

عنوان مقاله:

Compressive Strength and Ductility of Concrete Wrapped by CFRP

محل انتشار:

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خلاصه مقاله:

Existing reinforced concrete (RC) columns may be structurally deficient due to variety of reasons such as improper transverse reinforcement, flaws in structural design, insufficient load carrying capacity, etc. Fiber reinforced polymer (FRP) is a new generation of materials which illustrates in order to enhance concrete compressive strength and ductility. Among the FRP types, Carbon fiber reinforced polymer (CFRP) is more common. CFRP can be effectively used for strengthening and confinement the deficient RC columns. This research conducts to evaluate the behavior of this fiber in improvement of aforementioned quantities. In this investigation, three categories of compressive strength of concrete were selected. The samples were warped with ۰, ۱, ۳, and ۵ layers of CFRP were subjected under stress-strain tests. The results display that carbon fiber is more effective in enhancing the compressive strength and ductility. Fiber performance is more effective on low-strength concretes, and its effective role decreases with increasing the number of layers.

کلمات کلیدی:

CFRP, FRP Composite Wrapping, Compressive Strength, ductility

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