

INVESTIGATION AND COMPARATIVE STUDY OF EFFECT OF PLASTER OF PARIS IN CEMENTITIOUS GROUTS

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Abstract

Critical investigation to study the effect of Plaster of Paris on the compressive strength of cementitious grouts. The Plaster of Paris was added in different percentages of total mix, the percentages were 1%, 2%, 3%, 4%, and 5%. Cement component in the grout mix was varied between 30% to 50%, 13% water and 0.7% Salphonated naphthalene-formaldehyde condensate (SNF) were added in all mixes. Cemetitious material like silica fume and aluminium powder were also added in fixed percentages of 4% and 0.005% respectively . Total number of mixes studied was 25. Increase in cement component is found to have increased the compressive strength, however the addition of Plaster of Paris in different proportions have contributed to compressive strength development. It is observed that 3% of Plaster of Paris has resulted in better compressive strengths. The results obtained are critically analysed and are presented and discussed in this paper.

Keywords: Aluminum powder, Silica fume, Compressive strength, Flow test.