

Mechanical properties of clay with fibres used in mud bricks



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ABSTRACT

In this study, mechanical properties of mud bricks, which were prepared by Seyhan, Almanpinari and Toprakkale (southern region of Turkey) clay properties with various types of fibres, straw, plastic fiber, and polystyrene were investigated. Compressive strength, tensile modulus of elasticity, water absorption capacity and weight loss of clay were measured because they will affect drying time. Water absorption and weight loss properties should be taken into account as clay from these regions is used as raw materials in brick production. Clay with higher tensile modulus of elasticity had higher workability when placing mud into moulds. Bricks made with polystyrene fibre and clay from Seyhan region had the highest compressive strength. The compressive strength of bricks with clay from all regions and with/without fibres had the compressive strength above the values given in standards. Polystyrene fibres led to higher compressive strength in all bricks from three regions compared to other types of fibre.

KEY WORDS :

Clay, fibre, fibre reinforced bricks, compressive strength