

Abstract

This paper aims to study the possibility of using the ground brick waste (demolition waste of building) and the silt of dams (the clay waste of dams) as a binding material in the manufacture of self-compacting concrete. In this study, a Portland cement (CEMII), calcined silt of dams and ground waste brick, were used in the binders of self-compacting mortars (SCM). The strength development of SCM containing calcined silt (CS) and ground brick waste (GWB) were investigated. Variables were the nature of addition (CS and GWB) in the binder and drying temperature (20°C and 60°C) at 7 and 14 days of curing. Two temperatures 20 and 60 °C were applied to samples with intermediate levels (depending on the drying method applied to precast) for 16 hours in total. The results show that the compressive strength to 14 days of mortars, increases with annealing (60 °C) compared to that measured at 20 °C. However, the development of compressive strength of mortars at 14 days was remarkable and that is close to those obtained without 28 days curing treatment. Indeed, a strength gain of about 20.5% and 27.3% respectively obtained for self-compacting mortars made of GWB and CS