

**USE OF CAULIM AND MARBLE BEGE BAHIA RESIDUE IN THE
PRODUCTION OF CERAMIC TILES**

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RESUMO

In recent years the amount of solid waste generated by mining and mineral processing has been intensifying, due to the increased demand generated by the growth of the global economy and the search for new products. The kaolin processing industry generates huge amounts of waste. In the region of Piemonte da Chapada the highlight in the extraction of Bege Bahia marble blocks is in the city of Ourolandia-BA, and the processing took place in the city of Jacobina-BA. In the extraction of this marble, known as Travertino Nacional marble, there are environmental impacts such as the discharge of liquid effluents from the washing of rocks, maintenance of equipment, maintenance of the local structure, removal of the vegetal cover of the soil that contributes to the increase of the concentration of solids and water turbidity, due to the rainfall, mainly during rainy season. Inadequate disposal of tailings piles also favors the silting of watercourses and obstructions of springs. In addition, there is direct disposal in the environment of the sawdust residue of the same. The proposal of this work is to use the tailings from the processing of kaolin and Bege Bahia marble in the production of ceramic tiles. In this study the mineral residues were characterized by fluorescence and X-ray diffraction, and different formulations of these residues were prepared. Samples were compacted in a uniaxial press with a pressure of 3 MPa, then identified and placed in an oven for 24 h at a drying

temperature of 110°C. They were then burned at 850° C and 900° C for 60 minutes at a heating rate of 10° C / min. After the burn, the technological tests of Water Absorption - AA, Apparent Porosity - PA, Linear Retraction - RL and resistance to flexion were realized in three points. The preliminary results suggest that it is possible to incorporate these residues in formulations for the production of tiles, obtaining a product with higher physical properties than those observed in ceramic bodies with only kaolin residues.

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