

EFFECT OF CRUMB RUBBER AGGREGATES ON THE CHARACTERISTICS OF CEMENT CONCRETE AS PARTIAL REPLACEMENT

ABSTRACT

Concrete is an outstanding structural substantial, and is regarded as beneficial for the modern civilization as well as human society. Henceforth, the manipulation of crumb rubber in concrete has been considered technically probable and this concrete is being regarded light weight concrete. Crumb rubber is produced in large sum as a waste and does not have beneficial disposal, till currently. In the present study, we have intended to study the use of crumb rubber by measurement of 5%, 6%, 7%, and 8%, in the substitution of blend of cement concrete percentage, in structural as well as non-structural associates , and also display how it is appropriate for the concrete, its uses, barriers and benefits and the way to the upcoming study. And, to decide the characteristics of concrete encompassing crumb rubber. Out of certain outcomes, we inferred that there is a reduction in mechanical properties of the concrete. Besides grounded on the outcomes of certain tests, concrete containing crumb rubber particles as combinations is still not acclaimed for structural usages due to the low compressive strength. The measured parameters of samples are, water absorption, compressive strength, splitting strength, and flexural strength. This study gives experimentations on normal strength concrete, blended with dissimilar rates of crumb rubber powder. The outcomes showed the opportunity of gaining the top rate of powder incorporation with no harm to the compressive as well as tensile strength of concrete. Results shows that 5% crumb rubber of 0.42 w/c ratio is the best mix to achieve the reduced rate of water absorption and suitable compressive strength. This kind of concrete displays the capacity for becoming a supplementary and maintainable solution for tyre rubber waste management.

KEYWORDS: Crumb Rubber; Rubberized Concrete; Mechanical Properties; Compression & Absorption of Water

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