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ANALYSIS OF THE PRODUCT OF THE MERGER OF ENAMELING TAILING KAOLIN WITH CLAY FROM THE MUNICIPALITY OF BENTO FERNANDES (RN)

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ABSTRACT

Research related to environmental impacts, were able to increase the range of risk caused by the continuous production of modern industries. The socio-environmental sustainability-focused issue stands out in recent years as the main factor of change in behaviour of Governments regarding their policies. One of the great obstacles that every industry has to bear, is the issue of waste management. Every year tons of economically profitable not substances are dumped in inappropriate places, or simply left outdoors, causing an imbalance in local entropy. Mining is possible to verify a large predation resulting from the production process, as well as huge amounts of material disposed. In the industry of processing of kaolin, the tailings, constituted basically by kaolinite between other oxides, takes part in this context as an object to be reused, and its incorporation to clays may lead to an economically viable material for construction. This work presents the study of enameling on the product resulting from the incorporation of kaolin in clay from the municipality of Bento Fernandes (RN). Through x-ray diffraction was analyzed the influence of the variation of content of Fe_2O_3 on the coloring of the ceramic mass. Were also analyzed the linear absorption, shrinkage and density of the sintered-which were burned at temperatures of 1050^{o}C, 1100ºC, 1150ºC and fired at 1200°C. The results show that the incorporation of the waste can be used as raw material for ceramic and porcelain flooring industry. For the temperature range studied it was possible to observe that the enamel surface has good adhesion to enamel, as well as improvement in mechanical properties of the final product.

Key Words: porcelain, kaolin, waste, recycling