

عنوان مقاله:

The relationship between compressive strength and splitting tensile strength of HPFRCC

محل انتشار:

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خلاصه مقاله:

High-performance fiber-reinforced cementitious composites (HPFRCC), are specified by a stress-strain response in tension that shows multiple cracking and strain-hardening behavior. The aim of this experimental study is to investigate two main parameters in the structural design such as splitting tensile strength (f_{spt}), and the compressive strength (f_c) of HPFRCC. In this study, 18 mix proportion of HPFRCC were made and a total of 108 cylinder and cube specimens of HPFRCC at 7 and 28 days were tested then the relationship between splitting tensile strength and compressive strength of HPFRCC with 1% steel fibers was proposed, the prediction errors run below $\pm 15\%$. The HPFRCC were mixed with the different type of aggregate shape and content, water-to-cement (w/c) ratio, silica fume, and amount of superplasticizer.

کلمات کلیدی:

high -performance fiber-reinforced cement composite; compressive strength; splitting tensile strength; non-linear regression (NLR).

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