

عنوان مقاله:

Analysis and evaluation of debonding of reinforced concrete beams

محل انتشار:

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خلاصه مقاله:

One of the causes of prosperity and success in the construction industry and one of the most common debonding is the debonding of the concrete cover and the separation of the concrete surface and the reinforcement plate. This paper evaluated the beams in the experiments due to an external force applied perpendicular to the longitudinal axis. The five reinforced concrete beams test specimen dimensions were $200 \times 140 \times 1300$ mm, with rebar ۱۰ for the bottom and ۶ for the top, rebar ۸ for the girders, and the concrete grade was considered ۳۵۰. The final strength of ۲۸ days with GFRP fibers in two layers, three classic layers, two layers, and three U-shaped layers are subjected to a four-point bending test. A control specimen was used for evaluation. The experimental results showed that the three U-shaped GFRP layers performed better than the other specimens and performed better in the biaxial bending test. The three U-shaped GFRP layers sheet had the most significant effect on flexural reinforcement and prevention of debonding compared to the classic U-shaped two-layer, three-layer, and two-layer GFRP sheets. In addition, Two U-shaped layers have more resistance to external load pressure than a U-shaped layer and have a more significant impact

کلمات کلیدی:

Debonding, Bending reinforcement, Reinforced Concrete Beams

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