

The Effect of the Incorporation of Glass Powder into Cement Sorel

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Abstract : The work concerns thermo-mechanical properties of cement Sorel mixed with different proportions of glass powder. Five specimens were developed. Four different glass powder mixtures were developed 5%, 10%, 15% and 20% with one control sample without glass powder. The research presented in this study focused on evaluating the effects of replacing portion of glass powder with various percentages of cement Sorel. The influence of the glass powder on the thermal conductivity, thermal diffusivity, bulk density and compressive strength of the cement Sorel at 28 days of curing were determined. The thermal property of cement was measured by using Photothermal deflection technique PTD. The results revealed that the glass powder additive affected greatly on the thermal properties of the cement.

Keywords : cement sorel, photothermal deflection technique, thermal conductivity, thermal diffusivity

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