

Inventions & Innovation Project Abstract

Energy Saving Method of Manufacturing Ceramic Products from Fiber Glass Waste

The U.S. fiber glass industry disposes of more than 260,000 tons of industrial fiber glass waste in landfills annually. New technology is needed to reprocess this industrial waste into useful products. Haun Labs is developing a low-cost energy-saving method of manufacturing ceramic products from fiber glass waste. This method is based on an extension of technology that is currently being developed to manufacture ceramic tile from up to 100% recycled post consumer container glass. Processing fiber glass compared to container glass offers several significant advantages, as well as processing challenges. The technology is based on sintering of fiber glass waste at 700-900° C to produce products that traditionally require firing temperatures of greater than 1200° C, or glass-melting temperatures greater than 1500° C.

The technology offers substantial energy, environmental, and economic benefits compared to current ceramic manufacturing methods. The process completely transforms fiber glass waste into a dense ceramic product so that all future environmental problems in the handling and disposal of the fibers are eliminated. The project establishes the potential of developing a low-cost highly-automated manufacturing process that can transform large quantities of fiber glass waste into high-quality ceramic tile. The ceramic tile industry is large enough to utilize all of the current fiber glass waste in high value-added products. The method can also be adapted to produce other types of ceramic products with similar benefits.



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