

Study of Workability and Compressive Strength of Eggshell Concrete

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Abstract

Considering the damage that has resulted to the river's ecosystem, sand mining from the river without any regulation has been a huge concern in the construction industry. Meanwhile, the disposal of egg shell as waste results in a large number of landfills and pollution. As a result, the present investigation explores the effect of eggshell as a partial fine aggregate replacement on the workability and compressive strength of concrete. Five concrete mixes were prepared by integrating 0%, 10%, 20%, 30%, and 40% of egg shell as partial fine aggregate replacement by weight of sand. Slump test and Compressive strength test were conducted. The finding shows that the use of egg shell exhibit lower workability and strength. The use of egg shell as a fine aggregate replacement will lower the demand for natural river sand while also reducing pollution caused by egg shell dumping.

Keywords: Concrete; Fine aggregate; Eggshell; Waste; Pollution.