MEDIA

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Author: U.S Grout Staff

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Title: Ultrafine Cement Grout Seals Fissures in Salt Caverns

The Waste Isolation Pilot Plant (WIPP) in New Mexico was created as a research and development facility to demonstrate safe, long-term disposal of radioactive wastes. However, before waste could be shipped to the plant and placed in containment, fissures in the underground salt cavern had to be sealed.

Since nothing in the cementitious grout market met the criteria required, Sandia National Laboratories, in conjunction with U.S. Grout, LLC, developed and patented a new ultrafine cementitious grout. This unique product, Ultrafine Cement Grout, is stronger and less permeable than existing cementitious grouts, has a high compressive strength, and extremely small particle size (only a few microns, in contrast to typical particle sizes of 60 to 70 microns in conventional cements).

Once the Ultrafine Cement Grout penetrated micro-fractures as small as 6 microns in the substrate, the grout effectively sealed off the cavern from any potential leakage of hazardous material. The resultant permeabilities were so low that they could barely be measured. The stability of the product permitted easy pumping and repetition of successful results.

With the introduction of Ultrafine Cement Grout, the grouting and sealing of rock fractures, weak soils, and seepage in mine, dams, and tunnels, that were previously impermeable to cementitious grouts is now possible. This new product has also created new possibilities in the grouting and sealing of our infrastructure.

Avanti International now offers Ultrafine Cement Grout in two different particle sizes. For more information on these cementitious grouts and their applications, contact your Regional Sales Manager.

822 Bay Star Blvd., Webster, Texas 77598-1528 ? (281) 486-5600 ? (800) 877-2570 ? FAX (281) 486-7300