Union process®
Expanding The Possibilities For Size Reduction

Diamonite, Union Process: Opening New Doors in Advanced Ceramics

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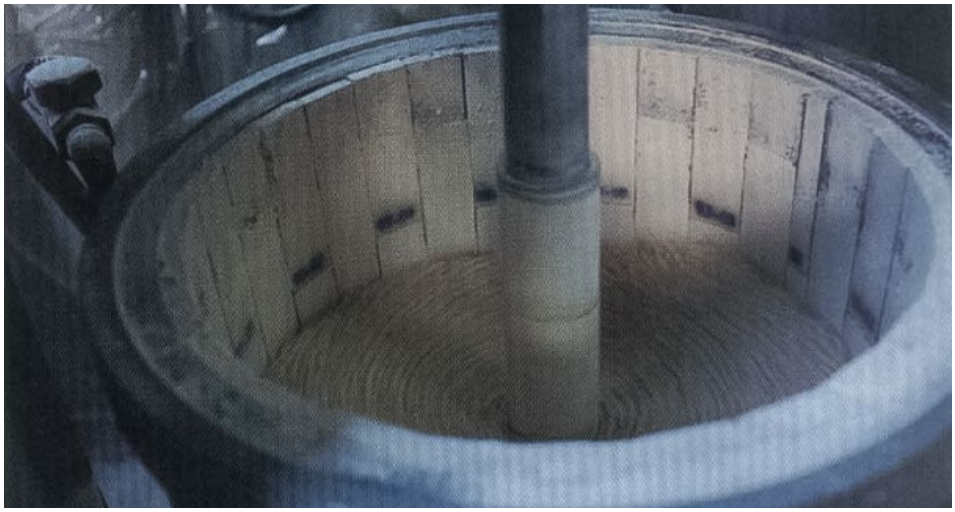

A lot of hard work, and a little coincidence solved a problem for Diamonite Products, and opened the door to the future development in the technology of ceramic applications.

Prior to the 1980s, Diamonite used conventional ball mills to grind raw materials. After 1983, the company focused on developing advanced materials for emerging ceramic applications.

In the development process, new materials were introduced which could not be ground in the same ball mills. The zirconia used by Diamonite is sensitive to silica contamination, which cannot be prevented using traditional ball mills.

Diamonite explored numerous equipment options, including a vibratory dry mill. Unfortunately, the process exceeded the capacity of the motor, and no larger motors were available that could be retro-fitted onto the existing mill to make it work.

A Diamonte Sales Representative recommended calling Union Process, Inc., a manufacturer of Attritors, and coincidentally, a grinding media customer.

Initially, it appeared that an Attritor would be able to handle the specifications. To be certain, Diamonite utilized the Union Process Pilot Plant for testing. Both zirconia and alumina materials were dry milled successfully in the test meeting Diamonite's specifications I terms of speed with which the material was ground, and the final size requirements.

Diamonite then purchased an S-1 Laboratory Batch Attritor for its internal testing procedures. Again, the test results were favorable.

At that point, Diamonite Engineers requested and were authorized to purchase both a dry process Attritor for alumina, and zirconia grinding, and a wet process Attritor for zirconia slurry grinding.

The ideal grinding environment exists when the material being ground matches the lining in the Attritor, and the grinding media used. In this case, Diamonite installed a high purity lining made from zirconia, and zirconia toughened alumina in the Attritor vessel, sleeves, and arms. The Attritors proved to be efficient in all tests.

When Union Process has a customer who requires a high purity grinding environment, they turn to Diamonite to line the components before shipping the equipment.

This has added a horizontal market for Diamonite ceramic products and enables Union Process to provide a customized Attritor to many of its customers.

Attritor stirred ball mill is a product of Union Process, Inc., Akron, OH

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