

Improvement some mechanical & physical properties cement with ceramics materials

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ABSTRACT

The importance of cement usage as construction materials and as bonding materials to fixated the ceramics tiles, those using as swimming tanks or spicily medical applications, which could be exposed to different environmental conditions have acidic natures or salts natures, so in this research study the adhesive property in cement through study the mechanical (compressive strength, Schmidt hammer) and some physical properties (density, porosity, thermal conductivity) and estimated compressive strength by using ultrasonic pulse velocity. This study has been accomplished after adding ceramics materials to cement and manufacturing samples and tested during immersed to attacked solution (salts solution, acidic solution) with 0.5 N along duration 28 day, the results obtained higher compressive strength values when adding of adhesive materials percent 10 % more

from the other percents (20,30 %), the same results illustrated with Schmidt hammer test and density except the porosity results, because of the voids and causes of presences of adhesive materials. and the salt solution, acidic solution has more harmed aggressive solutions more immersed with ordinary water.

Key words: cement, compressive strength and Schmidt hammer, density, porosity, thermal conductivity.