

MICROSTRUCTURAL AND PHYSICO-CHEMICAL CHARACTERISTICS OF SOME AUTOCLAVED BLENDED CEMENT PASTES

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ABSTRACT

Autoclaved specimens made of Portland cement-fine sand blended cement , known in Egypt as El-Karnak cement , containing silica fume and / or by-pass dust (cement kiln dust) were cured hydrothermally at a pressure of 10 atm. of saturated steam for various time intervals of 0.5 , 2 , 6 , 12 and 24 hours . The hydrothermally hardened specimens were tested for their compressive strength , kinetics of hydration , phase composition and microstructure . The effect of addition of silica fume and / or by-pass dust on the improvements of the physico-mechanical and microstructural characteristics of the autoclaved specimens could be explained on the basis of the results obtained in this investigation .