Visveswariah Technological University, Belgaum

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Project Report

On

Experimental Studies on Air Entrained Ferrocement Panels with High Volume Fly ash & Compatibility of its Connection

Submitted to Visveshwaraiah Technological University, Belgaum

for the partial fulfillment of the award for Degree of

BACHELOR OF ENGINEERING IN CIVIL

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SYNOPSIS :

The concept of industrialization of the construction technology has emerged as well accepted and preferred option in the field of building construction. The development of new construction materials and technology can partly relieve pressures on the existing building material supply and help to arrest the spiraling rise in cost of these materials and also may reduce insitu construction activities. In addition to economic and ecological benefits, the use of fly ash in cement matrix improves its workability, reduces segregation, bleeding heat evolution and permeability.

In this project 8 no. of panels of size 1500 x 600 x 12mm are cast to study the flexural strength, 10 no. of 300mm dia with 12mm thickness for the study of thermal conductivity and 2 no. of panels of size 1500x600x12mm for compatibility of connection. For the cementitious matrix it is decided to use fly ash, sand as the silicious ingredients and Build Plast AEA as the air entraining agent.

The addition of fly ash resulted in decrease of compressive strength of mortar. But the flexural behaviour of fly ash added ferrocement panels under uniformly distributed load, is superior when compared with control panels. From the criteria of initial cracking load and thermal conductivity, the optimum percentage of fly ash addition to the ferrocement panles is 50%.

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