## Refractories Markets

The principal market for the Company's refractory products is the steel industry. Management believes that certain trends in the steel industry will provide growth opportunities for the Company. These trends include growth and quality improvements in select geographic regions (e.g., China, Middle East, Eastern Europe and India) the development of improved manufacturing processes such as thin-slab casting, the trend in North America to shift production from integrated mills to electric arc furnaces (mini-mills) and the ever-increasing need for improved productivity and longer lasting refractories.

The Company sells its refractory products in the following markets:

*Steel Furnace.* The Company sells gunnable monolithic refractory products and application systems to users of basic oxygen furnaces and electric arc furnaces for application on furnace walls to prolong the life of furnace linings.

Other Iron and Steel. The Company sells monolithic refractory materials and pre-cast refractory shapes for iron and steel ladles, vacuum degassers, continuous casting tundishes, blast furnaces and reheating furnaces. The Company offers a full line of materials to satisfy most continuous casting refractory applications. This full line consists of gunnable materials, refractory shapes and permanent linings.

Industrial Refractory Systems. The Company sells refractory shapes and linings to non-steel refractories consuming industries including glass, cement, aluminum and petrochemicals, power generation and other non-steel industries. The Company also produces a specialized line of carbon composites and pyrolitic graphite primarily sold under the PYROID® trademark, primarily to the aerospace and electronics industries.

## Metallurgical Products and Markets

The Company produces a number of other technologically advanced products for the steel industry, including calcium metal, metallurgical wire products and a number of metal treatment specialty products. Net sales of metallurgical products were \$84.4 million, \$79.3 million and \$81.4 million for the years ended December 31, 2013, 2012 and 2011. The Company manufactures calcium metal at its Canaan, Connecticut, facility and purchases calcium in international markets. Calcium metal is used in the manufacture of the Company's PFERROCAL® solid-core calcium wire, and is also sold for use in the manufacture of batteries and magnets. We also manufacture cored wires at our Canaan, Connecticut and Hengelo, Netherlands, manufacturing sites. The Company sells metallurgical wire products and associated wire-injection equipment for use in the production of high-quality steel. These metallurgical wire products are injected into molten steel to improve castability and reduce imperfections. The steel produced is used for high-pressure pipeline and other premium-grade steel applications.

## **Marketing and Sales**

The Company relies principally on its worldwide direct sales force to market its products. The direct sales force is augmented by technical service teams that are familiar with the industries to which the Company markets its products, and by several regional distributors. The Company's sales force works closely with the Company's technical service staff to solve technical and other issues faced by the Company's customers. The Company's technical service staff assists paper producers in ongoing evaluations of the use of PCC for paper coating and filling applications. In the Refractory segment, the Company's technical service personnel advise on the use of refractory materials, and, in many cases pursuant to service agreements, apply the refractory materials to the customers' furnaces and other vessels. Continued use of skilled technical service teams is an important component of the Company's business strategy.

The Company works closely with its customers to ensure that their requirements are satisfied, and it often trains and supports customer personnel in the use of the Company's products. The Company oversees domestic marketing and sales activities from Bethlehem, Pennsylvania, and from regional sales offices in the eastern and western United States. The Company's international marketing and sales efforts are directed from regional centers located in Brussels, Belgium; Sao Jose Dos Campos, Brazil; and Shanghai, China. The Company believes its processed minerals are at regional locations that satisfy the stringent delivery requirements of the industries they serve. The Company also believes that its worldwide network of sales personnel and manufacturing sites facilitates the continued international expansion.

## **Raw Materials**

The Company depends in part on having an adequate supply of raw materials for its manufacturing operations, particularly lime and carbon dioxide for the PCC product line, magnesia and alumina for its Refractory operations, and on having adequate access to ore reserves at its mining operations.

The Company uses lime in the production of PCC and is a significant purchaser of lime worldwide. Generally, the lime utilized in our business is readily available from numerous sources and we purchase lime under long-term supply contracts from unaffiliated suppliers located in close geographic proximity to the Company's PCC plants. We also produce lime at our Adams, Massachusetts facility and our Lifford, UK facility, although most of the lime produced at our Adams facility and all of the lime produced at our Lifford facility is consumed in the production of Specialty PCC at the plant. We currently supply some quantities of lime to third