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The Effect of Replacement of Natural Sand by Manufactured Sand on the Properties of the Concrete (Conference Paper)

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Abstract

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The natural sand which excavated from river bed is used to produced conventional concrete. Depletion of natural sand cause the environmental problem and hence sand excavating is restricted by government which resulted in shortage and drastically increase in its cost. In order to fulfil the necessity of fine aggregates, an alternative material like M sand can be used in concrete. M sand is obtained by crushing the rocks. In this paper, conventional mix 1:2.32:2.82 (M20) with water to binder ratio is maintained as 0.55 was used in this present study. Here the River Sand is partially and fully replaced with M Sand with different percentages like 0%, 45%, 50%, 55% and 100%. Fresh and hard concrete properties were studied with natural sand substitute by M-Sand. Properties of concrete in fresh state such as workability and in hardened state such as compression test, split tensile test and flexural test were considered in this study. © 2018 IEEE.

SciVal Topic Prominence

Topic: Compressive strength | Marble | marble powder

Prominence percentile: 89.476

Author keywords

Compressive strength Flexural strength M sand River Sand Split tensile strength

Indexed keywords

Engineering controlled terms: Bending strength Compression testing Compressive strength Concrete aggregates Concretes Rivers Tensile strength Tensile testing

Engineering uncontrolled terms: Alternative materials Conventional concrete Environmental problems Properties of concretes River sands Split tensile strengths Split tensile tests Water-to-binder ratio

Engineering main heading: Sand

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