

PCC Markets

Uncoated Wood-Free Printing and Writing Papers – North America. Beginning in the mid-1980's, as a result of a concentrated research and development effort, the Company's satellite PCC plants facilitated the conversion of a substantial percentage of North American uncoated wood-free printing and writing paper producers to lower-cost alkaline papermaking technology. The Company estimates that during 2021, more than 90% of North American uncoated wood-free paper was produced employing alkaline technology. Presently, the Company owns and operates 12 commercial satellite PCC plants located at paper mills that produce uncoated wood-free printing and writing papers in North America.

Uncoated Wood-Free Printing and Writing Papers – Outside North America. The Company estimates the amount of uncoated wood-free printing and writing papers produced outside of North America at facilities that can be served by satellite and merchant PCC plants is more than twice as large (measured in tons of paper produced) as the North American uncoated wood-free paper market currently served by the Company. The Company believes that the superior brightness, opacity and bulking characteristics offered by its PCC products allow it to compete with suppliers of ground limestone and other filler products outside of North America. Presently, the Company owns and operates 38 commercial satellite PCC plants located at paper mills that produce uncoated wood-free printing and writing papers outside of North America. In addition, there are 2 plants currently under construction that will begin production in 2022.

Coated Paper. The Company continues to pursue satellite PCC opportunities in coated paper markets where our products provide unique performance and/or cost reduction benefits to papermakers and printers. Our Opacarb® product line is designed to create value to the papermaker and can be used alone or in combination with other coating pigments. PCC coating products are produced at 7 of the Company's PCC plants worldwide.

Paper Packaging. The Company estimates that paper packaging markets are approximately double the size of the printing and writing paper markets. Growth in the paper packaging segment is driven by growth trends in e-commerce and demand for sustainable packaging solutions. The Company offers mineral solutions for filler and coating applications in both the containerboard and cartonboard packaging segments.

Specialty PCC Products and Markets

The Company also produces and sells a full range of dry PCC products on a merchant basis for non-paper applications. The Company's Specialty PCC product line net sales were \$77.1 million, \$69.3 million and \$69.1 million for the years ended December 31, 2021, 2020 and 2019, respectively. The Company sells surface-treated and untreated grades of PCC to the polymer industry for use in automotive and construction applications, and to the adhesives and printing inks industries. The Company's PCC is also used by the food and pharmaceutical industries as a source of calcium in tablets and food applications, as a buffering agent in tablets, and as a mild abrasive in toothpaste. The Company produces PCC for specialty applications from production sites at Adams, Massachusetts and Lifford, England.

Processed Minerals – Products and Markets

The Company mines and processes natural mineral products, primarily limestone and talc. The Company also manufactures lime, a limestone-based product. The Company's net sales of processed mineral products were \$152.1 million, \$133.2 million and \$140.4 million for the years ended December 31, 2021, 2020 and 2019, respectively. Net sales of ground calcium carbonate ("GCC") products, which are principally lime and limestone, were \$98.1 million, \$89.3 million and \$91.3 million for the years ended December 31, 2021, 2020 and 2019, respectively. Net sales of talc products were \$54.0 million, \$43.9 million and \$49.1 million for the years ended December 31, 2021, 2020 and 2019, respectively.

The Company mines and processes GCC products at its reserves in the eastern and western parts of the United States. GCC is used and sold in the construction, automotive and consumer markets.

Lime produced at the Company's Adams, Massachusetts, and Lifford, United Kingdom, facilities is used primarily as a raw material for the manufacture of PCC at these sites and is sold commercially to various chemical and other industries.

The Company mines, beneficiates and processes talc at its Barretts site, located near Dillon, Montana. Talc is sold worldwide in finely ground form for ceramic applications and in North America for paint and coatings and polymer applications. Because of the exceptional chemical purity of the Barretts ore, a significant portion of worldwide automotive catalytic converter ceramic substrates contain the Company's Barretts talc.

Our high-quality limestone, dolomitic limestone, and talc products are defined primarily by the chemistry and color characteristics of the ore bodies. Ore samples are analyzed by x-ray fluorescence (XRF) and other techniques to determine purity and more generally by Hunter brightness measurement to determine dry brightness and the Hunter yellowness (b) value. We serve multiple markets from each of our operations, each of which has different requirements relating to a combination of chemical and