

عنوان مقاله:

Retrofitting concrete slabs using FRP composite fibers

محل انتشار:

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خلاصه مقاله:

Today, using polymer composites reinforced by FRP fibers for reinforcing concrete structures and restoration and retrofitting various building in order to bear double loads of design and increasing plasticity has become very common. In the past, concrete and steel jackets were mostly used that were usually placed as an external coverage on the structure body. FRP composites are intensely resistant against alkaline and salty environments and in recent decades, it has been the subject of wide studies for complete replacement with steel slabs and bars. FRP composite fibers due to their high strength against corrosion, ease of shipment and easy installation and low weight are increasingly used. By introducing these composite materials in civil engineering, FRP fibers by having appropriate properties are an optimal option for retrofitting concrete members like beams, columns and slabs. Slabs retrofitted by FRP composites have higher final strength and better bending behavior comparing slabs reinforced by steel, while their plasticity and crack width is more than slabs reinforced by steel.

کلمات کلیدی:

reinforced concrete structures, concrete slabs, composite sheets, retrofitting, FRP

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