

Earth-based repair mortars: experimental analysis with different binders and natural fibres

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ABSTRACT

This work intends to contribute for a better knowledge of earth-based repair mortars. The studied mortars are made of a commercial earth (consisting mainly of clay), and other components namely: sand; powder hydrated air-lime; natural hydraulic lime; Portland cement; Roman cement and natural fibres. The experimental analysis of the mortars in the fresh state consisted in the determination of the consistence in a flow table and of the bulk density. In the hardened state, the tests conducted were: linear and volumetric shrinkage; water absorption coefficient; evaporative drying; dynamic modulus of elasticity by measuring the fundamental resonance frequency; flexural and compressive strength.