



## CASE STUDY

**MODULAR VALVES KEEP THE POWDER FLOWING ON MARBLE HILL**

Calcium carbonate is used in an incredible number of ways in our society, from filler materials in paint, paper and plastics to use in antacid tablets and toothpaste, and can be derived from many sources. The purest calcium carbonate, used in foods and pharmaceuticals, often comes from crushing marble rock. The world's leading supplier of calcium carbonate is Imerys, headquartered in Paris, France. Imerys mines and processes minerals of all types in locations around the world. One of its domestic calcium carbonate operations is at Marble Hill in the mountains of northwestern Georgia.

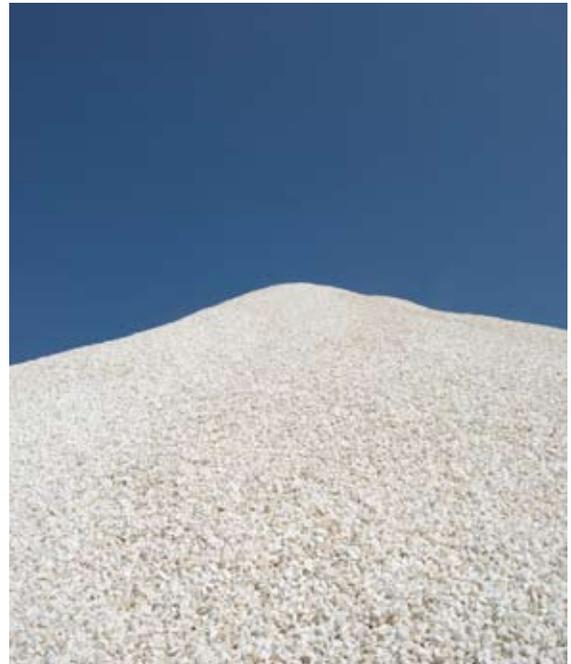
**The Marble Hill operation is an underground mine. Imerys does its own drilling and blasting at the site.** Marble rock is carried out of the mine and through the use of a crusher is reduced to rock fragments uniform in size. Next, the rock is introduced into a mill and is ground into a fine powder, with grains measuring as small as 3 microns in diameter. Finally, the powder is stored in silos awaiting shipment to customers.

Obviously, in a harsh environment such as minerals processing, the performance and reliability of the equipment that produces and handles the powder is critical to Imerys' business. The company is very selective in choosing suppliers of mechanical components that facilitate the production process.

Imerys uses rotary airlocks provided by Precision Machine and Manufacturing, Inc. to transfer the calcium carbonate out of its silos. More than 30 such valves are used around the Marble Hill site. Some of the valves are used under a silo as a feeder to meter the product into a screw conveyer. Other valves are coupled to a blow line for feeding product into trucks for shipment.

The application heavily influences the lifespan that Imerys can get out of each valve. In the case of the blow line valves, there's pressure behind each valve that causes it to wear out faster than the others.

**Imerys has been using Precision valves for more than ten years. One of the reasons for this is Precision's unique approach to valve construction.** "I've used numerous valves from different manufacturers in my 20-year career," said Wayne Hawkins, Maintenance Manager at Imerys' Marble Hill facility. "What I like about Precision's valves is that most rotary airlocks have a cast housing. Once the housing is worn out, the entire valve needs to be replaced. Precision's valves are cut from several pieces of steel and pinned together. When part of the valve wears out, you can replace just that piece."



“By the time I would realize that a cast valve’s tolerance is past its useful life, I would need to scurry around to find another and there may be a long lead time,” continued Wayne Hawkins. “I typically maintain a few valve components in inventory, but if I need to order parts from the plant, Precision has valve components in stock and I can get them in a few days. Then, fixing the problem is simple -- just replacing a side plate or barrel side versus replacing a whole valve saves me in downtime and labor dollars as well as the cost of the valve. Because of the modularity and Precision’s superior metallurgy, it has been my experience that Precision valves can easily last two years longer than cast valves.”

“And Precision Machine has provided outstanding customer service,” adds Wayne. “Our account manager out of Alabama has bent over backwards to do what I need. For example, I was having some problems with one of the valves in one application where there were multiple blowers on the same line. Precision’s engineers stepped in and made some suggestions that helped solve the problem and we’re running fine now. The Precision team has always been willing to help solve a problem.”

**The purest calcium carbonate, used in foods and pharmaceuticals, often comes from crushing marble rock.**



**Lynn Sullivan,**  
**Eastern Sales Manager**  
[lynns@premach.com](mailto:lynns@premach.com)



**For more information,**  
**call toll free 1-800-722-9841**  
**or email [sales@premach.com](mailto:sales@premach.com).**



**PRECISION**

PRECISION MACHINE & MANUFACTURING, INC.

1290 S. Bertelsen Road  
Eugene, Oregon 97402-5700  
541-484-9841 main  
541-484-4094 fax

**[www.premach.com](http://www.premach.com)**