

A STUDY OF PHOSPHOGYPSUM-CRUSHING SAND BASED BRICKS

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ABSTRACT

A feasibility study was undertaken on the production of phosphogypsum-crushing sand based bricks to build houses economically by utilizing industrial wastes. All full bricks were made on a bench model, semiautomatic press having a capacity of 25 tons, to produce bricks of 51×95×203 mm in size under a static compaction of 15MPa. The compressive strength, flexural strength water absorption, density and speed of sound of these bricks are investigated. It is observed that these bricks have sufficient strength for their use in low cost housing development. Tests were also conducted to study the relationship between ultrasound pulse velocity (UPV) with strength of bricks. The results suggest that compressive and flexural strength values may approximately be determined without a destructive testing by using the non-destructive UPV measurements.

KEYWORDS: Phosphogypsum, Full Brick, Strength, UPV