Evaluation of Flexural Behavior and Serviceability Performance of Concrete Beams Reinforced with FRP Bars

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Abstract:

Flexural behavior and serviceability performance of 24 full-scale concrete beams reinforced with carbon-, glass-, and aramid-fiber-reinforced-polymer (FRP) bars are investigated. The beams were 3,300 mm long with a rectangular cross section of 200 mm in width and 300 mm in depth. Sixteen beams were reinforced with carbon-FRP bars, four beams were reinforced with glass-FRP bars, two beams were reinforced with aramid-FRP bars, and two were reinforced with steel, serving as control specimens. Two types of FRP bars with

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