Cyclic Load Behavior of GFRP-Reinforced Concrete Shear Walls

Nayera Mohamed, Ahmed Sabry Farghaly, Brahim Benmokrane, Kenneth W Neale

Abstract:

Well-designed shear walls can be used effectively as a primary lateral-load resisting system for both wind and earthquake loading in multistory buildings. Glass-fiber-reinforced polymer (GFRP) shows considerable deformability under monotonic and fatigue loading in reinforced concrete structures. In this study, four large-scale mid-rise reinforced concrete shear walls—one reinforced with steel bars and three totally reinforced with GFRP bars—were tested to failure under quasi-static cyclic loading.

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