

عنوان مقاله:

Influence of Fiber on Shear Behavior of Concrete Exposed to Elevated Temperature

محل انتشار:

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خلاصه مقاله:

Fire accidents are inevitable and it is one of the significant hazards, which causes loss of life and valuables. The present investigation focused to study the influence of fibers on shear strength of concrete exposed to elevated temperature as per ISO ۸۳۴. The fibers used in the study were Basalt, Carbon, Glass, Polypropylene and Poly vinyl alcohol. M۲۰, M۳۰, M۴۰ and M۵۰ grades of concrete were used for the investigation. The results revealed that the shear strength is declined with increase in temperature. The shear strength is enhanced by the addition of fiber in the reinforced concrete beams exposed to elevated temperature. Carbon fiber reinforced concrete specimens exhibited better residual shear strength than the other specimens. Addition of carbon fiber and basalt fiber in concrete reduced the micro cracks in the specimens exposed to elevated temperature. Addition of polypropylene fiber and poly vinyl alcohol fiber reduced the spalling but the crack propagation was not prevented in the specimens exposed to high temperatures.

کلمات کلیدی:

Elevated Temperature, Fiber reinforced concrete, Shear strength, Spalling

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