flows and selects the portfolio with the highest possible yield. These portfolios are based on bonds with a quality rating of AA or better under either Moody s Investor Services, Inc. or Standard & Poor s Rating Group, but exclude certain bonds, such as callable bonds, bonds with small amounts outstanding, and bonds with unusually high or low yields. The discount rates for the non-U.S. plans are based on a yield curve method, using AA-rated bonds applicable in their respective capital markets. The duration of each plan s liabilities is used to select the rate from the yield curve corresponding to the same duration.

For the market-related value of plan assets, we use fair value, rather than a calculated value that recognizes changes in fair value in a systematic and rational manner over several years. We calculate the expected return on assets at the beginning of the year for defined benefit plans as the weighted-average of the expected return for the target allocation of the principal asset classes held by each of the plans. In determining the expected returns, we consider both historical performance and an estimate of future long-term rates of return. The Company consults with and considers the opinion of its actuaries in developing appropriate return assumptions. Our target asset allocation percentages are 35% fixed income, 60% equity, and 5% other investments for U.S. plans and 75% fixed income, 24% equity, and 1% other investments for non-U.S. plans. In 2012, investment returns on average plan assets were approximately 14% within U.S. plans and 14% within non-U.S. plans. Future actual pension expense will depend on future investment allocation and performance, changes in future discount rates and various other factors related to the population of participants in the Company s pension plans.

All other assumptions are reviewed periodically by our actuaries and us and may be adjusted based on current trends and expectations as well as past experience in the plans.

The following table provides the sensitivity of net annual periodic benefit costs for our pension plans, including a U.S. nonqualified retirement plan, and the retiree medical plan to a 25-basis-point decrease in both the discount rate and asset return assumption:

	25-Basis-Point Decrease in Discount Rate	25-Basis-Point Decrease in Asset Return Assumption
	(Dollars in thousands)	
U.S. pension plans	$ (487)	$ 756
U.S. retiree medical plan	(51)	
Non-U.S. pension plans	(33)	155
Total	$ (571)	$ 911

Table of Contents

The following table provides the rates used in the assumptions and the changes between 2012 and 2011:

	2012	2011	Change
Discount rate used to measure benefit cost:			
U.S. pension plans	5.10%	5.85%	(0.75)%
U.S. retiree medical plan	4.85%	5.45%	(0.60)%
Non-U.S. pension plans	5.01%	5.51%	(0.50)%
Discount rate used to measure benefit obligations:			
U.S. pension plans	4.30%	5.10%	(0.80)%
U.S. retiree medical plan	3.85%	4.85%	(1.00)%
Non-U.S. pension plans	4.00%	5.01%	(1.01)%
Expected return on plan assets:			
U.S. pension plans	8.20%	8.50%	(0.30)%
Non-U.S. pension plans	4.86%	5.60%	(0.74)%

Our overall net periodic benefit cost for all defined benefit plans decreased $28.7 million to $29.1 million in 2012 from $57.6 million in 2011. The change is the result of higher returns on plan assets than in the prior year and current year curtailment gains, which more than offset higher actuarial losses than in the prior year from a larger reduction in the discount rate in 2012 than in 2011.

For 2013, assuming expected returns on plan assets and no actuarial gains or losses, we expect our overall net periodic benefit cost to be a benefit of approximately $2 million, compared with a cost of approximately $2 million in 2012 on a comparable basis. The change is the result of higher expected returns from a larger asset base and lower interest costs due to lower discount rates, partially offset by the effects of 2012 curtailment gains.

Inventories

We value inventory at the lower of cost or market, with cost determined utilizing the first-in, first-out (FIFO) method. We periodically evaluate the net realizable value of inventories based primarily upon their age, but also upon assumptions of future usage in production, customer demand and market conditions. Inventories have been reduced to the lower of cost or realizable value by allowances for slow moving or obsolete goods. If actual circumstances are less favorable than those projected by management in its evaluation of the net realizable value of inventories, additional write-downs may be required. Slow moving, excess or obsolete materials are specifically identified and may be physically separated from other materials, and we rework or dispose of these materials as time and manpower permit.

Environmental Liabilities

Our manufacturing facilities are subject to a broad array of environmental laws and regulations in the countries in which they operate. The costs to comply with complex environmental laws and regulations are significant and will continue for the foreseeable future. We expense these recurring costs as they are incurred. While these costs may increase in the future, they are not expected to have a material impact on our financial position, liquidity or results of operations.

We also accrue for environmental remediation costs when it is probable that a liability has been incurred and we can reasonably estimate the amount. We determine the timing and amount of any liability based upon assumptions regarding future events. Inherent uncertainties exist in such evaluations primarily due to unknown conditions, changing governmental regulations and legal standards regarding liability, and evolving technologies. We adjust these liabilities periodically as remediation efforts progress or as additional technical or legal information becomes available.

Table of Contents

Impact of Newly Issued Accounting Pronouncements

Refer to Note 2 to the consolidated financial statements under Item 8 of this Annual Report on Form 10-K for a discussion of accounting standards we recently adopted or will be required to adopt.

Item 7A ***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.

We are subject to cost changes with respect to our raw materials and energy purchases. We attempt to mitigate raw materials cost increases through product reformulations, price increases, and other productivity improvements. We enter into forward purchase arrangements with precious metals suppliers to completely cover the value of the precious metals content of fixed price sales contracts. These agreements are designated as normal purchase contracts, which are not marked to market, and had purchase commitments totaling $4.9 million at December 31, 2012. In addition, we purchase portions of our natural gas and electricity requirements under fixed price contracts to reduce the volatility of these costs. These energy contracts are designated as normal purchase contracts, which are not marked to market, and had purchase commitments totaling $16.6 million at December 31, 2012.

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

	2012	2011
	(Dollars in thousands)	
Variable-rate debt and utilization of asset securitization program:		
Change in annual interest expense from 1% change in interest rates	$ 543	$ 163
Fixed-rate debt:		
Carrying amount	289,148	288,604
Fair value	270,240	292,523
Change in fair value from 1% increase in interest rate	(10,113)	(13,071)
Change in fair value from 1% decrease in interest rate	10,668	13,902
Foreign currency forward contracts:		
Notional amount	250,680	249,337
Carrying amount and fair value	(4,758)	6,225
Change in fair value from 10% appreciation of U.S. dollar	13,205	12,216
Change in fair value from 10% depreciation of U.S. dollar	(16,140)	(14,930)

Table of Contents

Item 8 ***Financial Statements and Supplementary Data***

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders of Ferro Corporation

Cleveland, Ohio

We have audited the accompanying consolidated balance sheets of Ferro Corporation and subsidiaries (the Company) as of December 31, 2012 and 2011, and the related consolidated statements of operations, comprehensive (loss) income, equity, and cash flows for each of the three years in the period ended December 31, 2012. Our audits also included the financial statement schedule listed in the index at Item 15. These financial statements and financial statement schedule are the responsibility of the Company s management. Our responsibility is to express an opinion on the financial statements and financial statement schedule based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, such consolidated financial statements present fairly, in all material respects, the financial position of Ferro Corporation and subsidiaries as of December 31, 2012 and 2011, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2012, in conformity with accounting principles generally accepted in the United States of America. Also, in our opinion, such financial statement schedule, when considered in relation to the basic consolidated financial statements taken as a whole, presents fairly, in all material respects, the information set forth therein.

As discussed in Note 2 to the financial statements, the Company elected to change their method of recognizing defined benefit pension and other postretirement benefit expenses.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the Company s internal control over financial reporting as of December 31, 2012, based on the criteria established in *Internal Control Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated March 5, 2013 expressed an unqualified opinion on the Company s internal control over financial reporting.

/s/ Deloitte & Touche LLP

Cleveland, Ohio

March 5, 2013

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF OPERATIONS

	Years Ended December 31,		
	2012	2011	2010
	(In thousands, except per share amounts)		
Net sales	$ 1,768,631	$ 2,155,792	$ 2,101,865
Cost of sales	1,470,769	1,743,560	1,643,733
Gross profit	297,862	412,232	458,132
Selling, general and administrative expenses	302,658	335,311	279,668
Restructuring and impairment charges	225,819	17,030	63,732
Other expense (income):			
Interest expense	27,979	28,409	44,568
Interest earned	(311)	(285)	(651)
Losses on extinguishment of debt		45	23,001
Foreign currency losses, net	2,186	4,758	4,724
Miscellaneous expense, net	3,080	2,492	5,814
(Loss) income before income taxes	(263,549)	24,472	37,276
Income tax expense	109,485	19,338	21,873
Net (loss) income	(373,034)	5,134	15,403
Less: Net income attributable to noncontrolling interests	1,234	730	1,577
Net (loss) income attributable to Ferro Corporation	(374,268)	4,404	13,826
Dividends on preferred stock		(165)	(660)
Net (loss) income attributable to Ferro Corporation common shareholders	$ (374,268)	$ 4,239	$ 13,166
Weighted-average common shares outstanding	86,288	86,119	85,823
Incremental common shares attributable to convertible preferred stock, performance shares, deferred stock units, and stock options		659	716
Weighted-average diluted shares outstanding	86,288	86,778	86,539
(Loss) earnings per share attributable to Ferro Corporation common shareholders:			
Basic (loss) earnings per share	$ (4.34)	$ 0.05	$ 0.15
Diluted (loss) earnings per share	(4.34)	0.05	0.15

See accompanying notes to consolidated financial statements.

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF COMPREHENSIVE (LOSS) INCOME

	Years Ended December 31,		
	2012	2011	2010
	(In thousands, except per share amounts)		
Net (loss) income	$ (373,034)	$ 5,134	$ 15,403
Other comprehensive (loss) income, net of tax:			
Foreign currency translation	(4,253)	(3,473)	(1,115)
Postretirement benefit liabilities	(910)	(220)	(3,668)
Raw material commodity swaps			(107)
Interest rate swaps			6,121
Other	(25)		
Total comprehensive (loss) income	(378,222)	1,441	16,634
Less: Comprehensive income attributable to noncontrolling interests	3,295	930	1,740
Comprehensive (loss) income attributable to Ferro Corporation	$ (381,517)	$ 511	$ 14,894

See accompanying notes to consolidated financial statements.

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS

	December 31, 2012	2011
	(Dollars in thousands)	
ASSETS		
Current assets		
Cash and cash equivalents	$ 29,576	$ 22,991
Accounts receivable, net	306,463	306,775
Inventories	207,091	228,813
Deferred income taxes	7,995	17,395
Other receivables	31,554	37,839
Other current assets	10,824	17,086
Total current assets	593,503	630,899
Other assets		
Property, plant and equipment, net	324,720	379,336
Goodwill	62,975	215,601
Amortizable intangible assets, net	14,410	11,056
Deferred income taxes	21,554	117,658
Other non-current assets	61,941	86,101
Total assets	$ 1,079,103	$ 1,440,651
LIABILITIES and EQUITY		
Current liabilities		
Loans payable and current portion of long-term debt	$ 85,152	$ 11,241
Accounts payable	182,904	214,460
Accrued payrolls	31,690	31,055
Accrued expenses and other current liabilities	76,757	67,878
Total current liabilities	376,503	324,634
Other liabilities		
Long-term debt, less current portion	261,624	298,082
Postretirement and pension liabilities	216,167	215,732
Other non-current liabilities	18,135	19,709
Total liabilities	872,429	858,157
Equity		
Ferro Corporation shareholders equity:		
Common stock, par value $1 per share; 300.0 million shares authorized; 93.4 million shares issued and outstanding in 2012 and 2011	93,436	93,436
Paid-in capital	321,652	320,882
Retained (deficit) earnings	(86,606)	287,662
Accumulated other comprehensive income	16,650	23,899
Common shares in treasury, at cost	(151,605)	(153,617)
Total Ferro Corporation shareholders equity	193,527	572,262
Noncontrolling interests	13,147	10,232
Total equity	206,674	582,494
Total liabilities and equity	$ 1,079,103	$ 1,440,651

See accompanying notes to consolidated financial statements.

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF EQUITY

	Ferro Corporation Shareholders							
	Common Shares In Treasury							
	Shares	Amount	Common Stock	Paid-in Capital	Retained Earnings (Deficit)	Accumulated Other Comprehensive Income (Loss)(a)	Non-controlling Interests	Total Equity
	(In thousands, except per share data)							
Balances at December 31, 2009, as originally reported	7,375	$ (171,567)	$ 93,436	$ 331,376	$ 357,128	$ (60,147)	$ 10,269	$ 560,495
Cumulative effect of change in accounting principle (Refer to Note 2)					(86,871)	86,871		
Balances at December 31, 2009, as adjusted	7,375	(171,567)	93,436	331,376	270,257	26,724	10,269	560,495
Net income					13,826		1,577	15,403
Other comprehensive income						1,068	163	1,231
Cash dividends on preferred shares(b)					(660)			(660)
Redemption of Convertible Notes				(4,925)				(4,925)
Stock-based compensation transactions	(133)	7,310		(3,436)				3,874
Distributions to noncontrolling interests							(1,238)	(1,238)
Balances at December 31, 2010	7,242	(164,257)	93,436	323,015	283,423	27,792	10,771	574,180
Net income					4,404		730	5,134
Other comprehensive (loss) income						(3,893)	200	(3,693)
Cash dividends on preferred shares(b)					(165)			(165)
Stock-based compensation transactions	(377)	10,640		(2,133)				8,507
Distributions to noncontrolling interests							(1,469)	(1,469)
Balances at December 31, 2011	6,865	(153,617)	93,436	320,882	287,662	23,899	10,232	582,494
Net (loss) income					(374,268)		1,234	(373,034)
Other comprehensive (loss) income						(7,249)	2,061	(5,188)
Stock-based compensation transactions	97	2,012		770				2,782
Distributions to noncontrolling interests							(380)	(380)
Balances at December 31, 2012	6,962	$ (151,605)	$ 93,436	$ 321,652	$ (86,606)	$ 16,650	$ 13,147	$ 206,674

(a) Accumulated translation adjustments were $14,080, $20,394, and $24,129 and accumulated postretirement benefit liability adjustments were $2,647, $3,557, and $3,715 at December 31, 2012, 2011, and 2010, respectively, all net of tax.

(b) Dividends per share of convertible preferred stock were $0.8125 in 2011 and $3.25 in 2010.

See accompanying notes to consolidated financial statements.

47

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CASH FLOWS

	Years Ended December 31,		
	2012	2011	2010
Cash flows from operating activities			
Net (loss) income	$ (373,034)	$ 5,134	$ 15,403
Adjustments to reconcile net (loss) income to net cash provided by operating activities:			
Loss (gain) on sale of assets and businesses	505	(244)	(2,330)
Depreciation and amortization	57,384	63,493	76,936
Restructuring and impairment charges	221,596	7,472	3,174
Losses on extinguishment of debt		45	23,001
Provision for allowance for doubtful accounts	5,217	2,349	2,935
Retirement benefits	339	8,337	(9,760)
Deferred income taxes	107,575	20,575	(5,258)
Changes in current assets and liabilities, net of effects of acquisitions:			
Accounts receivable	(5,258)	(13,444)	(24,697)
Inventories	22,287	(29,790)	(22,654)
Deposits for precious metals		28,086	84,348
Other receivables and other current assets	13,192	(19,673)	(890)
Accounts payable	(18,359)	4,715	12,618
Accrued expenses and other current liabilities	4,409	(31,205)	36,750
Other operating activities	(12,195)	7,383	9,289
Net cash provided by operating activities	23,658	53,233	198,865
Cash flows from investing activities			
Capital expenditures for property, plant and equipment and other long-lived assets	(58,685)	(72,713)	(44,737)
Expenditures for acquisitions, net of cash acquired			(6,938)
Proceeds from sale of assets and businesses	3,043	6,441	18,214
Other investing activities	334	1,145	139
Net cash used for investing activities	(55,308)	(65,127)	(33,322)
Cash flows from financing activities			
Net borrowings (repayments) under loans payable	39,934	8,661	(21,495)
Proceeds from long-term debt	395,576	646,834	632,299
Principal payments on long-term debt	(400,687)	(639,128)	(392,061)
Extinguishment of debt		(725)	(362,997)
Debt issue costs			(9,848)
Redemption of convertible preferred stock		(9,427)	
Cash dividends		(165)	(660)
Proceeds from exercise of stock options	107	1,053	137
Other financing activities	1,527	(1,199)	(2,639)
Net cash provided by (used for) financing activities	36,457	5,904	(157,264)
Effect of exchange rate changes on cash and cash equivalents	1,778	(54)	2,249
Increase (decrease) in cash and cash equivalents	6,585	(6,044)	10,528
Cash and cash equivalents at beginning of period	22,991	29,035	18,507
Cash and cash equivalents at end of period	$ 29,576	$ 22,991	$ 29,035
Cash paid during the period for:			
Interest	$ 26,468	$ 25,920	$ 31,881
Income taxes	4,657	22,060	20,379

See accompanying notes to consolidated financial statements.

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010

1. Our Business

Ferro Corporation (Ferro, we, us or the Company) produces performance materials for a broad range of manufacturers in diversified industries throughout the world. Our products are classified as performance materials, rather than commodities, because they are formulated to perform specific and important functions both in the manufacturing processes and in the finished products of our customers. We use inorganic and organic chemical processes, polymer science and materials science to develop and produce these performance materials. Performance materials require a high degree of technical service on an individual customer basis. The value of our products stems from the results and performance they achieve in actual use. We manage our diverse businesses through eight business units that are differentiated from one another by product type. We have grouped these units by their product group below:

Polymer and Ceramic Engineered Materials	**Electronic, Color and Glass Materials**
Polymer Additives	Electronic Materials
Specialty Plastics	Glass Systems
Pharmaceuticals	Performance Pigments and Colors
Tile Coating Systems	
Porcelain Enamel	

We produce our products primarily in the United States (U.S.), Europe-Middle East-Africa, the Asia-Pacific region, and Latin America.

We sell our products directly to customers and through the use of agents or distributors throughout the world. Our products are sold principally in the U.S., Europe, the Asia-Pacific region, and Latin America. Our customers manufacture products to serve a variety of end markets, including building and renovation, solar power, electronics, automobiles, appliances, household furnishings, packaging, industrial products, and pharmaceuticals.

2. Significant Accounting Policies

Principles of Consolidation

Our consolidated financial statements include the accounts of the parent company and the accounts of its subsidiaries. When we consolidate our financial statements, we eliminate intercompany transactions, accounts and profits. When we exert significant influence over an investee but do not control it, we account for the investment and the investment income using the equity method. These investments are reported in the other non-current assets section of our balance sheet. When we acquire a subsidiary, its financial results are included in our consolidated financial statements from the date of the acquisition. When we dispose of a subsidiary, its financial results are included in our consolidated financial statements until the date of the disposition.

Use of Estimates and Assumptions in the Preparation of Financial Statements

We prepare our consolidated financial statements in conformity with United States Generally Accepted Accounting Principles, which requires us to make estimates and to use judgments and assumptions that affect the timing and amount of assets, liabilities, equity, revenues and expenses recorded and disclosed. The more significant estimates and judgments relate to revenue recognition, restructuring and cost reduction programs,

49

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

goodwill, income taxes, derivative financial instruments, pension and other postretirement benefits, inventories, and environmental liabilities. Actual outcomes could differ from our estimates, resulting in changes in revenues or costs that could have a material impact on the Company s results of operations, financial position, or cash flows.

Foreign Currency Translation

The financial results of our operations outside of the U.S. are recorded in local currencies, which generally are also the functional currencies for financial reporting purposes. The results of operations outside of the U.S. are translated from these functional currencies into U.S. dollars using the average monthly currency exchange rates. We use the average currency exchange rate for these results of operations as a reasonable approximation of the results had specific currency exchange rates been used for each individual transaction. Foreign currency transaction gains and losses are recorded as incurred as other expense (income) in the consolidated statements of operations. Assets and liabilities are translated into U.S. dollars using exchange rates at the balance sheet dates, and we record the resulting foreign currency translation adjustment as a separate component of accumulated other comprehensive loss in equity.

Revenue Recognition

We typically recognize sales when we ship goods to our customers and when all of the following criteria are met:

Persuasive evidence of an arrangement exists;

The selling price is fixed or determinable;

Collection is reasonably assured; and

Title and risk of loss has passed to our customers.

In order to ensure the revenue recognition in the proper period, we review material sales contracts for proper cut-off based upon the business practices and legal requirements of each country. For sales of all products, including those containing precious metals, we report revenues gross along with their corresponding cost of sales to arrive at gross profit. We record revenues this way because we act as the principal in the transactions into which we enter.

The amount of shipping and handling fees invoiced to our customers at the time our product is shipped is included in net sales. Credit memos issued to customers for sales returns, discounts allowed and sales adjustments are recorded when they are incurred as a reduction of sales.

Additionally, we provide certain of our customers with incentive rebate programs to promote customer loyalty and encourage greater product sales. We accrue customer rebates over the rebate periods based upon estimated attainments of the provisions in the rebate agreements using available information and record these rebate accruals as reductions of sales.

Research and Development Expenses

Research and development expenses are expensed as incurred and are included in selling, general and administrative expenses. Expenditures for company-sponsored research and development activities were approximately $30.0 million for 2012, $30.4 million for 2011, and $27.3 million

for 2010.

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

Restructuring Programs

We expense costs associated with exit and disposal activities designed to restructure operations and reduce ongoing costs of operations when we incur the related liabilities or when other triggering events occur. After the appropriate level of management having the authority approves the detailed restructuring plan and the appropriate criteria for recognition are met, we establish accruals for employee termination costs. The accruals are estimates that are based upon factors including statutory and union requirements, affected employees lengths of service, contract provisions, salary level, and health care benefit choices. We also analyze the carrying value of affected long-lived assets for impairment and reductions in their remaining estimated useful lives. In addition, we record the fair value of any new or remaining obligations when existing operating lease contracts are terminated or abandoned as a result of our exit and disposal activities.

Asset Impairment

The Company s long-lived assets include property, plant and equipment, goodwill, and amortizable intangible assets. We review property, plant and equipment and amortizable intangible assets for impairment whenever events or circumstances indicate that their carrying values may not be recoverable. The following are examples of such events or changes in circumstances:

- An adverse change in the business climate or market price of a long-lived asset or asset group;
- An adverse change in the extent or manner in which a long-lived asset or asset group is used or in its physical condition;
- Current operating losses for a long-lived asset or asset group combined with a history of such losses or projected or forecasted losses that demonstrate that the losses will continue; or
- A current expectation that, more likely than not, a long-lived asset or asset group will be sold or otherwise disposed of significantly before the end of its previously estimated useful life.

The carrying amount of property, plant and equipment and amortizable intangible assets is not recoverable if the recorded value of the asset group exceeds the sum of the undiscounted cash flows expected to result from the use and eventual disposition of the asset group. In the event of impairment, we recognize a loss for the excess of the recorded value over fair value. The long-term nature of these assets requires the estimation of cash inflows and outflows several years into the future and only takes into consideration technological advances known at the time of review.

We review goodwill for impairment annually using a measurement date of October 31st, primarily due to the timing of our annual budgeting process, or more frequently in the event of an impairment indicator. The fair value of each reporting unit that has goodwill is estimated using the average of both the income approach and the market approach, which we believe provides a reasonable estimate of the reporting unit s fair value, unless facts or circumstances exist which indicate a more representative fair value. The income approach is a discounted cash flow model, which uses projected cash flows attributable to the reporting unit, including an allocation of certain corporate expenses based primarily on a proportional gross profit method. We use historical results, trends and our projections of market growth, internal sales efforts and anticipated cost structure assumptions to estimate future cash flows. Using a risk-adjusted, weighted-average cost of capital, we discount the cash flow projections to the measurement date. The market approach estimates a price reasonably expected to be paid by a market participant in the purchase of the reporting units based on a comparison to similar businesses. If the fair value of any of the reporting units were determined to be less than its carrying value, we would obtain comparable market values or independent appraisals of its net assets.

51

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

Derivative Financial Instruments

As part of our risk management activities, we employ derivative financial instruments, primarily foreign currency forward contracts, to hedge certain anticipated transactions, firm commitments, or assets and liabilities denominated in foreign currencies. We also purchase portions of our energy and precious metal requirements under fixed price forward purchase contracts designated as normal purchase contracts.

We record derivatives on our balance sheet as either assets or liabilities that are measured at fair value. For derivative instruments that are designated and qualify as hedges, the gain or loss on the derivative is reported as a component of other comprehensive income and reclassified from accumulated other comprehensive income into earnings when the hedged transaction affects earnings. The ineffective portion, if any, in the change in value of these derivatives is immediately recognized in earnings. For derivatives that are not designated as hedges, the gain or loss on the derivative is recognized in current earnings. We use derivatives only to manage well-defined risks and do not use derivatives for speculative purposes.

Postretirement and Other Employee Benefits

We recognize postretirement and other employee benefits as employees render the services necessary to earn those benefits. We determine defined benefit pension and other postretirement benefit costs and obligations with the assistance of actuarial calculations performed by third parties. The calculations and the resulting amounts recorded in our consolidated financial statements are affected by assumptions including the discount rate, expected long-term rate of return on plan assets, the annual rate of change in compensation for plan-eligible employees, estimated changes in costs of healthcare benefits, and other factors. We evaluate the assumptions used on an annual basis.

Income Taxes

We account for income taxes in accordance with Accounting Standards Codification (ASC) Topic 740, Income Taxes, which requires the recognition of deferred tax assets and liabilities for the expected future tax effects of events that have been included in the financial statements. Under this method, deferred tax assets and liabilities are determined based on the differences between the financial statements and tax basis of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to reverse. The effect of a change in tax rates on deferred tax assets and liabilities is recognized in income in the period that includes the enactment date.

We record deferred tax assets to the extent we believe these assets will more likely than not be realized. In making such determination, we consider all available positive and negative evidence, including future reversals of existing taxable temporary differences, projected future income, tax planning strategies, and recent financial operations.

We recognize a tax benefit from an uncertain tax position when it is more likely than not that the position will be sustained upon examination, including resolutions of any related appeals or litigation processes, based on the technical merits.

We recognize interest and penalties related to unrecognized tax benefits within the income tax expense line in the accompanying consolidated statements of operations.

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

Cash Equivalents

We consider all highly liquid instruments with original maturities of three months or less when purchased to be cash equivalents. These instruments are carried at cost.

Accounts Receivable and the Allowance for Doubtful Accounts

Ferro sells its products to customers in diversified industries throughout the world. No customer or related group of customers represents greater than 10% of net sales or accounts receivable. We perform ongoing credit evaluations of our customers and generally do not require collateral. We provide for uncollectible accounts based on historical experience and specific circumstances, as appropriate. Customer accounts we deem to be uncollectible or to require excessive collection costs are written off against the allowance for doubtful accounts. Historically, write-offs of uncollectible accounts have been within our expectations. Detailed information about the allowance for doubtful accounts is provided below:

	2012	2011	2010
		(Dollars in thousands)	
Allowance for doubtful accounts	$ 14,368	$ 10,443	$ 11,156
Bad debt expense	5,217	2,349	2,935

Inventories

We value inventory at the lower of cost or market, with cost determined utilizing the first-in, first-out (FIFO) method. We periodically evaluate the net realizable value of inventories based primarily upon their age, but also upon assumptions of future usage in production, customer demand and market conditions. Inventories have been reduced to the lower of cost or realizable value by allowances for slow moving or obsolete goods.

We maintain raw material on our premises that we do not own, including precious metals consigned from financial institutions and customers, and raw materials consigned from vendors. Although we have physical possession of the goods, their value is not reflected on our balance sheet because we do not have title.

We obtain precious metals under consignment agreements with financial institutions for periods of one year or less. These precious metals are primarily silver, gold, platinum, and palladium and are used in the production of certain products for our customers. Under these arrangements, the financial institutions own the precious metals, and accordingly, we do not report these precious metals as inventory on our consolidated balance sheet although they physically are in our possession. These agreements are cancelable by either party at the end of each consignment period, however, because we have access to a number of consignment arrangements with available capacity, our consignment needs can be shifted among the other participating institutions in order to ensure our supply. In certain cases, these financial institutions require cash deposits to provide additional collateral beyond the value of the underlying precious metals. The financial institutions charge us fees for these consignment arrangements, and these fees are recorded as cost of sales.

Property, Plant and Equipment

We record property, plant and equipment at historical cost. In addition to the original purchased cost, including transportation, installation and taxes, we capitalize expenditures that increase the utility or useful life of existing assets. For constructed assets, we capitalize interest costs incurred during the period of construction. We

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

expense repair and maintenance costs, including the costs of major planned overhauls of equipment, as incurred. We depreciate property, plant and equipment on a straight-line basis, generally over the following estimated useful lives of the assets:

Buildings	20 to 40 years
Machinery and equipment	5 to 15 years

Other Capitalized Costs

We capitalize the costs of computer software developed or obtained for internal use after the preliminary project stage has been completed and management, with the relevant authority, authorizes and commits to funding a computer software project, and it is probable that the project will be completed and the software will be used to perform the function intended. External direct costs of materials and services consumed in developing or obtaining internal-use computer software, payroll and payroll-related costs for employees who are directly associated with the project, and interest costs incurred when developing computer software for internal use are capitalized within other non-current assets. Capitalization ceases when the project is substantially complete, generally after all substantial testing is completed. We expense training costs and data conversion costs as incurred. We amortize software on a straight-line basis over its estimated useful life, which has historically been in a range of 1 to 12 years.

Environmental Liabilities

As part of the production of some of our products, we handle, process, use and store hazardous materials. As part of these routine processes, we expense recurring costs associated with control and disposal of hazardous materials as they are incurred. Occasionally we are subject to ongoing, pending or threatened litigation related to the handling of these materials or other matters. If, based on available information, we believe that we have incurred a liability and we can reasonably estimate the amount, we accrue for environmental remediation and other contingent liabilities. We disclose material contingencies if the likelihood of the potential loss is reasonably possible but the amount is not reasonably estimable.

In estimating the amount to be accrued for environmental remediation, we use assumptions about:

- Remediation requirements at the contaminated site;
- The nature of the remedy;
- Existing technology;
- The outcome of discussions with regulatory agencies;
- Other potentially responsible parties at multi-party sites; and

The number and financial viability of other potentially responsible parties.

We actively monitor the status of sites, and, as assessments and cleanups proceed, we update our assumptions and adjust our estimates as necessary. Because we are uncertain about the timing of related payments, we do not discount the estimated remediation costs.

Recently Adopted Accounting Pronouncements

On December 31, 2010, we adopted Accounting Standards Update (ASU) 2010-29, *Disclosure of Supplementary Pro Forma Information for Business Combinations*, (ASU 2010-29), which is codified in ASC

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

Topic 805, Business Combinations. This pronouncement provides guidance on pro forma revenue and earnings disclosure requirements for business combinations. Adoption of ASU 2010-29 did not have a material effect on our consolidated financial statements.

On January 1, 2011, we prospectively adopted ASU 2009-13, *Multiple Deliverable Revenue Arrangements*, (ASU 2009-13) and ASU 2010-17, *Revenue Recognition Milestone Method*, (ASU 2010-17). ASU 2009-13 applies to all deliverables in contractual arrangements in which a vendor will perform multiple revenue-generating activities. ASU 2010-17 defines a milestone and determines when it may be appropriate to apply the milestone method of revenue recognition for research or development transactions. These pronouncements are codified in ASC Topic 605, Revenue Recognition. Adoption of these pronouncements did not have a material effect on our consolidated financial statements.

On January 1, 2012, we adopted Financial Accounting Standards Board (FASB) Accounting Standards Update (ASU) 2011-04, *Fair Value Measurement: Amendments to Achieve Common Fair Value Measurement and Disclosure Requirements in U.S. GAAP and IFRSs*, (ASU 2011-04), which is codified in ASC Topic 820, Fair Value Measurement. This pronouncement changes certain fair value measurement guidance and expands certain disclosure requirements. Adoption of this pronouncement did not have a material effect on our consolidated financial statements.

On January 1, 2012, we adopted ASU 2011-05, *Presentation of Comprehensive Income*, (ASU 2011-05) and ASU 2011-12, *Deferral of the Effective Date for Amendments to the Presentation of Reclassifications of Items Out of Accumulated Other Comprehensive Income in Accounting Standards Update No. 2011-05*, (ASU 2011-12), which are codified in ASC Topic 220, Comprehensive Income. ASU 2011-05 requires companies to present items of net income, items of other comprehensive income and total comprehensive income in one continuous statement or two separate but consecutive statements. ASU 2011-12 indefinitely defers certain provisions of ASU 2011-05 that required companies to present reclassification adjustments out of accumulated other comprehensive income by component in both the statement in which net income is presented and the statement in which other comprehensive income is presented. Adoption of these pronouncements did not have a material effect on our consolidated financial statements.

On January 1, 2012, we adopted ASU 2011-08, *Testing Goodwill for Impairment*, (ASU 2011-08), which is codified in ASC Topic 350, Intangibles Goodwill and Other. This pronouncement permits companies testing goodwill for impairment to first assess qualitative factors to determine whether the two-step impairment test is required. Adoption of this pronouncement did not have a material effect on our consolidated financial statements.

Change in Accounting Principle

During the third quarter of 2012, we elected to change our method of recognizing defined benefit pension and other postretirement benefit expense. Historically, we recognized actuarial gains and losses in accumulated other comprehensive loss within equity on our consolidated balance sheets annually, and these gains and losses were amortized into our operating results over the average remaining service period of plan participants, to the extent such gains and losses were in excess of a corridor.

Under our new method, we will recognize actuarial gains and losses in our operating results in the year in which the gains or losses occur. These gains and losses are generally measured annually as of December 31 and recorded during the fourth quarter, unless an interim remeasurement is required. The remaining components of benefit expense, primarily service and interest costs and the expected return on plan assets, will be recorded quarterly as ongoing benefit expense or benefit. While the historical method of recognizing expense was

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

acceptable, we believe the new method is preferable because it results in recognition in our operating results of actuarial gains and losses as they arise. In accordance with ASC Topic 250, Accounting Changes and Error Corrections, all prior periods have been adjusted to apply the new method retrospectively. The effect of the change on retained earnings as of January 1, 2010, was a reduction of $86.9 million with a corresponding offset to accumulated other comprehensive loss.

We have presented the effects of the change in accounting principle on our consolidated financial statements for 2012, 2011 and 2010 below. The following tables present the significant effects of the change on our historical consolidated statements of operations, statements of comprehensive (loss) income, balance sheets, and statements of cash flows.

Consolidated Statements of Operations Information

	Year Ended December 31, 2012		
	Prior accounting method	Effect of accounting change	As reported
	(In thousands, except per share amounts)		
Net sales	$ 1,768,631	$	$ 1,768,631
Cost of sales	1,467,643	3,126	1,470,769
Gross profit	300,988	(3,126)	297,862
Selling, general and administrative expenses	298,259	4,399	302,658
Restructuring and impairment charges	225,819		225,819
Other expense (income):			
Interest expense	27,979		27,979
Interest earned	(311)		(311)
Foreign currency losses, net	2,186		2,186
Miscellaneous expense, net	3,080		3,080
Loss before income taxes	(256,024)	(7,525)	(263,549)
Income tax expense (benefit)	111,985	(2,500)	109,485
Net loss	(368,009)	(5,025)	(373,034)
Less: Net income attributable to noncontrolling interests	1,234		1,234
Net loss attributable to Ferro Corporation	(369,243)	(5,025)	(374,268)
Dividends on preferred stock			
Net loss attributable to Ferro Corporation common shareholders	$ (369,243)	$ (5,025)	$ (374,268)
Loss per share attributable to Ferro Corporation common shareholders:			
Basic loss per share	$ (4.28)	$ (0.06)	$ (4.34)
Diluted loss per share	(4.28)	(0.06)	(4.34)

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

	Year Ended December 31, 2011		
	As originally reported	Effect of accounting change	As adjusted
	(In thousands, except per share amounts)		
Net sales	$ 2,155,792	$	$ 2,155,792
Cost of sales	1,742,605	955	1,743,560
Gross profit	413,187	(955)	412,232
Selling, general and administrative expenses	294,802	40,509	335,311
Restructuring and impairment charges	17,030		17,030
Other expense (income):			
Interest expense	28,409		28,409
Interest earned	(285)		(285)
Losses on extinguishment of debt	45		45
Foreign currency losses, net	4,758		4,758
Miscellaneous expense, net	2,492		2,492
Income (loss) before income taxes	65,936	(41,464)	24,472
Income tax expense (benefit)	33,569	(14,231)	19,338
Net income (loss)	32,367	(27,233)	5,134
Less: Net income attributable to noncontrolling interests	730		730
Net income (loss) attributable to Ferro Corporation	31,637	(27,233)	4,404
Dividends on preferred stock	(165)		(165)
Net income (loss) attributable to Ferro Corporation common shareholders	$ 31,472	$ (27,233)	$ 4,239
Earnings (loss) per share attributable to Ferro Corporation common shareholders:			
Basic earnings (loss) per share	$ 0.37	$ (0.32)	$ 0.05
Diluted earnings (loss) per share	0.36	(0.31)	0.05

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

	Year Ended December 31, 2010		
	As originally reported	Effect of accounting change	As adjusted
	(In thousands, except per share amounts)		
Net sales	$ 2,101,865	$	$ 2,101,865
Cost of sales	1,643,200	533	1,643,733
Gross profit	458,665	(533)	458,132
Selling, general and administrative expenses	293,736	(14,068)	279,668
Restructuring and impairment charges	63,732		63,732
Other expense (income):			
Interest expense	44,568		44,568
Interest earned	(651)		(651)
Losses on extinguishment of debt	23,001		23,001
Foreign currency losses, net	4,724		4,724
Miscellaneous expense, net	5,814		5,814
Income before income taxes	23,741	13,535	37,276
Income tax expense	16,468	5,405	21,873
Net income	7,273	8,130	15,403
Less: Net income attributable to noncontrolling interests	1,577		1,577
Net income attributable to Ferro Corporation	5,696	8,130	13,826
Dividends on preferred stock	(660)		(660)
Net income attributable to Ferro Corporation common shareholders	$ 5,036	$ 8,130	$ 13,166
Earnings per share attributable to Ferro Corporation common shareholders:			
Basic earnings per share	$ 0.06	$ 0.09	$ 0.15
Diluted earnings per share	0.06	0.09	0.15

Condensed Consolidated Statements of Comprehensive (Loss) Income Information

	Year Ended December 31, 2012		
	Prior accounting method	Effect of accounting change	As reported
	(In thousands, except per share amounts)		
Net loss	$ (368,009)	$ (5,025)	$ (373,034)
Other comprehensive (loss) income, net of tax:			
Foreign currency translation	(3,812)	(441)	(4,253)
Postretirement benefit liabilities	(6,376)	5,466	(910)
Other	(25)		(25)
Total comprehensive loss	(378,222)		(378,222)
Less: Comprehensive income attributable to noncontrolling interests	3,295		3,295
Comprehensive loss attributable to Ferro Corporation	$ (381,517)	$	$ (381,517)

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

	Year Ended December 31, 2011		
	Prior accounting method	Effect of accounting change	As reported
	(In thousands, except per share amounts)		
Net income (loss)	$ 32,367	$ (27,233)	$ 5,134
Other comprehensive (loss) income, net of tax:			
Foreign currency translation	(3,473)		(3,473)
Postretirement benefit liabilities	(27,453)	27,233	(220)
Total comprehensive income	1,441		1,441
Less: Comprehensive income attributable to noncontrolling interests	930		930
Comprehensive income attributable to Ferro Corporation	$ 511	$	$ 511

	Year Ended December 31, 2010		
	Prior accounting method	Effect of accounting change	As reported
	(In thousands, except per share amounts)		
Net income	$ 7,273	$ 8,130	$ 15,403
Other comprehensive (loss) income, net of tax:			
Foreign currency translation	(1,971)	856	(1,115)
Postretirement benefit liabilities	5,318	(8,986)	(3,668)
Raw material commodity swaps	(107)		(107)
Interest rate swaps	6,121		6,121
Total comprehensive income	16,634		16,634
Less: Comprehensive income attributable to noncontrolling interests	1,740		1,740
Comprehensive income attributable to Ferro Corporation	$ 14,894	$	$ 14,894

Consolidated Balance Sheets Information

	December 31, 2012		
	Prior accounting method	Effect of accounting change	As reported
	(Dollars in thousands)		
Assets			
Total assets	$ 1,079,103	$	$ 1,079,103
Liabilities and Equity			
Total liabilities	$ 872,429	$	$ 872,429
Equity			
Retained earnings (deficit)	24,393	(110,999)	(86,606)
Accumulated other comprehensive (loss) income	(94,349)	110,999	16,650
Other equity accounts	276,630		276,630
Total equity	206,674		206,674
Total liabilities and equity	$ 1,079,103	$	$ 1,079,103

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

	December 31, 2011		
	As originally reported	Effect of accounting change	As adjusted
		(Dollars in thousands)	
Assets			
Total assets	$ 1,440,651	$	$ 1,440,651
Liabilities and Equity			
Total liabilities	$ 858,157	$	$ 858,157
Equity			
Retained earnings (deficit)	393,636	(105,974)	287,662
Accumulated other comprehensive (loss) income	(82,075)	105,974	23,899
Other equity accounts	270,933		270,933
Total equity	582,494		582,494
Total liabilities and equity	$ 1,440,651	$	$ 1,440,651

Consolidated Statements of Cash Flows Information

	Year Ended December 31, 2012		
	Prior accounting method	Effect of accounting change	As reported
		(Dollars in thousands)	
Cash flows from operating activities			
Net loss	$ (368,009)	$ (5,025)	$ (373,034)
Adjustments to reconcile net loss to net cash provided by operating activities:			
Retirement benefits	(4,686)	5,025	339
Other adjustments	396,353		396,353
Net cash provided by operating activities	23,658		23,658
Net cash used for investing activities	(55,308)		(55,308)
Net cash provided by financing activities	36,457		36,457
Effect of exchange rate changes on cash and cash equivalents	1,778		1,778
Increase in cash and cash equivalents	6,585		6,585
Cash and cash equivalents at beginning of period	22,991		22,991
Cash and cash equivalents at end of period	$ 29,576	$	$ 29,576

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

	Year Ended December 31, 2011		
	As originally reported	Effect of accounting change	As adjusted
	(Dollars in thousands)		
Cash flows from operating activities			
Net income (loss)	$ 32,367	$ (27,233)	$ 5,134
Adjustments to reconcile net income (loss) to net cash provided by operating activities:			
Retirement benefits	(18,896)	27,233	8,337
Other adjustments	39,762		39,762
Net cash provided by operating activities	53,233		53,233
Net cash used for investing activities	(65,127)		(65,127)
Net cash provided by financing activities	5,904		5,904
Effect of exchange rate changes on cash and cash equivalents	(54)		(54)
Decrease in cash and cash equivalents	(6,044)		(6,044)
Cash and cash equivalents at beginning of period	29,035		29,035
Cash and cash equivalents at end of period	$ 22,991	$	$ 22,991

	Year Ended December 31, 2010		
	As originally reported	Effect of accounting change	As adjusted
	(Dollars in thousands)		
Cash flows from operating activities			
Net income	$ 7,273	$ 8,130	$ 15,403
Adjustments to reconcile net income to net cash provided by operating activities:			
Retirement benefits	(1,630)	(8,130)	(9,760)
Other adjustments	193,222		193,222
Net cash provided by operating activities	198,865		198,865
Net cash used for investing activities	(33,322)		(33,322)
Net cash used for financing activities	(157,264)		(157,264)
Effect of exchange rate changes on cash and cash equivalents	2,249		2,249
Increase in cash and cash equivalents	10,528		10,528
Cash and cash equivalents at beginning of period	18,507		18,507
Cash and cash equivalents at end of period	$ 29,035	$	$ 29,035

New Accounting Pronouncements Not Yet Adopted

The FASB issued ASU 2011-11, *Disclosures about Offsetting Assets and Liabilities*, (ASU 2011-11) in December 2011 and ASU 2013-01, *Clarifying the Scope of Disclosures about Offsetting Assets and Liabilities*, (ASU 2013-01) in January 2013. These pronouncements are codified in ASC Topic 210, Balance Sheet, and

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

contain new disclosure requirements about a company s right of setoff and related arrangements associated with its financial and derivative instruments. They will be effective for our fiscal year that begins January 1, 2013, and are to be applied retrospectively. We do not expect that adoption of these pronouncements will have a material effect on our consolidated financial statements.

In February 2013, the FASB issued ASU 2013-02, *Reporting of Amounts Reclassified Out of Accumulated Other Comprehensive Income*, (ASU 2013-02), which is codified in ASC Topic 220, Comprehensive Income. This pronouncement adds new disclosure requirements for items reclassified out of accumulated other comprehensive income. We do not expect that adoption of this pronouncement will have a material effect on our consolidated financial statements.

3. Inventories

	December 31,	
	2012	2011
	(Dollars in thousands)	
Raw materials	$ 67,065	$ 78,199
Work in process	37,353	42,111
Finished goods	102,673	108,503
Total	$ 207,091	$ 228,813

In the production of some of our products, we use precious metals, some of 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 $6.5 million for 2012, $9.5 million for 2011, and $5.3 million for 2010. We had on hand precious metals owned by participants in our precious metals consignment program of $112.2 million at December 31, 2012, and $187.9 million at December 31, 2011, measured at fair value based on market prices for identical assets and net of credits.

In 2012, we recorded inventory write-downs of $5.4 million to reflect inventories related to our solar pastes business at the lower of cost or market in accordance with ASC Topic 330, Inventory. The inventory write-downs are classified as cost of sales in our statements of operations and charged to our Electronic Materials segment.

4. Property, Plant and Equipment

	December 31,	
	2012	2011
	(Dollars in thousands)	
Land	$ 14,441	$ 18,394
Buildings	242,465	236,871
Machinery and equipment	717,635	677,616
Construction in progress	19,173	45,577
Total property, plant and equipment	993,714	978,458
Total accumulated depreciation	(668,994)	(599,122)
Property, plant and equipment, net	$ 324,720	$ 379,336

62

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

Depreciation expense was $51.5 million for 2012, $55.8 million for 2011, and $60.5 million for 2010. Noncash investing activities for capital expenditures, consisting of new capital leases during the year and unpaid capital expenditure liabilities at year end, were $5.6 million for 2012, $19.0 million for 2011, and $11.1 million for 2010.

In 2012, due to deterioration in our forecast for our Electronic Materials business, we tested certain property, plant, and equipment held for use for impairment under ASC Topic 360, Property, Plant, and Equipment. We estimated the fair value of these assets using discounted cash flow models, Level 3 measurements within the fair value hierarchy. As a result, assets held for use with a carrying value of $38.9 million were written off, and the impairment charge of $38.9 million is included in restructuring and impairment charges in our statements of operations. Further, additional assets with a carrying value of $12.5 million were written down to $4.6 million under ASC Topic 350, Intangibles Goodwill and Other. The $7.9 million impairment charge is included in restructuring and impairment charges in our statements of operations.

In 2011, assets held for use with a carrying value of $4.4 million were written off, and the impairment charge of $4.4 million is included in restructuring and impairment charges in our statements of operations. Various operational challenges indicated possible impairment of the property, plant and equipment at our facilities in Argentina and Belgium. The impairment charges by segment were $2.6 million in Performance Coatings and $1.8 million in Polymer Additives. We estimated the fair values of these assets using discounted cash flow models.

There were no impairments of assets held for use in 2010.

Description	Fair Value	Fair Value Measurements Using Level 1	Level 2	Level 3	Total Gains (Losses)
			(Dollars in thousands)		
Assets held for use:					
2012	$	$	$	$	$ (38,942)
2011					(4,436)

The inputs to the valuation techniques used to measure fair value are classified into the following categories:

Level 1: Quoted market prices in active markets for identical assets or liabilities.

Level 2: Observable market-based inputs or unobservable inputs that are corroborated by market data.

Level 3: Unobservable inputs that are not corroborated by market data.

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

5. Goodwill and Other Intangible Assets

Details and activity of goodwill by segment follow:

	Electronic Materials	Performance Coatings	Color and Glass Performance Materials	Polymer Additives	Specialty Plastics	Pharmaceuticals	Total
			(Dollars in thousands)				
Balance at December 31, 2010:							
Gross goodwill	$ 152,595	$ 46,000	$ 62,509	$ 73,447	$ 16,973	$ 40,431	$ 391,955
Accumulated impairment losses		(41,388)		(73,447)	(16,973)	(40,431)	(172,239)
	152,595	4,612	62,509				219,716
Impairments		(3,881)					(3,881)
Other adjustments	(2)		(46)				(48)
Foreign currency adjustment	357	(159)	(384)				(186)
Balance at December 31, 2011:							
Gross goodwill	152,950	45,841	62,079	73,447	16,973	40,431	391,721
Accumulated impairment losses		(45,269)		(73,447)	(16,973)	(40,431)	(176,120)
	152,950	572	62,079				215,601
Impairments	(153,566)						(153,566)
Other adjustments	(1)		(21)				(22)
Foreign currency adjustment	617	3	342				962
Balance at December 31, 2012:							
Gross goodwill	153,566	45,844	62,400	73,447	16,973	40,431	392,661
Accumulated impairment losses	(153,566)	(45,269)		(73,447)	(16,973)	(40,431)	(329,686)
	$	$ 575	$ 62,400	$	$	$	$ 62,975

The significant assumptions and ranges of assumptions we used in our impairment analysis of goodwill follow:

Significant Assumptions	2012	2011
Weighted-average cost of capital	12.0% - 15.5%	13.0% - 14.0%
Residual growth rate	3.0%	3.0%

In the third quarter of 2012, deterioration in our forecast for our Electronic Materials reporting unit indicated that an interim assessment of the goodwill recorded in the Electronic Materials segment was necessary. We performed the analysis required under ASC Topic 350, Intangibles Goodwill and Other, and concluded under Step 1 that the carrying value of the Electronic Materials reporting unit exceeded its fair value. We estimated this fair value using the average of both the income approach and the market approach,

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

Level 3 measurements within the fair value hierarchy. Further analysis under Step 2 resulted in the goodwill with a carrying amount of $153.6 million being written down to a preliminary estimate of its implied fair value of $6.3 million, with the impairment charge of $147.3 million being included in restructuring and impairment charges in our statements of operations. During the fourth quarter, we finalized our estimate of the implied fair value of the Electronic Materials goodwill and concluded that it was zero, resulting in an incremental impairment charge of $6.3 million.

During 2011, our Tile Coating Systems reporting unit in our Performance Coatings segment experienced a decline in profitability, as well as a reduction in anticipated profitability levels, thereby decreasing the reporting unit s fair value below its carrying value. As a result of these indicators, a remeasurement of the reporting unit s fair value indicated a full impairment of its goodwill. We estimated its fair value using the average of both the income approach and the market approach. An impairment loss of $3.9 million for the Performance Coatings segment has been included in restructuring and impairment charges in the consolidated statements of operations.

		Fair Value Measurements Using			
Description	**Fair Value**	**Level 1**	**Level 2**	**Level 3**	**Total Gains (Losses)**
			(Dollars in thousands)		
Goodwill:					
2012	$	$	$	$	$ (153,566)
2011					(3,881)

Details of amortizable intangible assets follow:

	Estimated Economic Life	December 31, 2012	2011
		(Dollars in thousands)	
Gross amortizable intangible assets:			
Patents	10-16 years	$ 5,560	$ 5,653
Land rights	20-40 years	5,078	5,036
Technological know-how and other	5-30 years	16,710	11,514
Total gross amortizable intangible assets		27,348	22,203
Accumulated amortization:			
Patents		(4,659)	(4,607)
Land rights		(2,391)	(2,272)
Technological know-how and other		(5,888)	(4,268)
Total accumulated amortization		(12,938)	(11,147)
Amortizable intangible assets, net		$ 14,410	$ 11,056

We amortize amortizable intangible assets on a straight-line basis over the estimated useful lives of the assets. Amortization expense related to amortizable intangible assets was $1.9 million for 2012, $1.0 million for 2011, and $0.9 million for 2010. Aggregate amortization expense for amortizable intangible assets is expected to be approximately $1.5 million annually for 2013 through 2015 and approximately $1.0 million annually for 2016 through 2017.

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

6. Debt and Other Financing

Loans payable and current portion of long-term debt at December 31st consisted of the following:

	2012	2011
	(Dollars in thousands)	
Loans payable to banks	$ 2,477	$ 404
Domestic accounts receivable asset securitization program	40,000	
International accounts receivable sales programs	6,122	8,150
Current portion of long-term debt	36,553	2,687
Total loans payable and current portion of long-term debt	$ 85,152	$ 11,241

Long-term debt at December 31st consisted of the following:

	2012	2011
	(Dollars in thousands)	
7.875% Senior Notes	$ 250,000	$ 250,000
6.50% Convertible Senior Notes, net of unamortized discounts	34,417	33,537
Revolving credit facility	2,596	7,706
Capitalized lease obligations (see Note 14)	6,433	4,459
Other notes	4,731	5,067
Total long-term debt	298,177	300,769
Current portion	(36,553)	(2,687)
Long-term debt, less current portion	$ 261,624	$ 298,082

The annual maturities of long-term debt for each of the five years after December 31, 2012, were as follows:

	(Dollars in thousands)
2013	$ 37,650
2014	1,503
2015	4,124
2016	1,215
2017	1,182
Thereafter	255,748
Total maturities of long-term debt	301,422
Unamortized discounts on 6.50% Convertible Senior Notes	(649)
Imputed interest and executory costs on capitalized lease obligations	(2,596)
Total long-term debt	$ 298,177

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

Receivable Sales Programs

We have an asset securitization program for Ferro s U.S. trade accounts receivable. We sell undivided variable percentage interests in our domestic receivables to various purchasers, and we may obtain up to $50.0 million in the form of cash or letters of credit. Advances received under this program are accounted for as borrowings secured by the receivables and included in net cash provided by financing activities. The purchasers have no recourse to Ferro s other assets for failure of payment of the receivables as a result of the lack of creditworthiness, or financial inability to pay, of the related obligor. In May 2012, we extended the maturity of this credit facility through May 2013. At December 31, 2012, advances received of $40.0 million were secured by $77.1 million of accounts receivable. After reductions for any non-qualifying receivables and outstanding letters of credit, we had additional borrowings available under the program of $9.0 million at December 31, 2012, and $50.0 million at December 31, 2011. At December 31, 2012, the interest rate was 0.6%.

Ferro Finance Corporation (FFC), a wholly-owned, consolidated subsidiary, holds Ferro s U.S. trade accounts receivable. The program contains operating covenants that limit FFC s ability to engage in certain activities, including borrowings, creation of liens, mergers, and investing in other companies. The program also requires FFC and Ferro to provide periodic financial statements and reports on the accounts receivable and limits our ability to make significant changes in receivable collection practices. In addition, FFC is required to maintain a minimum tangible net worth. The program is subject to customary termination events, including non-performance, deterioration in the quality of the accounts receivable pool, and cross-default provisions with Ferro s 2012 Credit Facility (described below) and other debt obligations with principal outstanding of at least $5 million. If a termination event occurs and is not cured, the program may be terminated or a third party may be selected to act as administrator in collecting the accounts receivable.

In 2011, we entered into several international programs to sell with recourse trade accounts receivable to financial institutions. Advances received under these programs are accounted for as borrowings secured by the receivables and included in net cash provided by financing activities. Commitments supporting these programs totaled $18.5 million at December 31, 2012, and $18.1 million at December 31, 2011. Advances received of $6.1 million at December 31, 2012, and $8.2 million at December 31, 2011, were secured by accounts receivable of $9.3 million at December 31, 2012, and $11.7 million at December 31, 2011. Additional borrowings available under the programs were $0.2 million at December 31, 2012, while no additional borrowings were available under the programs at December 31, 2011. The interest rates under these programs are based on EURIBOR rates plus 1.75%. At December 31, 2012, the weighted-average interest rate was 1.9%.

Prior to 2011, we maintained several international programs to sell without recourse trade accounts receivable to financial institutions. Advances received under these programs were accounted for as proceeds from the sales of receivables and included in net cash provided by operating activities. In 2011, these programs expired or were terminated. Ferro provided normal collection and administration services for the trade accounts receivable sold to certain financial institutions. Servicing fees were not material. Activity from these programs is detailed below:

	2011	2010
	(Dollars in thousands)	
Trade accounts receivable sold to financial institutions	$	$ 91,233
Cash proceeds from financial institutions		92,528
Trade accounts receivable collected and remitted to financial institutions	2,512	12,177

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

7.875% Senior Notes

In 2010, we issued $250 million of 7.875% Senior Notes due 2018 (the Senior Notes). We used portions of the proceeds from the offering to repay all of the remaining term loans and revolving borrowings outstanding under a credit facility originally entered into in 2006 and as amended and restated through November 2009 (the 2009 Amended and Restated Credit Facility). We also used portions of the proceeds from the offering to repurchase the 6.50% Convertible Senior Notes that were tendered pursuant to a related tender offer. The Senior Notes were issued at par and bear interest at a rate of 7.875% per year, payable semi-annually in arrears on February 15 and August 15 of each year.

The Senior Notes mature on August 15, 2018. Through August 15, 2013, we may redeem up to 35% of the Senior Notes at a price equal to 107.875% of the principal amount using proceeds of certain equity offerings. We may also redeem some or all of the Senior Notes prior to August 15, 2014, at a price equal to the principal amount plus a defined applicable premium. The applicable premium on any redemption date is the greater of 1.0% of the principal amount of the note or the excess of (1) the present value at such redemption date of the redemption price of the note at August 15, 2014, plus all required interest payments due on the note through August 15, 2014, computed using a discount rate equal to the Treasury Rate as of the redemption date plus 50 basis points; over (2) the principal amount of the note. In addition, we may redeem some or all of the Senior Notes beginning August 15, 2014, at prices ranging from 100% to 103.938% of the principal amount.

The Senior Notes are unsecured obligations and rank equally in right of payment with any other unsecured, unsubordinated obligations. The Senior Notes contain certain affirmative and negative covenants customary for high-yield debt securities, including, without limitation, restrictions on our ability to incur additional debt, create liens, pay dividends or make other distributions or repurchase our common stock and sell assets outside the ordinary course of business. At December 31, 2012, we were in compliance with the covenants under the Senior Notes indenture.

6.50% Convertible Senior Notes

In 2008, Ferro issued $172.5 million of 6.50% Convertible Senior Notes due 2013 (the Convertible Notes). The Convertible Notes bear interest at a rate of 6.5% per year, payable semi-annually in arrears on February 15th and August 15th of each year. The Convertible Notes mature on August 15, 2013. Under certain circumstances, holders of the Convertible Notes may convert their notes prior to maturity.

The initial base conversion rate is 30.9253, equivalent to an initial base conversion price of $32.34 per share of our common stock. If the price of our common stock at conversion exceeds the base conversion price, the base conversion rate is increased by an additional number of shares. The base conversion rate and the additional number of shares are adjusted in certain events. Upon conversion of Convertible Notes, we will pay the conversion value in cash up to the aggregate principal amount of the Convertible Notes being converted and in shares of our common stock, for the remainder, if any. Upon a fundamental change, holders may require us to repurchase Convertible Notes for cash equal to the principal amount plus accrued and unpaid interest. The Convertible Notes are unsecured obligations and rank equally in right of payment with any other unsecured, unsubordinated obligations. At December 31, 2012, we were in compliance with the covenants under the Convertible Notes indenture.

In 2010, we purchased $136.7 million of the Convertible Notes through a tender offer or on the open market. In 2011, we purchased an additional $0.7 million of the Convertible Notes on the open market. In connection with these transactions, we recognized losses on extinguishment of debt of $13.1 million in 2010 and

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

less than $0.1 million in 2011, consisting of unamortized debt issuance costs and the difference between the carrying value and the fair value of these notes. The principal amount outstanding was $35.1 million at December 31, 2012 and 2011.

We separately account for the liability and equity components of the Convertible Notes in a manner that will reflect our nonconvertible debt borrowing rate when interest cost is recognized in subsequent periods. The effective interest rate on the liability component is 9.5%. Contractual interest was $2.3 million in 2012, $2.3 million in 2011, and $9.0 million in 2010, and amortization of the liability discount was $0.9 million in 2012, $0.9 million in 2011, and $3.0 million in 2010. At December 31, 2012, the remaining period over which the liability discount will be amortized was 0.6 years, the unamortized liability discount was $0.6 million, and the carrying amount of the equity component was $7.5 million. At December 31, 2011, the unamortized liability discount was $1.6 million, and the carrying amount of the equity component was $7.5 million.

Revolving Credit Facilities

Our 2009 Amended and Restated Credit Facility included a senior term loan facility and a senior revolving credit facility. In 2010, we made early principal payments of $83.6 million on our outstanding term loans and wrote off $2.3 million of related unamortized debt issuance costs to interest expense. Subsequently in 2010, we amended the 2009 Amended and Restated Credit Facility and paid the remaining $147.8 million on our outstanding term loans and the remaining $75.5 million on our outstanding revolving borrowings. As a result of changes in the creditors, we treated the amendment as an extinguishment of the 2009 Amended and Restated Credit Facility and recognized losses on extinguishment of debt of $9.9 million, consisting of unamortized debt issuance costs related to this facility.

In 2010, we entered into the Third Amended and Restated Credit Agreement with a group of lenders for a five-year, $350 million multi-currency senior revolving credit facility (the 2010 Credit Facility). In 2012, we amended the 2010 Credit Facility (the 2012 Amended Credit Facility) primarily to provide additional operating flexibility. After reductions for outstanding letters of credit secured by these facilities, we had $343.2 million of additional borrowings available at December 31, 2012, and $335.9 million at December 31, 2011. The interest rate under the 2012 Amended Credit Facility is the sum of (A) either (1) LIBOR or (2) the higher of the Federal Funds Rate plus 0.5%, the Prime Rate, or LIBOR plus 1.0% and (B) a variable margin based on the Company s leverage. At December 31, 2012, the interest rate was 3.7%.

The 2012 Amended Credit Facility matures on August 24, 2015, and is secured by substantially all of Ferro s assets, generally including 100% of the shares of the parent company s domestic subsidiaries and 65% of the shares of the foreign subsidiaries directly owned by the parent company, but excluding trade receivables legally sold pursuant to our accounts receivable sales programs.

We are subject to a number of financial covenants under our 2012 Amended Credit Facility. The covenants include requirements for a leverage ratio, an interest coverage ratio, and capital expenditures. The leverage ratio must be less than (i) 4.25 to 1.00 on the last day of the third and fourth quarters of 2012 and (ii) 3.50 to 1.00 on the last day of any subsequent quarter, each calculated using the last four fiscal quarters. In the leverage ratio, the numerator is total debt, which consists of borrowings and certain letters of credit outstanding on the 2012 Amended Credit Facility and our international facilities, the principal amount outstanding on our senior notes and convertible notes, capitalized lease obligations, and amounts outstanding on our domestic and international receivables sales programs, and the denominator is the sum of earnings before interest, income taxes, depreciation, and amortization (EBITDA), and special charges. The interest coverage ratio must be not less

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

than (i) 2.50 for the second and third quarters of 2012, (ii) 2.75 for the fourth quarter of 2012, and (iii) 3.00 thereafter. In the interest coverage ratio, the numerator is EBITDA and the denominator is cash paid for interest expense and certain other financing expenses. Capital expenditures are limited to (i) $20.0 million for the three months ended June 30, 2012, (ii) $35.0 million for the six months ended September 30, 2012, (iii) $50.0 million for the nine months ended December 31, 2012, (iv) $65.0 million for the twelve months ended March 31, 2013, and (v) $65.0 million for the 2013 fiscal year and each fiscal year thereafter. Certain unused capital expenditures will be permitted to be carried forward to the following fiscal year. Our ability to meet these covenants is primarily driven by our net income before interest, income taxes, depreciation, and amortization; our total debt; our interest payments; and our capital expenditures. Our total debt is primarily driven by cash flow items, including net income before amortization, depreciation, and other noncash charges; our capital expenditures; requirements for deposits from participants in our precious metals consignment program; our customers ability to make payments for purchases and the timing of such payments; and our ability to manage inventory and other working capital items. Our interest payments are driven by our debt level, external fees, and interest rates, primarily the Prime rate and LIBOR. Our capital expenditures are driven by our desire to invest in growth opportunities, to maintain existing property, plant and equipment, and to meet environmental, health and safety requirements. At December 31, 2012, we were in compliance with the covenants of the 2012 Amended Credit Facility.

Our ability to pay common stock dividends is limited by certain covenants in our 2012 Amended Credit Facility and the bond indenture governing the Senior Notes. The covenant in our 2012 Amended Credit Facility is the more limiting of the two covenants and limits our ability to make restricted payments, which include, but are not limited to, common stock dividends and the repurchase of equity interests. We are not permitted to make restricted payments in excess of $30 million in any calendar year. However, if we make less than $30 million of restricted payments in any calendar year, the unused amount can be carried over for restricted payments in future years, provided that the maximum amount of restricted payments in any calendar year does not exceed $60 million.

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 $21.5 million at December 31, 2012, and $16.4 million at December 31, 2011. The unused portions of these lines provided additional liquidity of $9.1 million at December 31, 2012, and $11.7 million at December 31, 2011.

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

7. Financial Instruments

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

	December 31, 2012					December 31, 2011	
	Carrying Amount	Fair Value				Carrying Amount	Fair Value
		Total	Level 1	Level 2	Level 3		
	(Dollars in thousands)						
Cash and cash equivalents	$ 29,576	$ 29,576	$ 29,576	$	$	$ 22,991	$ 22,991
Loans payable	(48,599)	(48,599)		(48,599)		(8,554)	(8,554)
7.875% Senior Notes	(250,000)	(231,500)		(231,500)		(250,000)	(253,750)
6.50% Convertible Senior Notes, net of unamortized discounts	(34,417)	(34,803)		(34,803)		(33,537)	(34,589)
Revolving credit facility	(2,596)	(2,634)		(2,634)		(7,706)	(7,973)
Other long-term notes	(4,731)	(3,937)		(3,937)		(5,067)	(4,184)
Foreign currency forward contracts, net	(4,758)	(4,758)		(4,758)		6,225	6,225

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. The fair values of the Senior Notes and the Convertible Notes are based on third-party estimated bid prices. The fair values of the revolving credit facility and the other long-term notes are based on the present value of expected future cash flows and assumptions about current interest rates and the creditworthiness of the Company that market participants would use in pricing the debt.

Derivative Instruments

Interest rate swaps. To reduce our exposure to interest rate changes on variable-rate debt, we entered into interest rate swap agreements in 2007. These swaps effectively converted $150 million of our variable-rate term loan facility to a fixed interest rate. These swaps were designated and qualified as cash flow hedges. In 2010, in conjunction with repayment of our remaining outstanding term loans, we settled these swaps and reclassified $6.8 million from accumulated other comprehensive loss to miscellaneous expense.

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. The fair value of these contracts is based on market prices for comparable contracts. The notional amount of foreign currency forward contracts was $250.7 million at December 31, 2012, and $249.3 million at December 31, 2011.

The following table presents the effect on our consolidated statements of operations of foreign currency forward contracts:

	Amount of Gain (Loss) Recognized in Income		Location of Gain (Loss) in Income
	2012	2011	
	(Dollars in thousands)		
Foreign currency forward contracts	$ 474	$ (6,693)	Foreign currency losses, net

71

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

The following table presents the fair value on our consolidated balance sheets at December 31st of foreign currency forward contracts:

	2012	2011	Balance Sheet Location
	(Dollars in thousands)		
Asset derivatives:			
Foreign currency forward contracts	$	$ 6,491	Other current assets
Foreign currency forward contracts	213		Accrued expenses and other current liabilities
Total fair value	$ 213	$ 6,491	
Liability derivatives:			
Foreign currency forward contracts	$	$ (266)	Other current assets
Foreign currency forward contracts	(4,971)		Accrued expenses and other current liabilities
Total fair value	$ (4,971)	$ (266)	

8. Income Taxes

Income tax expense (benefit) is based on our (losses) earnings before income taxes as presented in the following table:

	2012	2011	2010
		(Dollars in thousands)	
U.S.	$ (216,523)	$ 27,244	$ 77,867
Foreign	(47,026)	(2,772)	(40,591)
Total	$ (263,549)	$ 24,472	$ 37,276

Our income tax expense (benefit) consists of the following components:

	2012	2011	2010
		(Dollars in thousands)	
Current:			
U.S. federal	$ (1,190)	$ (10,477)	$ 11,110
Foreign	2,525	8,704	15,647
State and local	575	536	374
Total current	1,910	(1,237)	27,131
Deferred:			
U.S. federal	77,875	18,787	13,693
Foreign	21,399	2,944	(11,321)
State and local	8,301	(1,156)	(7,630)
Total deferred	107,575	20,575	(5,258)
Total income tax expense	$ 109,485	$ 19,338	$ 21,873

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

In addition, income tax expense (benefit) we allocated directly to Ferro Corporation shareholders equity is detailed in the following table:

	2012	2011	2010
		(Dollars in thousands)	
Foreign currency translation adjustments	$ 144	$ 38	$ 1,717
Postretirement benefit liability adjustments	(140)	(139)	(1,123)
Raw material commodity swap adjustments			83
Interest rate swap adjustments			3,396
Stock options exercised	249	(1,184)	
Total income tax expense (benefit) allocated to Ferro Corporation shareholders equity	$ 253	$ (1,285)	$ 4,073

A reconciliation of the U.S. federal statutory income tax rate and our effective tax rate follows:

	2012	2011	2010
U.S. federal statutory income tax rate	35.0%	35.0%	35.0%
State taxes	2.0	3.3	4.7
Research and development credit	0.2	(9.4)	(1.0)
Adjustment of valuation allowances	(69.3)	45.5	24.8
Goodwill dispositions and impairments	(4.4)	3.0	0.6
Expired tax credits	(1.5)		
Foreign tax rate difference	(1.0)	0.2	2.3
Net adjustment of prior-year accrual	(0.8)	(1.6)	(2.9)
U.S. tax cost of foreign dividends	(0.2)	(0.1)	0.5
Uncertain tax positions	(0.1)	2.8	(2.1)
Domestic production activities deduction		(5.0)	(5.5)
Stock options		(0.4)	0.1
Medicare subsidy			3.9
Foreign exchange on loan settlement			(2.6)
Miscellaneous	(1.4)	5.7	0.9
Effective tax rate	(41.5)%	79.0%	58.7%

We have refundable income taxes of $9.8 million at December 31, 2012, and $11.6 million at December 31, 2011, classified as other receivables on our balance sheets. We also have income taxes payable of $2.5 million at December 31, 2012, and $2.5 million at December 31, 2011, classified as accrued expenses and other current liabilities on our balance sheets.

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

The components of deferred tax assets and liabilities at December 31st were:

	2012	2011
	(Dollars in thousands)	
Deferred tax assets:		
Pension and other benefit programs	$ 68,522	$ 65,362
Foreign operating loss carryforwards	66,993	58,333
Foreign tax credit carryforwards	29,188	27,113
Property, equipment and intangibles depreciation and amortization	21,659	
Accrued liabilities	16,418	16,335
Other credit carryforwards	14,259	15,373
Inventories	6,245	4,460
Capitalized research costs	6,142	8,210
Capitalized interest	4,712	
State operating loss carryforwards	4,258	2,626
Allowance for doubtful accounts	2,937	2,143
Other	10,103	11,623
Total deferred tax assets	251,436	211,578
Deferred tax liabilities:		
Unremitted earnings of foreign subsidiaries	1,363	1,837
Convertible debt instruments	227	553
Property, equipment and intangibles depreciation and amortization		35,279
Other	767	3,228
Total deferred tax liabilities	2,357	40,897
Net deferred tax assets before valuation allowance	249,079	170,681
Valuation allowance	(221,254)	(37,060)
Net deferred tax assets	$ 27,825	$ 133,621

The amounts of foreign operating loss carryforwards, foreign tax credit carryforwards, and other credit carryforwards included in the table of temporary differences are net of reserves for unrecognized tax benefits.

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

At December 31, 2012, we had $4.3 million of tax benefits from state operating loss carryforwards and $66.2 million from foreign operating loss carryforwards, some of which can be carried forward indefinitely and others expire in one to twenty years. At December 31, 2012, we had $64.7 million of tax benefits from tax credit carryforwards, some of which can be carried forward indefinitely. These operating loss carryforwards and tax credit carryforwards expire as follows:

	Operating Loss Carryforwards	Tax Credit Carryforwards
	(Dollars in thousands)	
Expiring in:		
2013	$ 125	$ 6,866
2014-2018	18,038	30,536
2019-2023	9,587	12,417
2024-2028	7,368	9,919
2029-2033	1,516	2,499
2034-Indefinitely	33,822	2,503
Total	$ 70,456	$ 64,740

We assess the available positive and negative evidence to estimate if sufficient future taxable income will be generated to utilize the existing deferred tax assets. A significant piece of objective negative evidence evaluated by jurisdiction was the cumulative loss incurred over the three-year period ended December 31, 2012. Such objective evidence limits the ability to consider other subjective evidence, such as our projections for future growth.

Based on this assessment, the Company has recorded a valuation allowance of $221.3 million in order to measure only the portion of the deferred tax asset that more likely than not will be realized. The more significant items that increased the valuation allowance in 2012 primarily related to additions to deferred tax assets for current year operating losses in certain jurisdictions where it is not more likely than not that these assets will be realized.

We classified net deferred income tax assets as of December 31st as detailed in the following table:

	2012	2011
	(Dollars in thousands)	
Current assets	$ 7,995	$ 17,395
Non-current assets	21,554	117,658
Current liabilities	(950)	(524)
Non-current liabilities	(774)	(908)
Net deferred tax assets	$ 27,825	$ 133,621

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

Activity and balances of unrecognized tax benefits are summarized below:

	2012	2011	2010
	(Dollars in thousands)		
Balance at beginning of year	$ 32,131	$ 33,455	$ 36,399
Additions based on tax positions related to the current year	4,567	1,886	3,619
Additions for tax positions of prior years	560	487	78
Reductions for tax positions of prior years	(354)	(167)	(1,029)
Reductions as a result of expiring statutes of limitations	(5,272)	(2,455)	(3,644)
Foreign currency translation of non-U.S. dollar denominated reserves	222	(449)	(1,968)
Settlements with taxing authorities	(3,168)	(626)	
Balance at end of year	$ 28,686	$ 32,131	$ 33,455

The total amount of unrecognized tax benefits that, if recognized, would affect the effective rate was $12.9 million at December 31, 2012, and $12.8 million at December 31, 2011. The Company recognizes interest accrued and penalties related to unrecognized tax benefits as part of income tax expense. The Company recognized $0.3 million of benefit in 2012, $0.3 million of benefit in 2011, and $0.5 million of expense in 2010 for interest, net of tax, and penalties. The Company accrued $1.0 million at December 31, 2012, and $1.3 million at December 31, 2011, for payment of interest, net of tax, and penalties.

We anticipate that $1.0 million of liabilities for unrecognized tax benefits, including accrued interest and penalties, may be reversed within the next 12 months. These liabilities relate to international tax issues and are expected to reverse due to the expiration of the applicable statute of limitations periods.

The Company conducts business globally, and, as a result, the U.S. parent company or one of its subsidiaries files income tax returns in the U.S. federal jurisdiction and various state and foreign jurisdictions. In the normal course of business, the U.S. parent company and its subsidiaries are subject to examination by taxing authorities throughout the world. With few exceptions, we are not subject to U.S. federal, foreign, or state and local income tax examinations for years before 2004.

At December 31, 2012, we provided $1.4 million for deferred income taxes on $10.3 million of undistributed earnings of foreign subsidiaries. We have not provided deferred income taxes on undistributed earnings of approximately $93.7 million, since we intend to indefinitely reinvest the earnings and it is not practicable to estimate the additional taxes that might be payable on the eventual remittance of such earnings.

9. Contingent Liabilities

The Company had bank guarantees and standby letters of credit issued by financial institutions that totaled $9.7 million at December 31, 2012, and $12.4 million at December 31, 2011. These agreements primarily relate to Ferro s insurance programs, foreign energy purchase contracts and foreign tax payments. If the Company fails to perform its obligations, the guarantees and letters of credit may be drawn down by their holders, and we would be liable to the financial institutions for the amounts drawn.

We have recorded environmental liabilities of $9.6 million at December 31, 2012, and $11.6 million at December 31, 2011, for costs associated with the remediation of certain of our properties that have been

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

contaminated, primarily a non-operating facility in Brazil. The costs include legal and consulting fees, site studies, the design and implementation of remediation plans, post-remediation monitoring and related activities. The ultimate liability could be affected by numerous uncertainties, including the extent of contamination found, the required period of monitoring and the ultimate cost of required remediation.

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

10. Retirement Benefits

Defined Benefit Pension Plans

	U.S. Plans			Non-U.S. Plans		
	2012	2011	2010	2012	2011	2010
	(Dollars in thousands)					
Net periodic benefit cost:						
Service cost	$ 16	$ 16	$ 21	1,995	$ 2,095	$ 3,289
Interest cost	19,469	20,468	20,545	5,344	5,525	10,122
Expected return on plan assets	(20,631)	(20,601)	(18,138)	(3,022)	(3,137)	(6,908)
Amortization of prior service cost (credit)	48	73	95	2	(142)	(308)
Mark-to-market actuarial net losses	20,125	49,866	5,913	9,529	4,578	11,886
Curtailment and settlement effects				(2,524)	23	(5,796)
Special termination benefits				2	3	38
Total net periodic benefit cost	$ 19,027	$ 49,822	$ 8,436	11,326	$ 8,945	$ 12,323
Weighted-average assumptions:						
Discount rate	5.10%	5.85%	6.20%	5.01%	5.51%	5.88%
Rate of compensation increase	N/A	N/A	N/A	3.03%	3.44%	3.42%
Expected return on plan assets	8.20%	8.50%	8.50%	4.86%	5.60%	5.28%

In 2012, the mark-to-market actuarial net loss for U.S. plans consisted of actuarial losses of $39.0 million primarily due to a decrease in the discount rate, partially offset by $18.9 million of gains from actual returns on plan assets exceeding expectations. The mark-to-market actuarial net loss for non-U.S. plans consisted of actuarial losses of $15.7 million primarily due to a decrease in the discount rate, partially offset by $6.2 million of gains from actual returns on plan assets exceeding expectations. Also in 2012, we recorded curtailment gains related to the cessation of retirement benefit accumulations in the Netherlands. The affected employees in the Netherlands now receive benefits through a defined contribution plan.

For U.S. plans in 2011, the improvement through December 2010 in the valuation of pension investments increased the amount of our expected return on plan assets. The mark-to-market actuarial net loss consisted of actuarial losses of $32.6 million primarily due to a decrease in the discount rate and $17.3 million of losses from expected returns exceeding actual returns on plan assets. For non-U.S. plans in 2011, curtailments and settlements in 2010 decreased benefit obligations, which reduced interest cost. These curtailments and settlements also decreased plan assets, which reduced expected returns. The mark-to-market actuarial net loss

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

consisted of actuarial losses of $5.7 million primarily due to a decrease in the discount rate, partially offset by $0.9 million of gains from actual returns on plan assets exceeding expectations.

In 2010, the mark-to-market actuarial net loss for U.S. plans consisted of actuarial losses of $17.3 million primarily due to a decrease in the discount rate, partially offset by $11.4 million of gains from actual returns on plan assets exceeding expectations. The mark-to-market actuarial net loss for non-U.S. plans consisted of actuarial losses of $14.8 million primarily due to a decrease in the discount rate, partially offset by $2.9 million of gains from actual returns on plan assets exceeding expectations. Also in 2010, we recorded curtailment gains related to terminations in the Netherlands, Portugal and Germany.

	U.S. Plans		Non-U.S. Plans	
	2012	2011	2012	2011
	(Dollars in thousands)			
Change in benefit obligation:				
Benefit obligation at beginning of year	$ 392,820	$ 360,484	$ 110,674	$ 104,100
Service cost	16	16	1,995	2,095
Interest cost	19,469	20,468	5,344	5,525
Amendments				106
Curtailments			(1,617)	
Settlements			(2,984)	(723)
Special termination benefits			2	3
Plan participants contributions			133	228
Benefits paid	(22,693)	(20,785)	(5,176)	(3,781)
Actuarial loss	38,972	32,637	15,691	5,697
Exchange rate effect			2,905	(2,576)
Benefit obligation at end of year	$ 428,584	$ 392,820	$ 126,967	$ 110,674
Accumulated benefit obligation at end of year	$ 428,584	$ 392,820	$ 119,777	$ 103,571
Change in plan assets:				
Fair value of plan assets at beginning of year	$ 261,715	$ 257,937	$ 62,554	$ 55,297
Actual return on plan assets	39,479	3,372	9,309	4,074
Employer contributions	24,074	21,191	3,903	8,502
Plan participants contributions			133	228
Benefits paid	(22,693)	(20,785)	(5,176)	(3,781)
Effect of settlements			(2,984)	(723)
Exchange rate effect			2,265	(1,043)
Fair value of plan assets at end of year	$ 302,575	$ 261,715	$ 70,004	$ 62,554
Amounts recognized in the balance sheet:				
Other non-current assets	$	$	$ 5,024	$ 4,597
Accrued expenses and other current liabilities	(365)	(372)	(1,906)	(1,751)
Postretirement and pension liabilities	(125,644)	(130,733)	(60,082)	(50,966)
Funded status	$ (126,009)	$ (131,105)	$ (56,964)	$ (48,120)

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

	U.S. Plans		Non-U.S. Plans	
	2012	2011	2012	2011
	(Dollars in thousands)			
Weighted-average assumptions as of December 31:				
Discount rate	4.30%	5.10%	4.00%	5.01%
Rate of compensation increase	N/A	N/A	2.83%	3.03%
Pension plans with benefit obligations in excess of plan assets:				
Benefit obligations	$ 428,584	$ 392,820	$ 89,017	$ 79,392
Plan assets	302,575	261,715	27,029	26,675
Pension plans with accumulated benefit obligations in excess of plan assets:				
Projected benefit obligations	$ 428,584	$ 392,820	$ 88,783	$ 76,375
Accumulated benefit obligations	428,584	392,820	82,462	70,106
Plan assets	302,575	261,715	26,824	24,041

Activity and balances in accumulated other comprehensive income (loss) related to defined benefit pension plans are summarized below:

	U.S. Plans		Non-U.S. Plans	
	2012	2011	2012	2011
	(Dollars in thousands)			
Prior service (cost) credit:				
Balance at beginning of year	$ (103)	$ (176)	$ 954	$ 986
Cost arising during the year				(106)
Amounts recognized as net periodic benefit costs	48	73	(780)	(148)
Exchange rate effects			(277)	222
Balance at end of year	$ (55)	$ (103)	$ (103)	$ 954
Estimated amounts to be amortized in 2013	$ (13)		$ (17)	

The overall investment objective for defined benefit pension plan assets is to achieve the highest level of investment return that is compatible with prudent investment practices, asset class risk and current and future benefit obligations of the plans. Based on the potential risks and expected returns of various asset classes, the Company establishes asset allocation ranges for major asset classes. For U.S. plans, the target allocations are 35% fixed income, 60% equity, and 5% other investments. For non-U.S. plans, the target allocations are 75% fixed income, 24% equity, and 1% other investments. The Company invests in funds and with asset managers that track broad investment indices. The equity funds generally capture the returns of the equity markets in the U.S., Europe, Japan, and Asia-Pacific and also reflect various investment styles, such as growth, value, and large or small capitalization. The fixed income funds generally capture the returns of government and investment-grade corporate fixed income securities in the U.S. and Europe and also reflect various durations of these securities.

We base the expected return on plan assets at the beginning of the year on the weighted-average expected return for the target asset allocations of the major asset classes held by each plan. In determining the expected

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

return, the Company considers both historical performance and an estimate of future long-term rates of return. The Company consults with and considers the opinion of its actuaries in developing appropriate return assumptions.

The fair values of our pension plan assets at December 31, 2012, by asset category are as follows:

	Level 1	Level 2	Level 3	Total
	(Dollars in thousands)			
U.S. plans:				
Fixed income:				
Cash and cash equivalents	$ 7	$	$	$ 7
Guaranteed deposits		2,208		2,208
U.S. government agencies	18,256			18,256
Mutual funds	84,041			84,041
Commingled funds		1,400	675	2,075
Equities:				
U.S. common stocks	1,775			1,775
Mutual funds	184,528			184,528
Commingled funds		1,710		1,710
Real estate			7,975	7,975
Total	$ 288,607	$ 5,318	$ 8,650	$ 302,575
Non-U.S. plans:				
Fixed income:				
Cash and cash equivalents	$ 1,071	$	$	$ 1,071
Guaranteed deposits		3,561	20,589	24,150
Mutual funds	373			373
Commingled funds		22,218		22,218
Other	3,636			3,636
Equities:				
Mutual funds	403			403
Commingled funds		17,152		17,152
Real estate			605	605
Other assets	177		219	396
Total	$ 5,660	$ 42,931	$ 21,413	$ 70,004

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

The fair values of our pension plan assets at December 31, 2011, by asset category are as follows:

	Level 1	Level 2	Level 3	Total
	(Dollars in thousands)			
U.S. plans:				
Fixed income:				
Cash and cash equivalents	$ 4,569	$	$	$ 4,569
Guaranteed deposits		2,456		2,456
Mutual funds	76,360			76,360
Commingled funds		1,286	647	1,933
Equities:				
U.S. common stocks	60,082			60,082
Commingled funds		116,315		116,315
Total	$ 141,011	$ 120,057	$ 647	$ 261,715
Non-U.S. plans:				
Fixed income:				
Cash and cash equivalents	$ 728	$	$	$ 728
Guaranteed deposits		20,371		20,371
Mutual funds	572			572
Commingled funds		20,319		20,319
Other	3,046			3,046
Equities:				
Mutual funds	334			334
Commingled funds		15,884		15,884
Real estate			831	831
Other assets	106		363	469
Total	$ 4,786	$ 56,574	$ 1,194	$ 62,554

The Company s U.S. pension plans held 0.4 million shares of the Company s common stock with a market value of $1.8 million at December 31, 2012, and $2.1 million at December 31, 2011.

Level 3 assets consist primarily of guaranteed deposits and real estate investments. The guaranteed deposits in Level 3 are in the form of contracts with insurance companies that secure the payment of benefits and are valued based on discounted cash flow models using the same discount rate used to value the related plan liabilities. The real estate investments in Level 3 are in the form of commingled funds invested in non-public real estate development and investment companies and are valued based on estimated capitalization factors applied to the earnings streams from portfolio properties and fee income, discounted cash flows of development projects, and estimated market values of undeveloped land, all of which are reduced by reported liabilities and appropriate taxes.

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

A rollforward of Level 3 assets is presented below. Transfers into Level 3 during 2012 represent the correction of the classification within the fair value hierarchy of certain guaranteed deposits that were previously classified within Level 2. Unrealized gains included in earnings were $5.1 million in 2012 and $0.1 million in 2011.

	Guaranteed deposits	Real estate	Commingled funds	Other assets	Total
		(Dollars in thousands)			
Balance at December 31, 2010	$	$ 679	$ 602	$ 352	$ 1,633
Purchases		72		44	116
Sales		(24)		(11)	(35)
Gains (losses) included in earnings		109	45	(21)	133
Exchange rate effect		(5)		(1)	(6)
Balance at December 31, 2011		831	647	363	1,841
Transfers into Level 3	16,520				16,520
Purchases	598	8,072		48	8,718
Sales	(1,977)	(349)		(170)	(2,496)
Gains (losses) included in earnings	5,057	11	28	(28)	5,068
Exchange rate effect	391	15		6	412
Balance at December 31, 2012	$ 20,589	$ 8,580	$ 675	$ 219	$ 30,063

We expect to contribute approximately $16.6 million to our U.S. pension plans and $2.8 million to our non-U.S. pension plans in 2013.

We estimate that future pension benefit payments, which reflect expected future service, will be as follows:

	U.S. Plans	Non-U.S. Plans
	(Dollars in thousands)	
2013	$ 21,899	$ 5,112
2014	22,551	5,175
2015	22,932	5,157
2016	23,324	5,114
2017	24,027	6,178
2018-2022	126,586	33,951

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

Postretirement Health Care and Life Insurance Benefit Plans

	2012	2011	2010
		(Dollars in thousands)	
Net periodic benefit cost:			
Interest cost	$ 1,585	$ 1,929	$ 2,426
Amortization of prior service credit	(130)	(401)	(1,395)
Mark-to-market actuarial net losses	(2,743)	(2,684)	(5,955)
Total net periodic benefit cost	$ (1,288)	$ (1,156)	$ (4,924)
Weighted-average assumptions:			
Discount rate	4.85%	5.45%	5.85%
Current trend rate for health care costs	7.70%	7.90%	8.10%
Ultimate trend rate for health care costs	4.50%	4.50%	4.50%
Year that ultimate trend rate is reached	2028	2028	2028

A one-percentage-point change in the assumed health care cost trend rates would have the following effect:

	1-Percentage-Point Increase	1-Percentage-Point Decrease
	(Dollars in thousands)	
Effect on total of service and interest cost components	$ 93	$ (107)
Effect on postretirement benefit obligation	2,027	(1,770)

	2012	2011
	(Dollars in thousands)	
Change in benefit obligation:		
Benefit obligation at beginning of year	$ 34,286	$ 37,193
Interest cost	1,585	1,929
Benefits paid	(2,185)	(2,152)
Actuarial gain	(2,743)	(2,684)
Benefit obligation at end of year	$ 30,943	$ 34,286
Change in plan assets:		
Fair value of plan assets at beginning of year	$	$
Employer contributions	2,185	2,152
Benefits paid	(2,185)	(2,152)
Fair value of plan assets at end of year	$	$
Amounts recognized in the balance sheet:		
Accrued expenses and other current liabilities	$ (2,735)	$ (3,247)
Postretirement and pension liabilities	(28,208)	(31,039)
Funded status	$ (30,943)	$ (34,286)
Weighted-average assumptions as of December 31:		
Discount rate	3.85%	4.85%
Current trend rate for health care costs	7.50%	7.70%

Ultimate trend rate for health care costs	4.50%	4.50%
Year that ultimate trend rate is reached	2028	2028

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

Activity and balances in accumulated other comprehensive income related to our postretirement health care and life insurance benefit plans are summarized below:

	2012	2011
	(Dollars in thousands)	
Prior service credit:		
Balance at beginning of year	$ 1,260	$ 1,661
Amounts recognized as net periodic benefit costs	(130)	(401)
Balance at end of year	$ 1,130	$ 1,260
Estimated amounts to be amortized in 2013	$ 115	

The Medicare Prescription Drug, Improvement, and Modernization Act of 2003 provides subsidies for certain drug costs to companies that provide coverage that is actuarially equivalent to the drug coverage under Medicare Part D. We estimate that future postretirement health care and life insurance benefit payments will be as follows:

	Before Medicare Subsidy	After Medicare Subsidy
	(Dollars in thousands)	
2013	$ 2,735	$ 2,429
2014	2,645	2,343
2015	2,561	2,263
2016	2,469	2,180
2017	2,378	2,100
2018-2022	10,370	9,182

Other Retirement Plans

We also have defined contribution retirement plans covering certain employees. Our contributions are determined by the terms of the plans and are limited to amounts that are deductible for income taxes. Generally, benefits under these plans vest gradually over a period of five years from date of employment. The largest plan covers salaried and most hourly employees in the U.S. In this plan, the Company contributes a percentage of eligible employee basic compensation and also a percentage of employee contributions. For part of 2010, contributions as a percentage of employee contributions were suspended. The expense applicable to these plans was $7.6 million in 2012, $8.1 million in 2011, and $7.2 million in 2010.

11. Serial Convertible Preferred Stock

We are authorized to issue up to 2,000,000 shares of serial convertible preferred stock without par value. In 1989, Ferro issued 1,520,215 shares of 7% Series A ESOP Convertible Preferred Stock (Series A Preferred Stock) to the Trustee of the Ferro Employee Stock Ownership Plan (ESOP) at a price of $46.375 per share for a total consideration of $70.5 million. Subsequently, all shares of the Series A Preferred Stock were allocated to participating individual employee accounts, and most of the shares were redeemed or converted by the Trustee to provide for distributions to, loans to, or withdrawals by participants or to satisfy an investment election provided to participants. In the first quarter of 2011, we redeemed in cash all outstanding Series A Preferred Stock for $9.4 million plus earned but unpaid dividends. The number of shares redeemed was 203,282 in 2011. No shares were redeemed in 2010.

84

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

12. Stock-based Compensation

In 2010, our shareholders approved the 2010 Long-Term Incentive Plan (the Plan). The Plan s purpose is to promote the Company s and the shareholders long-term financial interests and growth by attracting, retaining and motivating high-quality executives and directors and aligning their interests with those of our shareholders. The Plan reserved 5,000,000 shares of common stock to be issued for grants of several different types of long-term incentives including stock options, stock appreciation rights, deferred stock units, restricted shares, performance shares, other common stock-based awards, and dividend equivalent rights. Unissued authorized shares or treasury stock may be issued under the Plan. Generally, Ferro has issued treasury stock to satisfy the common stock requirements of its long-term incentive plans.

Previous plans authorized various types of long-term incentives. No further grants may be made under these previous plans. However, any outstanding awards or grants made under these plans will continue until the end of their specified terms.

Stock options, performance share units, deferred stock units, and restricted share awards were the only grant types outstanding at December 31, 2012. Stock options and performance share units are discussed below. Activities in other grant types were not significant.

Stock Options

General Information

Stock options outstanding at December 31, 2012, have a term of 10 years, vest evenly over three or four years on the anniversary of the grant date, and have an exercise price equal to the per share fair market value of our common stock on the grant date. Accelerated vesting is used for options held by employees who meet both the age and years of service requirements to retire prior to the end of the vesting period. In the case of death, retirement or change in control, the stock options become 100% vested and exercisable.

Stock Option Valuation Model and Method Information

We estimate the fair value of each stock option on the date of grant using the Black-Scholes option pricing model. We use judgment in selecting assumptions for the model, which may significantly impact the timing and amount of compensation expense, and we base our judgments primarily on historical data. When appropriate, we adjust the historical data for circumstances that are not likely to occur in the future. We adjust the assumptions each year based upon new information.

The following table details the determination of the assumptions used to estimate the fair value of stock options:

Assumption	Estimation Method
Expected life, in years	Historical stock option exercise experience
Risk-free interest rate	Yield of U.S. Treasury Bonds with remaining maturity equal to expected life of the stock option
Expected volatility	Historical daily price observations of the Company s common stock over a period equal to the expected life of the stock option
Expected dividend yield	Historical dividend rate at the date of grant

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

The following table details the weighted-average grant-date fair values and the assumptions used for estimating the fair values:

	2012	2011	2010
Weighted-average grant-date fair value	$4.68	$10.55	$5.64
Expected life, in years	6.0	6.9	7.2
Risk-free interest rate	1.20% 1.67%	2.67% 3.07%	1.94% 3.12%
Expected volatility	81.1% 83.9%	71.9% 73.3%	69.7% 71.6%
Expected dividend yield	0%	0%	0%

Stock Option Activity Information

A summary of stock option activity follows:

	Number of Options	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (In years)	Aggregate Intrinsic Value (Dollars in thousands)
Outstanding at December 31, 2011	4,423,106	$ 17.40		
Granted	693,152	6.75		
Exercised	(77,959)	1.37		
Forfeited or expired	(1,277,659)	14.90		
Outstanding at December 31, 2012	3,760,640	16.62	4.6	$ 505
Exercisable at December 31, 2012	2,922,004	$ 21.38	3.5	$ 348
Vested or expected to vest at December 31, 2012	3,681,460	$ 16.74	4.5	$ 502

We calculated the aggregate intrinsic value in the table above by taking the total pretax difference between our common stock s closing market value per share on the last trading day of the year and the stock option exercise price for each grant and multiplying that result by the number of shares that would have been received by the option holders had they exercised all their in-the-money stock options.

Information related to stock options exercised follows:

	2012	2011	2010
		(Dollars in thousands)	
Proceeds from the exercise of stock options	$ 107	$ 1,053	$ 137
Intrinsic value of stock options exercised	122	2,060	1,169
Income tax benefit related to stock options exercised	43	721	409

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

Stock-Based Compensation Expense Information

A summary of amounts recorded and to be recorded for stock-based compensation related to stock options follows:

	2012	2011	2010
	(Dollars in thousands)		
Compensation expense recorded in selling, general and administrative expenses	$ 2,446	$ 4,462	$ 1,903
Deferred income tax benefits related to compensation expense	856	1,562	666
Total fair value of stock options vested	3,973	7,736	1,620
Unrecognized compensation cost	1,976	6,117	3,616
Expected weighted-average recognition period for unrecognized compensation, in years	1.6	1.2	2.8

Performance Share Units

General Information

Performance share units, expressed as shares of the Company s common stock, are earned only if the Company meets specific performance targets over a three-year period. The grants have a duration of three years. No performance share units were granted in 2010 or 2011.

The Plan allows us to pay up to 200% of the vesting-date fair value. We pay half of the earned value in cash and half in unrestricted shares of common stock. The portions of the grants that will be paid in cash are treated as liabilities, and therefore, we remeasure our liability and the related compensation expense at the balance sheet date, based on fair value. We treat the portions of the grants that will be settled with common stock as equity awards, and therefore, the amount of stock-based compensation we record over the performance period is based on the fair value on the grant date. The compensation expense and number of shares expected to vest for all performance share units are adjusted for the achievement of the performance share units performance conditions, based upon our best estimate using available facts and circumstances.

Performance Share Unit Valuation Model and Method Information

We estimate the fair value of each performance share unit on the date of grant using assumptions underlying the Black-Scholes methodology to produce a Monte-Carlo simulation model. We use judgment in selecting assumptions for the model, which may significantly impact the timing and amount of compensation expense, and we base our judgments primarily on historical data. When appropriate, we adjust the historical data for circumstances that are not likely to occur in the future. We adjust the assumptions each year based upon new information.

The following table details the determination of the assumptions used to estimate the fair value of performance share units:

Assumption	Estimation Method
Expected life, in years	Performance period for the performance share units
Risk-free interest rate	Yield of U.S. Treasury Bonds with remaining maturity equal to expected life of the performance share units
Expected volatility	A blend of historical prices and implied volatility of the Company s common stock over a period equal to the expected life of the performance share units

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

The following table details the weighted-average grant-date fair values and the assumptions used for estimating the fair values:

	2012
Weighted-average grant-date fair value	$ 10.22
Expected life, in years	3.0
Risk-free interest rate	0.41%
Expected volatility	78%

Performance Share Unit Activity Information

A summary of performance share unit activity follows:

	Number of Units	Weighted-Average Remaining Contractual Term (In years)	Aggregate Intrinsic Value (Dollars in thousands)
Outstanding at December 31, 2011			
Granted	599,622		
Forfeited or expired	(294,422)		
Outstanding at December 31, 2012	305,200	2.0	$ 1,276
Expected to vest at December 31, 2012	305,200	2.0	$ 1,276

Stock-Based Compensation Expense Information

A summary of amounts recorded and to be recorded for stock-based compensation related to performance share units follows:

	2012 (Dollars in thousands)
Compensation expense recorded in selling, general and administrative expenses	$ 611
Deferred income tax benefits related to compensation expense	214
Unrecognized compensation cost	1,584
Expected weighted-average recognition period for unrecognized compensation, in years	2.0

Directors Deferred Compensation

Separate from the Plan, the Company has established the Ferro Corporation Deferred Compensation Plan for Non-employee Directors, permitting its non-employee directors to voluntarily defer all or a portion of their compensation. The voluntarily deferred amounts are placed in individual accounts in a benefit trust known as a rabbi trust and invested in the Company s common stock with dividends reinvested in additional shares. All disbursements from the trust are made in the Company s common stock. The stock held in the rabbi trust is classified as treasury stock in shareholders equity and the deferred compensation obligation that is required to be settled in shares of Company s common stock is classified as paid-in capital. The rabbi trust held 0.3 million shares, valued at $3.9 million, at December 31, 2012, and 0.3 million shares, valued at $3.8

million, at December 31, 2011.

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

13. Restructuring and Cost Reduction Programs

Our restructuring and cost reduction programs were developed and initiated across a number of our segments with the objectives of leveraging our global scale, realigning and lowering our cost structure and optimizing capacity utilization. Through 2012, we have substantially completed all of our existing restructuring projects, except for the recently initiated Performance Coatings restructuring program, which is expected to be completed in 2013.

In 2012, 2011, and 2010, total charges resulting from these activities were $25.5 million, $9.0 million, and $67.8 million, respectively, of which zero, $0.3 million, and $4.1 million, respectively, were recorded in cost of sales as they relate primarily to accelerated depreciation of assets to be disposed. The remainder were reported as restructuring and impairment charges. Descriptions of these restructuring programs follow:

Performance Coatings Restructuring Program

In 2012, we developed and initiated restructuring programs related to our Performance Coatings business in Europe. As a result of these programs, the Company expects to eliminate positions within the Performance Coatings sales, technical service, product development, manufacturing, supply chain and general administration organizations throughout Europe. The programs are subject to required consultations with employee representatives at the affected sites and other local legal requirements.

European Manufacturing Restructuring Program

In July 2006, we announced a multi-year, multi-phase program to restructure our Performance Coatings, Color and Glass Performance Materials, and Specialty Plastics segments in Europe. Major activities are listed below:

Color and Glass Performance Materials:

Manufacturing facilities in Casiglie, Italy, and Castanheira do Ribatejo, Portugal, were closed. Manufacturing capacity was transferred to Almazora, Spain, and Aveiro, Portugal.

Manufacturing facility in Limoges, France, was closed, and the site was sold in 2012.

Manufacturing facility in Burslem, United Kingdom, was partially closed, and production was transferred to Frankfurt, Germany, and Almazora, Spain.

Performance Coatings:

Porcelain Enamel manufacturing facility in Rotterdam, Netherlands, was closed.

Tile Coating Systems manufacturing facilities in Casiglie, Italy; Castanheira do Ribatejo, Portugal; and Nules, Spain, were closed. Manufacturing capacity was transferred to Almazora, Spain, and Aveiro, Portugal.

Specialty Plastics:

Manufacturing facilities in Castanheira do Ribatejo, Portugal, and Rotterdam, Netherlands, were closed. The Rotterdam site was sold. Manufacturing capacity was transferred to Almazora, Spain.

Electronic Materials Restructuring Program

In 2010, we announced the closure of the Uden, Netherlands, facility due to excess capacity for production of dielectric and industrial ceramic products. Major activities are listed below:

Manufacturing facility in Uden, Netherlands, was closed, and the site was sold in 2012.

Certain production from Uden, Netherlands, was transferred to Penn Yan, New York, and St. Dizier, France.

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

Other Restructuring Programs

Since 2008, we have initiated a number of restructuring activities as part of a series of actions to respond to economic and market conditions. These activities reduced our fixed cost structures in manufacturing facilities in the U.S. and in our Latin America and Asia-Pacific regions and affected the Color and Glass Performance Materials, Performance Coatings, Specialty Plastics, and Polymer Additives segments, as well as corporate functions. Major activities are listed below:

Color and Glass Performance Materials and Performance Coatings manufacturing facilities in Moorabbin and Geelong, Australia, were closed. The Moorabbin facility in Australia was sold.

Color and Glass Performance Materials manufacturing facility in Toccoa, Georgia, was closed, and the site was sold in 2012.

Color and Glass Performance Materials manufacturing facility in Vienna, Austria, was closed. Manufacturing capacity was transferred to Colditz, Germany.

Selling, general, and administration costs were reduced through position eliminations.

We have summarized the charges associated with these restructuring programs by major type of charges below:

	Employee Severance	Other Costs	Asset Impairment	Total
	(Dollars in thousands)			
Expected restructuring charges:				
European manufacturing restructuring	$ 58,401	$ 12,333	$ 39,827	$ 110,561
Electronic Materials restructuring	8,342	6,011	2,318	16,671
Performance Coatings restructuring	5,701			5,701
Other restructuring programs	10,763	6,637	95	17,495
Total expected restructuring charges	$ 83,207	$ 24,981	$ 42,240	$ 150,428
Restructuring charges incurred:				
European manufacturing restructuring	$ 27,662	$ 13,696	$ 5,582	$ 46,940
Electronic Materials restructuring	7,460	2,241	4,572	14,273
Other restructuring programs	(164)	188	2,495	2,519
Charges incurred in 2010	$ 34,958	$ 16,125	$ 12,649	$ 63,732
European manufacturing restructuring	$ 3,222	$ 3,317	$ 2,352	$ 8,891
Electronic Materials restructuring		(1)	1,439	1,438
Other restructuring programs		(1,640)	18	(1,622)
Charges incurred in 2011	$ 3,222	$ 1,676	$ 3,809	$ 8,707
European manufacturing restructuring	$ 272	$ 101	$ 14,294	$ 14,667
Performance Coatings restructuring	5,701			5,701
Other restructuring programs	1,252	3,214	619	5,085
Charges incurred in 2012	$ 7,225	$ 3,315	$ 14,913	$ 25,453

Cumulative restructuring charges incurred:				
European manufacturing restructuring	$ 58,401	$ 12,333	$ 39,827	$ 110,561
Electronic Materials restructuring	8,342	6,011	2,318	16,671
Performance Coatings restructuring	5,701			5,701
Other restructuring programs	10,763	6,637	95	17,495
Cumulative restructuring charges incurred as of December 31, 2012	$ 83,207	$ 24,981	$ 42,240	$ 150,428

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

We have summarized the charges associated with the restructuring programs by segments below:

	Total Expected Charges	2012	2011	2010	Cumulative Charges To Date
			(Dollars in thousands)		
Electronic Materials	$ 20,504	$ 3,833	$ 1,438	$ 14,273	$ 20,504
Performance Coatings	54,836	16,481	715	3,464	54,836
Color and Glass Performance Materials	51,820	1,139	5,071	31,910	51,820
Polymer Additives	1,236		8		1,236
Specialty Plastics	18,032		1,475	14,085	18,032
Pharmaceuticals					
Segment Total	146,428	21,453	8,707	63,732	146,428
Corporate Restructuring Charges	4,000	4,000			4,000
Total Restructuring Charges	$ 150,428	$ 25,453	$ 8,707	$ 63,732	$ 150,428

We have summarized the activities and accruals related to our restructuring and cost reduction programs below:

	Employee Severance	Other Costs	Asset Impairment	Total
		(Dollars in thousands)		
Balance at December 31, 2009	$ 3,081	$ 1,518	$	$ 4,599
Restructuring charges	34,958	16,125	12,649	63,732
Cash payments	(36,132)	(8,109)		(44,241)
Non-cash items	522	(3,671)	(12,649)	(15,798)
Balance at December 31, 2010	2,429	5,863		8,292
Restructuring charges	3,222	1,676	3,809	8,707
Cash payments	(5,461)	(3,983)		(9,444)
Non-cash items	28	(137)	(3,809)	(3,918)
Balance at December 31, 2011	218	3,419		3,637
Restructuring charges	7,225	3,315	14,913	25,453
Cash payments	(3,423)	(811)		(4,234)
Non-cash items	73	216	(14,913)	(14,624)
Balance at December 31, 2012	$ 4,093	$ 6,139	$	$ 10,232

In 2012, we reevaluated in accordance with ASC Topic 360, Property, Plant, and Equipment, certain property, plant, and equipment that was already classified as assets held for sale. As a result, assets held for sale with a carrying value of $19.8 million were written down to their fair value of $4.9 million, and the impairment charge of $14.9 million is included in restructuring and impairment charges in our statements of operations. We estimated the fair value of these assets based on third-party appraisals. During 2012, we sold our Toccoa, Georgia, facility; our Uden, Netherlands, facility; and our Limoges, France, facility. At December 31, 2012, total assets held for sale were $3.1 million and are classified as other non-current assets due to the nature of the

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

underlying assets, although we expect to sell these assets within the next twelve months. The assets include land and buildings at our Casiglie, Italy, facility; our Nules, Spain, facility; and our Rotterdam, Netherlands, facility. The impairment charges by segment were $10.9 million in Performance Coatings, $3.4 million in Electronic Materials and $0.6 million in Color and Glass Performance Materials.

Other costs in the 2012 restructuring charges include $3.2 million related to lease termination costs for the corporate plane.

In 2011, we recorded asset impairments of $3.8 million related to assets held for sale. Our review of certain idled assets in the Netherlands and France indicated that the carrying values were in excess of the respective fair values, less cost to sell, due to ongoing poor local economic conditions. We estimated the fair value of the Netherlands assets based on third-party appraisals and the fair value of the France assets using discounted cash flow models. The impairment charges by segment were $2.4 million in Color and Glass Performance Materials and $1.4 million in Electronic Materials.

		Fair Value Measurements Using			
Description	Fair Value	Level 1	Level 2	Level 3	Total Gains (Losses)
		(Dollars in thousands)			
Assets held for sale:					
2012	$ 3,000	$	$	$ 3,000	$ (14,913)
2011	6,303			6,303	(3,809)

In 2010, we shut down manufacturing activities and closed a number of facilities as a result of restructuring programs. The restructuring actions and plant closures indicated a possible impairment of these facilities property, plant, and equipment. We estimated the fair value of these assets based on third-party appraisals (a Level 3 measurement within the fair value hierarchy) and recorded impairments of $12.6 million in restructuring and impairment charges, of which $7.3 million related to our Color and Glass Performance Materials segment, $4.5 million related to our Electronic Materials segment, and $0.8 million related to our Performance Coatings segment.

Other costs in the 2010 restructuring charges include a pension settlement loss of $12.2 million related to Rotterdam, Netherlands.

We expect to make cash payments to settle the remaining liability for employee termination benefits and other costs primarily over the next twelve months, except where legal or contractual restrictions prevent us from doing so.

14. Leases

Rent expense for all operating leases was $23.1 million in 2012, $21.2 million in 2011, and $20.7 million in 2010. Amortization of assets recorded under capital leases is recorded as depreciation expense.

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

The Company has a number of capital lease arrangements relating primarily to buildings and production equipment. Assets held under capital leases and included in property, plant and equipment at December 31st follow:

	2012	2011
	(Dollars in thousands)	
Gross amounts capitalized:		
Buildings	$ 3,100	$ 3,100
Equipment	8,987	8,906
	12,087	12,006
Accumulated amortization:		
Buildings	(3,100)	(1,899)
Equipment	(5,245)	(5,586)
	(8,345)	(7,485)
Net assets under capital leases	$ 3,742	$ 4,521

At December 31, 2012, future minimum lease payments under all non-cancelable leases follow:

	Capital Leases	Operating Leases
	(Dollars in thousands)	
2013	$ 1,209	$ 13,463
2014	1,173	10,521
2015	1,110	8,303
2016	797	5,700
2017	797	4,694
Thereafter	3,943	21,745
Total minimum lease payments	9,029	$ 64,426
Less amount representing executory costs	10	
Net minimum lease payments	9,019	
Less amount representing imputed interest	2,586	
Present value of net minimum lease payments	6,433	
Less current portion	762	
Long-term obligations at December 31, 2012	$ 5,671	

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

15. Miscellaneous Expense, Net

Components of miscellaneous expense (income), net follow:

	2012	2011	2010
	(Dollars in thousands)		
Loss for Brazil environmental contingency	$	$	$ 9,160
Loss on settlement of interest rate swaps			6,849
Gain from Heraeus business combination			(8,255)
Gain on sale of business			(1,247)
Other, net	3,080	2,492	(693)
Total miscellaneous expense, net	$ 3,080	$ 2,492	$ 5,814

In 2010, Ferro Corporation and W.C. Heraeus GmbH (Heraeus GmbH) acquired from each other certain business lines related to decoration materials for ceramic and glass products. We acquired Heraeus GmbH s ceramic color business, which advanced our position in the ceramic colors industry, while Heraeus GmbH acquired assets related to our business operations in precious metal preparations and lustres for the decoration of glass, ceramics, porcelain, and tile. Ferro recognized a pre-tax gain of $8.3 million consisting of a $5.6 million gain from remeasuring to fair value the assets transferred to Heraeus GmbH and a $6.1 million bargain purchase gain from the fair value of the net assets acquired exceeding the fair value of the consideration transferred, less a $3.4 million write-off of related goodwill.

16. Earnings (Loss) per Share

Details of the calculations of basic and diluted earnings (loss) per share follow:

	2012	2011	2010
	(In thousands, except per share amounts)		
Basic earnings (loss) per share computation:			
Net income (loss) attributable to Ferro Corporation common shareholders	$ (374,268)	$ 4,239	$ 13,166
Weighted-average common shares outstanding	86,288	86,119	85,823
Basic earnings (loss) per share attributable to Ferro Corporation common shareholders	$ (4.34)	$ 0.05	$ 0.15
Diluted earnings (loss) per share computation:			
Net income (loss) attributable to Ferro Corporation common shareholders	$ (374,268)	$ 4,239	$ 13,166
Weighted-average common shares outstanding	86,288	86,119	85,823
Assumed exercise of stock options		225	319
Assumed satisfaction of deferred stock unit conditions		44	74
Assumed satisfaction of restricted share conditions		390	323
Assumed conversion of convertible notes			
Weighted-average diluted shares outstanding	86,288	86,778	86,539
Diluted earnings (loss) per share attributable to Ferro Corporation common shareholders	$ (4.34)	$ 0.05	$ 0.15

The number of anti-dilutive or unearned shares, including shares related to contingently convertible debt, was 6.4 million, 5.2 million, and 6.8 million common shares for 2012, 2011, and 2010, respectively.

94

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

17. Reporting for Segments

The Company has six reportable segments: Performance Coatings, Electronic Materials, Color and Glass Performance Materials, Polymer Additives, Specialty Plastics, and Pharmaceuticals. We have aggregated our Tile Coating Systems and Porcelain Enamel operating segments into one reportable segment, Performance Coatings, and aggregated our Glass Systems and Performance Pigments and Colors operating segments into one reportable segment, Color and Glass Performance Materials, based on their similar economic and operating characteristics.

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

	2012	2011	2010
	(Dollars in thousands)		
Electronic Materials	$ 293,840	$ 622,977	$ 675,401
Performance Coatings	587,698	602,566	555,023
Color and Glass Performance Materials	371,723	396,317	382,155
Polymer Additives	320,635	336,965	302,352
Specialty Plastics	170,717	172,028	163,058
Pharmaceuticals	24,018	24,939	23,876
Total net sales	$ 1,768,631	$ 2,155,792	$ 2,101,865

We measure segment income (loss) for internal reporting purposes by excluding unallocated corporate expenses, restructuring and impairment charges, other expenses (income) and income taxes. During the first quarter of 2012, we refined the allocation of certain corporate expenses to the Company s reportable segments, which aligns segment reporting to the current manner in which performance is evaluated, strategic decisions are made and resources are allocated. Unallocated corporate expenses consist primarily of executive employment costs, legacy pension and other benefit costs, certain professional fees, and costs associated with our global headquarters facility.

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

Each segment s income (loss) and reconciliations to (loss) income before income taxes follow. For 2011 and 2010, each segment s income (loss) has been adjusted for the effects of applying retrospectively the refined allocations, with the offset in unallocated corporate expenses. For these periods, unallocated corporate expenses also have been adjusted for the effects of applying retrospectively the change in accounting principle as described in Note 2, Recent Accounting Pronouncements and Change in Accounting Principle.

		2011			2010		
	2012	As adjusted	Adjustments	As originally reported	As adjusted	Adjustments	As originally reported
				(Dollars in thousands)			
Electronic Materials	$ (16,122)	$ 68,024	$ (6,845)	$ 74,869	$ 132,009	$ (576)	$ 132,585
Performance Coatings	26,306	34,033	(3,955)	37,988	31,403	(8,013)	39,416
Color and Glass Performance Materials	26,115	29,672	(2,655)	32,327	26,032	(5,482)	31,514
Polymer Additives	12,711	15,784	563	15,221	16,027	(2,360)	18,387
Specialty Plastics	14,057	9,428	(93)	9,521	13,413	2,065	11,348
Pharmaceuticals	2,409	3,744	694	3,050	4,699	3,885	814
Total segment income	65,476	160,685	(12,291)	172,976	223,583	(10,481)	234,064
Unallocated corporate expenses	70,272	83,764	29,173	54,591	45,119	(24,016)	69,135
Restructuring and impairment charges	225,819	17,030		17,030	63,732		63,732
Other expense, net	32,934	35,419		35,419	77,456		77,456
(Loss) income before income taxes	$ (263,549)	$ 24,472	$ (41,464)	$ 65,936	$ 37,276	$ 13,535	$ 23,741

The following table details depreciation and amortization expense by segment:

	2012	2011	2010
		(Dollars in thousands)	
Electronic Materials	$ 7,009	$ 10,092	$ 11,586
Performance Coatings	18,761	17,415	17,004
Color and Glass Performance Materials	4,053	6,088	7,012
Polymer Additives	10,979	10,999	10,776
Specialty Plastics	1,858	2,014	2,369
Pharmaceuticals	2,036	2,039	2,073
Total segment depreciation and amortization	44,696	48,647	50,820
Unallocated depreciation and amortization	12,688	14,846	26,116
Total depreciation and amortization	$ 57,384	$ 63,493	$ 76,936

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

Segment assets primarily consist of trade accounts receivable; inventories; property, plant and equipment; and intangible assets. Unallocated assets primarily include cash and cash equivalents, other receivables, corporate property, plant and equipment, other non-current assets, and deferred income taxes. Total assets at December 31st by segment are detailed below:

	2012	2011
	(Dollars in thousands)	
Electronic Materials	$ 86,388	$ 320,071
Performance Coatings	366,068	366,329
Color and Glass Performance Materials	257,722	254,813
Polymer Additives	110,865	127,280
Specialty Plastics	48,327	48,372
Pharmaceuticals	25,441	28,294
Total segment assets	894,811	1,145,159
Unallocated assets	184,292	295,492
Total assets	$ 1,079,103	$ 1,440,651

Each segment s expenditures for long-lived assets, including acquisitions, are detailed below:

	2012	2011	2010
		(Dollars in thousands)	
Electronic Materials	$ 10,154	$ 15,887	$ 9,308
Performance Coatings	14,237	24,115	19,748
Color and Glass Performance Materials	15,906	11,873	19,472
Polymer Additives	6,310	8,703	5,404
Specialty Plastics	546	1,235	968
Pharmaceuticals	383	870	860
Total segment expenditures for long-lived assets	47,536	62,683	55,760
Unallocated corporate expenditures for long-lived assets	11,149	10,030	1,905
Total expenditures for long-lived assets	$ 58,685	$ 72,713	$ 57,665

We sell our products throughout the world and we attribute sales to countries based on the country where we generate the customer invoice. No single country other than the U.S. and Spain represents greater than 10% of our net sales. We have detailed net sales by geographic region in the table below:

	2012	2011	2010
		(Dollars in thousands)	
United States	$ 764,596	$ 1,022,120	$ 1,039,457
Spain	258,210	340,588	319,711
Other international	745,825	793,084	742,697
Total net sales	$ 1,768,631	$ 2,155,792	$ 2,101,865

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

None of our operations in countries other than the U.S. and Spain owns greater than 10% of consolidated long-lived assets. We have detailed long-lived assets that consist of property, plant and equipment, goodwill, and amortizable intangible assets by geographic region at December 31st in the table below:

	2012	2011
	(Dollars in thousands)	
United States	$ 169,951	$ 378,884
Spain	70,707	84,789
Other international	161,447	142,320
Total long-lived assets	$ 402,105	$ 605,993

18. Unconsolidated Affiliates Accounted For Under the Equity Method

We participate in several joint ventures that are located in Spain, Italy, South Korea, and Thailand through investments in the common stock of affiliated companies. At December 31, 2012, our percentage of ownership interest in these affiliates ranged from 36% to 50%. Because we exert significant influence over these affiliates, but we do not control them, our investments have been accounted for under the equity method. Investment income from these equity-method investments, which is reported in miscellaneous expense (income), net was $0.9 million in 2012, $3.0 million in 2011, and $1.1 million in 2010. The balance of our equity-method investments, which is reported in other non-current assets, was $18.0 million at December 31, 2012, and $17.5 million at December 31, 2011.

The income that we record for these investments is equal to our proportionate share of the affiliates income and our investments are equal to our proportionate share of the affiliates shareholders equity based on our ownership percentage. We have summarized below condensed income statement and balance sheet information for the combined equity method investees:

	2012	2011	2010
		(Dollars in thousands)	
Net sales	$ 91,545	$ 104,377	$ 75,582
Gross profit	21,328	26,206	19,277
Income from continuing operations	3,510	7,735	3,429
Net income	2,388	5,644	2,774

	2012	2011
	(Dollars in thousands)	
Current assets	$ 57,962	$ 59,185
Non-current assets	26,483	26,697
Current liabilities	(19,027)	(21,759)
Non-current liabilities	(554)	(948)

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

We had the following transactions with our equity-method investees:

	2012	2011	2010
	(Dollars in thousands)		
Sales	$ 4,630	$ 8,893	$ 8,928
Purchases	8,093	9,655	5,048
Dividends and interest received	1,324	1,162	636
Commissions and royalties received	436	402	173
Commissions and royalties paid	77	77	88

19. Quarterly Data (Unaudited)

	Net Sales	Gross Profit	Net Income (Loss)	Net Income (Loss) Attributable to Ferro Corporation	Earnings (Loss) Attributable to Ferro Corporation Common Shareholders Per Common Share	
					Basic	Diluted
	(Dollars in thousands, except per share data)					
2011						
Quarter 1 as originally reported	$ 573,009	$ 120,326	$ 23,191	$ 22,890	$ 0.26	$ 0.26
Effect of accounting change			2,043	2,043	0.03	0.02
Quarter 1 as adjusted	573,009	120,326	25,234	24,933	0.29	0.28
Quarter 2 as originally reported	593,974	114,347	19,621	19,389	0.23	0.22
Effect of accounting change			1,736	1,736	0.02	0.02
Quarter 2 as adjusted	593,974	114,347	21,357	21,125	0.25	0.24
Quarter 3	546,114	103,810	19,348	19,308	0.22	0.22
Quarter 4	442,695	73,749	(60,805)	(60,962)	(0.71)	(0.71)
Total	$ 2,155,792	$ 412,232	$ 5,134	$ 4,404	$ 0.05	$ 0.05
2012						
Quarter 1 as originally reported	$ 466,390	$ 88,323	$ 1,414	$ 1,290	$ 0.01	$ 0.01
Effect of accounting change			2,556	2,556	0.03	0.03
Quarter 1 as adjusted	466,390	88,323	3,970	3,846	0.04	0.04
Quarter 2 as originally reported	481,505	87,845	(2,518)	(2,848)	(0.03)	(0.03)
Effect of accounting change			4,724	4,724	0.05	0.05
Quarter 2 as adjusted	481,505	87,845	2,206	1,876	0.02	0.02
Quarter 3	414,840	62,339	(315,738)	(316,114)	(3.66)	(3.66)
Quarter 4	405,896	59,355	(63,472)	(63,876)	(0.74)	(0.74)
Total	$ 1,768,631	$ 297,862	$ (373,034)	$ (374,268)	$ (4.34)	$ (4.34)

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2012, 2011 and 2010 (Continued)

Quarterly data for the first two quarters of 2011 and 2012 have been adjusted for the effects of applying retrospectively the change in accounting principle as described in Note 2, Recent Accounting Pronouncements and Change in Accounting Principle. Quarterly earnings per share amounts do not always add to the full-year amounts due to the averaging of shares.

Pre-tax restructuring and impairment charges in 2011 were $1.6 million in the first quarter, $1.5 million in the second quarter, $0.9 million in the third quarter and $13.0 million in the fourth quarter. Pre-tax restructuring and impairment charges in 2012 were $0.3 million in the first quarter, $4.7 million in the second quarter, $198.8 million in the third quarter, and $22.0 million in the fourth quarter. Mark-to-market actuarial net losses were $51.8 million in the fourth quarter of 2011 and $26.9 million in the fourth quarter of 2012.

20. Subsequent Event

On February 6, 2013, we sold assets related to our solar pastes business to Heraeus Precious Metals North America Conshocken LLC (Heraeus LLC). The assets sold included, among other things, certain machinery and equipment, certain open orders, raw materials and silver paste required for purchased open orders, and intellectual property. The cash consideration for the assets sold was $10.9 million. The gain from the sale is estimated to be approximately $10 million. In addition, Heraeus LLC provided approximately $12 million of precious metals, which was used to reduce amounts outstanding under our precious metal consignment arrangements. As part of the sale, certain Ferro employees are expected to transfer to Heraeus LLC.

Table of Contents

Item 9 ***Changes in and Disagreements with Accountants on Accounting and Financial Disclosure***

None.

Item 9A ***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.

The Company s management, under the supervision and with the participation of the Chief Executive Officer and the Chief Financial Officer, evaluated the effectiveness of the design and operation of the Company s disclosure controls and procedures, as defined in Exchange Act Rule 13a-15(e), as of December 31, 2012. Based on that evaluation, management concluded that the disclosure controls and procedures were effective as of December 31, 2012.

Management s Annual Report on Internal Control over Financial Reporting

The Company s management is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Exchange Act Rule 13a-15(f). The Company s internal control system is a process designed by, or under the supervision of, the Company s principal executive and principal financial officers, or persons performing similar functions, and effected by the Company s board of directors, management and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with U.S. generally accepted accounting principles (U.S. GAAP).

The Company s internal control over financial reporting includes policies and procedures that pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect transactions and dispositions of assets; provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with U.S. GAAP, and that receipts and expenditures are being made only in accordance with the authorization of its management and directors; and provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the Company s assets that could have a material effect on its consolidated financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Management assessed the effectiveness of the Company s internal control over financial reporting as of December 31, 2012. In making this assessment, the Company used the control criteria framework of the Committee of Sponsoring Organizations of the Treadway Commission published in its report entitled *Internal Control Integrated Framework*. Management concluded that the Company s internal control over financial reporting was effective as of December 31, 2012.

Deloitte & Touche LLP, the independent registered public accounting firm that audited the Company s consolidated financial statements, has issued an attestation report on the Company s internal control over financial reporting as of December 31, 2012, which is included below.

Table of Contents

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of Ferro Corporation

Cleveland, Ohio

We have audited the internal control over financial reporting of Ferro Corporation and subsidiaries (the Company) as of December 31, 2012, based on criteria established in *Internal Control Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission. The Company s management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management s Annual Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company s internal control over financial reporting based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

A company s internal control over financial reporting is a process designed by, or under the supervision of, the company s principal executive and principal financial officers, or persons performing similar functions, and effected by the company s board of directors, management, and other personnel to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company s internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company s assets that could have a material effect on the financial statements.

Because of the inherent limitations of internal control over financial reporting, including the possibility of collusion or improper management override of controls, material misstatements due to error or fraud may not be prevented or detected on a timely basis. Also, projections of any evaluation of the effectiveness of the internal control over financial reporting to future periods are subject to the risk that the controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2012, based on the criteria established in *Internal Control Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated financial statements and financial statement schedule as of and for the year ended December 31, 2012 of the Company and our report dated March 5, 2013 expressed an unqualified opinion on those financial statements and financial statement schedule and includes an explanatory paragraph regarding the Company s election to change their method of recognizing defined benefit pension and other postretirement benefit expense.

/s/ Deloitte & Touche LLP

Cleveland, Ohio

March 5, 2013

Table of Contents

Changes in Internal Control over Financial Reporting and Other Remediation

During the fourth quarter of 2012, there were no changes in our internal controls or in other factors that materially affected, or are reasonably likely to materially affect, our internal controls over financial reporting.

Item 9B ***Other Information***

None.

Table of Contents

PART III

Item 10 ***Directors, Executive Officers and Corporate Governance***

The information on Ferro s directors is contained under the heading Election of Directors of the Proxy Statement for Ferro Corporation s 2013 Annual Meeting of Shareholders and is incorporated here by reference. The information about the Audit Committee and the Audit Committee financial expert is contained under the heading Corporate Governance Board Committees Audit Committee of the Proxy Statement for Ferro Corporation s 2013 Annual Meeting of Shareholders and is incorporated here by reference. Information on Ferro s executive officers is contained under the heading Executive Officers of the Registrant in Part 1 of this Annual Report on Form 10-K. Section 16(a) filing information is contained under the heading Shareholdings Section 16(a) Beneficial Ownership Reporting Compliance of the Proxy Statement for Ferro Corporation s 2013 Annual Meeting of Shareholders and is incorporated here by reference.

Ferro has adopted a series of policies dealing with business and ethics. These policies apply to all Ferro Directors, officers and employees. A summary of these policies may be found on Ferro s Web site and the full text of the policies is available in print, free of charge, by writing to: General Counsel, Ferro Corporation, 6060 Parkland Blvd., Mayfield Heights, Ohio, 44124, USA. Exceptions, waivers and amendments of those policies may be made, if at all, only by the Audit Committee of the Board of Directors, and, in the event any such exceptions, waivers or amendments are granted, a description of the change or event will be posted on Ferro s Web site (www.ferro.com) within four business days. Ferro maintains a worldwide hotline that allows employees throughout the world to report confidentially any detected violations of these legal and ethical conduct policies consistent with local legal requirements and subject to local legal limitations.

Item 11 ***Executive Compensation***

The information on executive compensation is contained under the headings Executive Compensation Discussion & Analysis and 2012 Executive Compensation of the Proxy Statement for Ferro Corporation s 2013 Annual Meeting of Shareholders and is incorporated here by reference.

Item 12 ***Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters***

The information on security ownership of certain beneficial owners and management is contained under the headings Shareholdings Stock Ownership by Other Major Shareholders and Shareholdings Stock Ownership by Director, Executive Officers and Employees of the Proxy Statement for Ferro Corporation s 2013 Annual Meeting of Shareholders and is incorporated here by reference.

The numbers of shares issued and available for issuance under Ferro s equity compensation plans as of December 31, 2012, were as follows:

Equity Compensation Plan	Number of Shares to Be Issued on Exercise of Outstanding Options, and Other Awards	Weighted-Average Exercise Price of Outstanding Options, and Other Awards	Number of Shares Remaining Available for Future Issuance Under Equity Compensation Plans(1)
Approved by Ferro Shareholders	4,663,362 shares(2)	$ 13.40	2,856,014 shares(3)
Not Approved by Ferro Shareholders	98,760 shares		0 shares
Total	4,762,122 shares	$ 13.40(4)	2,856,014 shares

(1) Excludes shares listed in the second column.
(2) Includes options and other awards issued under the Company s 2010 Long-Term Incentive Compensation Plan and prior equity compensation plans.

Table of Contents

(3) Shares are only available under the 2010 Long-Term Incentive Plan and may be issued as stock options, stock appreciation rights, restricted shares, performance shares, and other common stock-based awards.

(4) Weighted-average exercise price of outstanding options and other awards; excludes phantom units.

A description follows of the material features of each plan that was not approved by Ferro shareholders:

Executive Employee Deferred Compensation Plan. The Executive Employee Deferred Compensation Plan allows participants to defer up to 75% of annual base salary and up to 100% of incentive cash bonus awards and cash performance share payouts. Participants may elect to have all or a portion of their deferred compensation accounts deemed to be invested in shares of Ferro Common Stock and credited with hypothetical appreciation, depreciation, and dividends. When distributions are made from this Plan in respect of such shares, the distributions are made in actual shares of Ferro Common Stock.

Supplemental Executive Defined Contribution Plan. The Supplemental Executive Defined Contribution Plan allows participants to be credited annually with matching and basic pension contributions that they would have received under the Company s 401(k) plan except for the applicable IRS limitations on compensation and contributions. Contributions vest at 20% for each year of service, are deemed invested in Ferro Common Stock and earn dividends. Distributions are made in Ferro Common Stock or in cash.

Item 13 ***Certain Relationships and Related Transactions, and Director Independence***

There are no relationships or transactions that are required to be reported. The information about director independence is contained under the heading Corporate Governance Director Independence of the Proxy Statement for Ferro Corporation s 2013 Annual Meeting of Shareholders and is incorporated here by reference.

Item 14 ***Principal Accountant Fees and Services***

The information contained under the heading Other Independent Registered Public Accounting Firm Information Fees of the Proxy Statement for Ferro Corporation s 2013 Annual Meeting of Shareholders is incorporated here by reference.

Table of Contents

PART IV

Item 15 ***Exhibits and Financial Statement Schedules***

The following documents are filed as part of this Annual Report on Form 10-K:

(a) The consolidated financial statements of Ferro Corporation and subsidiaries contained in Part II, Item 8 of this Annual Report on Form 10-K:

Consolidated Statements of Operations for the years ended December 31, 2012, 2011 and 2010;

Consolidated Statements of Comprehensive (Loss) Income for the years ended December 31, 2012, 2011 and 2010;

Consolidated Balance Sheets at December 31, 2012 and 2011;

Consolidated Statements of Equity for the years ended December 31, 2012, 2011 and 2010;

Consolidated Statements of Cash Flows for the years ended December 31, 2012, 2011 and 2010; and

Notes to Consolidated Financial Statements

(b) Schedule II Valuation and Qualifying Accounts and Reserves for the years ended December 31, 2012, 2011 and 2010, contained on page 108 of this Annual Report on Form 10-K. All other schedules have been omitted because the material is not applicable or is not required as permitted by the rules and regulations of the U.S. Securities and Exchange Commission, or the required information is included in the consolidated financial statements.

(c) The exhibits listed in the Exhibit Index beginning on page 109 of this Annual Report on Form 10-K.

Table of Contents

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this Annual Report on Form 10-K to be signed on its behalf by the undersigned, thereunto duly authorized.

FERRO CORPORATION

By /s/ Peter T. Thomas
Peter T. Thomas
Interim President and Chief Executive Officer

Date: March 5, 2013

Pursuant to the requirements of the Securities Exchange Act of 1934, this Annual Report on Form 10-K has been signed below by the following persons on behalf of the Registrant and in their indicated capacities as of the 5th day of March 2013.

/s/ Peter T. Thomas Peter T. Thomas	Interim President and Chief Executive Officer (Principal Executive Officer)
/s/ Jeffrey L. Rutherford Jeffrey L. Rutherford	Vice President and Chief Financial Officer (Principal Financial and Accounting Officer)
/s/ Sandra Austin Sandra Austin	Director
/s/ Richard C. Brown Richard C. Brown	Director
/s/ Richard J. Hipple Richard J. Hipple	Director
/s/ Jennie S. Hwang Jennie S. Hwang	Director
/s/ Gregory E. Hyland Gregory E. Hyland	Director
/s/ Peter T. Kong Peter T. Kong	Director
/s/ William B. Lawrence William B. Lawrence	Acting Chairman
/s/ Timothy K. Pistell Timothy K. Pistell	Director
/s/ Ronald P. Vargo	Director

Ronald P. Vargo

Table of Contents

FERRO CORPORATION AND SUBSIDIARIES

SCHEDULE II VALUATION AND QUALIFYING ACCOUNTS AND RESERVES

Years Ended December 31, 2012, 2011 and 2010

	Balance at Beginning of Period	Additions Charged (Reductions Credited) to Costs and Expenses	Other Accounts	Deductions	Adjustment for Differences in Exchange Rates	Balance at End of Period
			(Dollars in thousands)			
Allowance for Possible Losses on Collection of Accounts Receivable:						
Year ended December 31, 2012	$ 10,443	5,217		(1,487)	195	$ 14,368
Year ended December 31, 2011	$ 11,156	2,349		(2,782)	(280)	$ 10,443
Year ended December 31, 2010	$ 10,685	2,935		(2,091)	(373)	$ 11,156
Valuation Allowance on Net Deferred Tax Assets:						
Year ended December 31, 2012	$ 37,060	182,722			1,472	$ 221,254
Year ended December 31, 2011	$ 26,815	11,335			(1,090)	$ 37,060
Year ended December 31, 2010	$ 17,969	9,608			(762)	$ 26,815

Table of Contents

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:	
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 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 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	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 14, 2011).
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 Notes 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). 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	Material contracts
10.1	Second Amendment to Third Amended and Restated Credit Agreement, dated June 15, 2012, by and among Ferro Corporation, certain of Ferro Corporation s subsidiaries, PNC Bank, National Association, as the Administrative Agent and the collateral Agent, and various financial institutions as Lenders (incorporated by reference to Exhibit 10.1 to Ferro Corporation s Current Report on Form 8-K, filed June 19, 2012).
10.2	First Amendment to Third Amended and Restated Credit Agreement, Amended and Restated Pledge and Security Agreement and Amended and Restated Subsidiary Guaranty (Domestic) (incorporated by reference to Exhibit 10.1 to Ferro Corporation s Quarterly Report on Form 10-Q for the quarter ended June 30, 2011).

Table of Contents

10.3	Third Amended and Restated Credit Agreement, dated August 24, 2010, by and among Ferro Corporation, PNC Bank, National Association, as the Administrative Agent, the Collateral Agent and the Issuer, and JPMorgan Chase Bank, N.A. and Bank of America, N.A., as the Syndication Agents (incorporated by reference to Exhibit 10.1 to Ferro Corporation s Current Report on Form 8-K, filed August 24, 2010).
10.4	First Amendment to Second Amended and Restated Credit Agreement, dated July 26, 2010, by and among Ferro Corporation, the several banks and other financial institutions or entities listed on the signature pages hereto as Lenders, Credit Suisse AG, Cayman Islands Branch, as Original Term Loan Administrative Agent, and PNC Bank, National Association, as New Term Loan Administrative Agent and as Revolving Loan Administrative Agent (incorporated by reference to Exhibit 10.1 to Ferro Corporation s Current Report on Form 8-K, filed July 27, 2010).
10.5	Second Amended and Restated Credit Agreement, dated October 26, 2009, among Ferro Corporation and certain of its subsidiaries; various financial institutions; Credit Suisse, Cayman Islands Branch; PNC Bank, National Association; National City Bank; KeyBank National Association; and Citigroup Global Markets, Inc. (incorporated by reference to Exhibit 10.1 to Ferro Corporation s Current Report on Form 8-K, filed October 27, 2009).
10.6	Amendment and Restatement and Resignation and Appointment Agreement, dated October 26, 2009, among Ferro Corporation; the several banks and other financial institutions or entities listed on the signature pages thereto; Credit Suisse, Cayman Islands Branch,; National City Bank; and PNC Bank, National Association (incorporated by reference to Exhibit 10.2 to Ferro Corporation s Current Report on Form 8-K, filed October 27, 2009).
10.7	First Amendment to Purchase Agreement, dated as of May 31, 2011, between Ferro Corporation and Ferro Pfanstiehl Laboratories, Inc. (incorporated by reference to Exhibit 10.1 to Ferro Corporation s Current Report on Form 8-K, filed June 3, 2011).
10.8	Purchase Agreement, dated June 2, 2009, among Ferro Corporation, Ferro Color & Glass Corporation, and Ferro Pfanstiehl Laboratories, Inc. (incorporated by reference to Exhibit 10.1 to Ferro Corporation s Current Report on Form 8-K, filed June 3, 2009).
10.9	First Amendment to Purchase and Contribution Agreement, dated as of May 31, 2011, between Ferro Corporation and Ferro Finance Corporation (incorporated by reference to Exhibit 10.2 to Ferro Corporation s Current Report on Form 8-K, filed June 3, 2011).
10.10	Purchase and Contribution Agreement, dated June 2, 2009, between Ferro Corporation and Ferro Finance Corporation (incorporated by reference to Exhibit 10.2 to Ferro Corporation s Current Report on Form 8-K, filed June 3, 2009).
10.11	First Amendment to Amended and Restated Receivables Purchase Agreement, dated as of May 29, 2012, among Ferro Finance Corporation, Ferro Corporation, Market Street Funding, LLC, and PNC Bank, National Association (incorporated by reference to Exhibit 10.1 to Ferro Corporation s Current Report on Form 8-K, filed May 31, 2012).
10.12	Amended and Restated Receivables Purchase Agreement, dated as of May 31, 2011, among Ferro Finance Corporation, Ferro Corporation, Market Street Funding, LLC, and PNC Bank, National Association (incorporated by reference to Exhibit 10.3 to Ferro Corporation s Current Report on Form 8-K, filed June 3, 2011).
10.13	Ferro Corporation Employee Stock Option Plan (incorporated by reference to Exhibit 10.13 to Ferro Corporation s Annual Report on Form 10-K for the year ended December 31, 2011).*
10.14	Ferro Corporation 2003 Long-Term Incentive Compensation Plan (incorporated by reference to Exhibit 10.16 to Ferro Corporation s Annual Report on Form 10-K for the year ended December 31, 2008).*
10.15	Form of Terms of Incentive Stock Option Award Grants under the Ferro Corporation 2003 Long-Term Incentive Compensation Plan (incorporated by reference to Exhibit 10.17 to Ferro Corporation s Annual Report on Form 10-K for the year ended December 31, 2008).*

Table of Contents

10.16	Form of Terms of Performance Share Awards under the Ferro Corporation 2003 Long-Term Incentive Compensation Plan (incorporated by reference to Exhibit 10.18 to Ferro Corporation s Annual Report on Form 10-K for the year ended December 31, 2008).*
10.17	Ferro Corporation 2006 Long-Term Incentive Plan (incorporated by reference to Exhibit 10.17 to Ferro Corporation s Annual Report on Form 10-K for the year ended December 31, 2011).*
10.18	Form of Terms of Incentive Stock Option Award Grants under the Ferro Corporation 2006 Long-Term Incentive Compensation Plan (incorporated by reference to Exhibit 10.20 to Ferro Corporation s Annual Report on Form 10-K for the year ended December 31, 2008).*
10.19	Form of Terms of Nonstatutory Stock Option Grants under the Ferro Corporation 2006 Long-Term Incentive Compensation Plan (incorporated by reference to Exhibit 10.21 to Ferro Corporation s Annual Report on Form 10-K for the year ended December 31, 2008).*
10.20	Form of Terms of Performance Share Awards under the Ferro Corporation 2006 Long-Term Incentive Compensation Plan (incorporated by reference to Exhibit 10.22 to Ferro Corporation s Annual Report on Form 10-K for the year ended December 31, 2008).*
10.21	Form of Terms of Restricted Share Awards under the Ferro Corporation 2006 Long-Term Incentive Compensation Plan (incorporated by reference to Exhibit 10.23 to Ferro Corporation s Annual Report on Form 10-K for the year ended December 31, 2008).*
10.22	Form of Terms of Deferred Stock Unit Awards under the Ferro Corporation 2006 Long-Term Incentive Compensation Plan (incorporated by reference to Exhibit 10.24 to Ferro Corporation s Annual Report on Form 10-K for the year ended December 31, 2008).*
10.23	Ferro Corporation 2010 Long-Term Incentive Plan (incorporated by reference to Exhibit 10.1 to Ferro Corporation s Current Report on Form 8-K, filed May 6, 2010).*
10.24	Form of Terms of Nonstatutory Stock Option Grants under the Ferro Corporation 2010 Long-Term Incentive Plan (incorporated by reference to Exhibit 10.1 to Ferro Corporation s Quarterly Report on Form 10-Q for the quarter ended March 31, 2012).*
10.25	Form of Terms of Performance Share Unit Awards under the Ferro Corporation 2010 Long-Term Incentive Plan (incorporated by reference to Exhibit 10.2 to Ferro Corporation s Quarterly Report on Form 10-Q for the quarter ended March 31, 2012).*
10.26	Form of Terms of Restricted Share Unit Awards under the Ferro Corporation 2010 Long-Term Incentive Plan (incorporated by reference to Exhibit 10.3 to Ferro Corporation s Quarterly Report on Form 10-Q for the quarter ended March 31, 2012).*
10.27	Amendment to the Ferro Corporation Deferred Compensation Plan for Executive Employees (incorporated by reference to Exhibit 10.18 to Ferro Corporation s Annual Report on Form 10-K for the year ended December 31, 2009).*
10.28	Ferro Corporation Deferred Compensation Plan for Executive Employees.*
10.29	Ferro Corporation Deferred Compensation Plan for Non-Employee Directors.*
10.30	Ferro Corporation Deferred Compensation Plan for Non-Employee Directors Trust Agreement (incorporated by reference to Exhibit 10.26 to Ferro Corporation s Annual Report on Form 10-K for the year ended December 31, 2011).*
10.31	Ferro Corporation Supplemental Defined Benefit Plan for Executive Employees.*
10.32	Amendment to the Ferro Corporation Supplemental Defined Contribution Plan for Executive Employees (incorporated by reference to Exhibit 10.23 to Ferro Corporation s Annual Report on Form 10-K for the year ended December 31, 2009).*
10.33	Ferro Corporation Supplemental Defined Contribution Plan for Executive Employees.*
10.34	Form of Indemnification Agreement (incorporated by reference to Exhibit 10.1 to Ferro Corporation s Current Report on Form 8-K, filed June 27, 2012).*

Table of Contents

10.35	Form of Change in Control Agreement, dated January 1, 2009 (Mark H. Duesenberg, Ann E. Killian, Jeffrey L. Rutherford, and Peter T. Thomas have entered into this form of change in control agreement.) (incorporated by reference to Exhibit 10.2 to Ferro Corporation s Current Report on Form 8-K, filed January 7, 2009).*
10.36	Terms of Forfeited Bonus Reimbursement for Mr. Jeffrey L. Rutherford (incorporated by reference to Exhibit 10.5 to Ferro Corporation s Quarterly Report on Form 10-Q for the quarter ended March 31, 2012).*
10.37	Ferro Corporation Executive Separation Policy (incorporated by reference to Exhibit 10.1 to Ferro Corporation s Current Report on Form 8-K, filed June 28, 2010).*
10.38	Separation and Release Agreement, dated as of July 14, 2010, between Sallie B. Bailey and Ferro Corporation (incorporated by reference to Exhibit 10.1 to Ferro Corporation s Current Report on Form 8-K, filed July 20, 2010).*
10.39	Separation and Release Agreement, dated as of October 16, 2012, between Michael J. Murry and Ferro Corporation (incorporated by reference to Exhibit 10.1 to Ferro Corporation s Current Report on Form 8-K, filed October 19, 2012).*
10.40	Separation and Release Agreement, dated as of November 19, 2012, between James F. Kirsch and Ferro Corporation.*
10.41	Letter Agreement, dated November 12, 2012, between Peter T. Thomas and Ferro Corporation.*
10.42	Letter Agreement, dated November 12, 2012, between Jeffry L. Rutherford and Ferro Corporation.*
10.43	Annual Incentive Plan (AIP) Summary Document (incorporated by reference to Exhibit 10.38 to Ferro Corporation s Annual Report on Form 10-K for the year ended December 31, 2010).*
12	Ratio of Earnings to Fixed Charges and Ratio of Earnings to Combined Fixed Charges and Preferred Stock Dividends.
21	List of Subsidiaries.
23.1	Consent of Independent Registered Public Accounting Firm.
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.**

Table of Contents

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.

** In accordance with Rule 406T of Regulation S-T, the XBRL related information in Exhibit 101 to this Annual Report on Form 10-K shall not be deemed to be filed for purposes of Section 18 of the Securities Exchange Act of 1934, or otherwise subject to the liability of that section, and shall not be part of any registration statement or other document filed under the Securities Act of 1933 or the Securities Exchange Act of 1934, except as shall be expressly set forth by specific reference in such filing.