

MECHANICAL PERFORMANCES OF BLENDED PORTLAND CEMENTS CONTAINING GLASS PARTICLES AND FIBERS

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Abstract.

In this work, we focus on investigation of the mechanical performances of blended cement mortars containing 30 wt% clinker replacement consisting of calcium aluminosilicate glass particles or a mixture of limestone filler and the glass. The mechanical performances include the workability of fresh mortar, the setting behavior and the compressive strength of mortars after different durations of hydration. The effect of glass particle size on the performances is examined and blended cements containing thin glass fibers are also studied regarding their performances. In general, promising performances are observed for the blended cements. For longer durations of hydration, the mortars containing both glass and limestone exhibit even higher strengths than the pure cement references.