

SHEAR DESIGN FOR BEAMS REINFORCED BY GFRP BARS

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ABSTRACT: A total of 21 full size concrete beams designed to fail in shear and reinforced either longitudinally or transversely or both longitudinally and transversely with steel or glass fiber reinforced plastic (GFRP) bars were tested. Based on the test results, some modifications to the currently used ACI model for shear design are suggested. The suitability of the modifications are checked by comparing the predicted shear capacity of the beams with their corresponding measured values. Results of the comparison show that there is a good agreement between the predicted and measured values.

KEYWORDS: glass fiber reinforced plastic bars, shear capacity, longitudinal reinforcement, transverse reinforcement, shear design.