

Inventions & Innovation Emerging Technology

Manufacturing Ceramic Products from Waste Glass

Ceramic products have traditionally been processed from raw materials that require high firing temperatures and energy-intensive processing steps. A new technology has been developed that lowers energy costs by substituting raw materials with recycled container-glass waste. Products manufactured by this new method are less sensitive to contaminants in the glass and can be made from difficult-to-recycle green or mixed-color waste glass. Firing temperatures can be reduced by as much as 37%, lowering energy costs and CO2 emissions. The technology has been used to design a low-cost highly-automated manufacturing process for producing ceramic tile from large volumes of waste glass. High-quality ceramic tile have been processed from 92-100% recycled glass with a wide range of colors and surface textures. The technology will also be extended to handle other types of waste glass, including industrial fiber-glass waste.



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