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## **Ceramic incorporated with ornamental stones waste obtained from the blocks sawing using multiwire technology: environmental characterization**

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### **Abstract**

In 2016, the ornamental stones production in Brazil was of 9,300,000 tons. The ornamental stones wastes are a growing concern in the country, due to the amount of material generated and your destination. As there are a wide variety of rocks and different technologies there is the need for characterization of waste, especially the environmental characterization. In recent years there has been major change in the use of technologies for stone sawing, where almost 50% of the materials are sawn with the multiwire technology. The objective of the present work was to the environmental characterization of ceramics with ornamental stones waste from processing the blocks in multiwire. The waste was characterized before your incorporation in ceramics. Were used the waste and the clay in the proportion of 25 and 75%, respectively, for the preparation of the ceramic body. Specimens were fabricated by uniaxial press-molding at 20 MPa, dried and sintered at 1030°C. The following properties were determined: linear shrinkage, water absorption and flexural rupture strength. Were realized leaching and solution tests for characterization of ceramic residue. According to the parameters analyzed, the stones residue studied was classified as inert not and the ceramic material with 25% of waste as inert. This result shows that the use of waste in ceramic can be an alternative to the use of stones waste and consequently reducing the environmental impact.

**Keywords:** *waste, ceramic, environmental impact.*

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