

The Effect of CaO Addition on Mechanical Properties of Ceramic Tiles

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Abstract : Stoneware clay, fired clay (as a grog), calcite waste and class C fly ash in various mixing ratios were the basic raw materials for the mixture for production of dry pressed ceramic tiles. Mechanical properties (water absorption, bulk density, apparent porosity, flexural strength) as well as mineralogical composition were studied on samples with different source of calcium oxide after firing at 900, 1000, 1100 and 1200°C. It was found that samples with addition of calcite waste contain dmisteinbergit and anorthite. This minerals help to improve the strength of the body and reduce porosity fired at lower temperatures. Class C fly ash has not significantly influence on properties of the fired body as calcite waste.

Keywords : ceramic tiles, class C fly ash, calcite waste, calcium oxide, anorthite

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