

Mechanical and mineralogical properties of natural hydraulic lime-metakaolin mortars in different curing conditions

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ABSTRACT

This paper investigates the mechanical and mineralogical characteristics of natural hydraulic lime NHL3.5 (NHL) mortars with different% of lime replacement by metakaolin (MK) under different laboratory and natural marine curing conditions. Tests were conducted at different curing ages, using compressive and flexural strength tests and thermogravimetric and X-ray diffraction techniques. NHL mortars cured at high humidity levels in natural and artificial environments present interesting results and some could be used in old masonries repair. The incorporation of MK improves the NHL mortars strength, being this increase mostly associated to the pozzolanic reaction.

Keywords:

Hydraulic mortars; NHL3.5; Metakaolin; Curing conditions; Characterization; XRD; TG-DTA