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“TEN YEARS WORKING TOGETHER FOR A SUSTAINABLE FUTURE”

Environmental Impact Assessment of the Structural Ceramics Industry as a Cleaner Production Tool

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Abstract

The manufacture of ceramic materials is one of the oldest industrial processes and after the development of numerous technologies worldwide, the ceramic industry plays an important role in the Brazilian economy. The process of manufacturing ceramic artifacts consists basically of four stages, namely: preparation of the raw material and the mass, formation of the parts, heat treatment and the finishing step. In parallel with this process, there are environmental concerns, since several residues are generated by this activity in each of the above stages, which will vary with the ceramic typology, ie, with a red or white base. The structural ceramics industry, also known as red ceramics, produces perforated bricks, massive bricks, slabs or slabs, structural and structural blocks, tiles, shackles and rustic floors. It is a basic activity, when making civil construction, in general, from the simplest to the most sophisticated. The present study aimed to demonstrate the process of manufacturing red-based ceramic artifacts, analyzing the potential for degradation to the environment, as well as presenting possibilities of applicability of the cleaner production methodology in this sector, with a view to optimizing the production process, reducing Of the generation of waste in the generating sources, as well as the possibility of transforming some waste into co-products, minimizing the use of raw materials and inputs. In relation to the methodology applied in the development of this work, it is classified as basic, qualitative, descriptive and bibliographical. The literature review indicated the existence of low technological density in the ceramic sector in Brazil. The sector of the red ceramic industry is little dynamic in the development of new products.

Keywords: *red ceramics, environmental impact, reduction, waste, production.*