

Comparative Study on Fly Ash and Glass Powder as Pozzolana in Cement Mortar

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ABSTRACT

Cement is one of the most commonly used material globally. Although it has many advantages in the construction industry, it is one of the major sources of CO₂ emissions all over the world. There have been many researches and experiments to reduce the use of cement and its production by replacing it by alternative materials. These alternative materials include different types of mineral admixtures. Fly ash is one of such mineral admixtures which improves the quality of concrete. On the other hand, glass powder is a waste product obtained during polishing of glass which is dumped as landfill. However, from the literature review, it is clear that the glass powder has high content of silica with pozzolanic properties. The present research work shows the experimental investigation to evaluate the properties of glass powder and fly ash as pozzolana as per IS1727: 1967 and IS 3812(part 1): 2013. Thus, exploring the advantages and disadvantages of Glass powder over Fly ash as mineral admixture. In the current study, glass powder as shown promising result as mineral admixture and has good compressive strength over fly ash.

Keywords: *Glass powder, fly ash, Compressive strength, Mineral admixture, Pozzolana*