Article

Studies on relationship between compressive and splitting tensile strength of high performance concrete

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Citations (5) References (2)

Abstract

This experimental study is intended to identify the relationship between compressive strength and splitting tensile strength of high performance concrete. For this purpose the applicability of existing relationship between the Compressive strength and Splitting tensile strength of Concrete was examined. The commonly accepted 0.5 power relationship as per IS 456-2000 was investigated and then a similar kind of relationship developed for High performance Concrete. M60 grade HPC mixes incorporating different percentages of high reactivity metakaolin and silica fume by weight of cement along with some suitable super plasticizer. The results of the study indicate that the strength properties of HPC mixes improved by incorporating metakoalin and silica fume up to a desirable content of 15% and 5% respectively by weight of cement. It was analyzed from the test result that the Compressive strength and splitting tensile Strength were related together and the 0.5 power relationship was found to be inaccurate. Thus the alternative relations were proposed for the High performance Concrete with the support of results and figures.

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Citations (5) References (2)