

# A TECHNOLOGICAL AND GEOLOGICAL CLASSIFICATION OF CLAYS FROM CORUMBATAI FORMATION USED IN FLOOR TILE CERAMIC INDUSTRY

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The rocks from Corumbatai Formation currently represents the main source of the material used in the floor tile industry, being important for the industries belonging to the Santa Gertrudes's Ceramic Center in the state of São Paulo/Brazil, with a production of 16 million m<sup>2</sup>/month, representing 50% of the national production.

Due to the lack of geologic maps identifying this formation and the need to know about the main ceramic lithofacies from this formation, the aim of this project is to determinate the different lithofacies through the geological mapping of the Corumbatai Formation at 1:25000 scale followed by technological characterization.

Five lithofacies were observed until now: homogeneous and fine-laminated clay siltstone lithofacies; sand siltstone with lenticular bedding lamination interbedded with fine-laminated siltstone lithofacies; sand siltstone with HCS interbedded with fine siltstone bioturbated and hosting bonebeds lithofacies; tabular sand siltstone levels interbedded with fine-siltstone bioturbated levels lithofacies; and carbonate silt sandstone with waving flaser bedding interbedded with bonebeds and HCS.

It was observed that these different identified lithofacies reflects directly in the technological characteristics of the final product. Carbonate silt sandstone lithofacies presented inadequate values of water absorption and tensile strength (*circa* 11 to 15% and 12 to 15 N/mm<sup>2</sup>), while the other lithofacies presented adequate values (*circa* 6 to 10% and 18 to 28 N/mm<sup>2</sup>) for tile production according to the current rules.