

عنوان مقاله:

RETROFITTING DESIGN GUIDELINES USING STEEL PLATES AND SHEAR BOLTS

محل انتشار:

چهارمین کنفرانس بین المللی مقاوم سازی (سال: 1391)

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خلاصه مقاله:

The current paper presents design guidelines for strengthening of concrete members using sandwich steel plates and steel shear bolts. In addition to our experimental investigation and other test results available in the literature, a theoretical investigation is conducted on different design aspects of sandwich steel plates and shear bolts. Design aspects of the strengthening techniques include minimum area of steel plates, design width of steel plates and extension of steel plates from the support face (loading zone). Design requirements for shear bolts include minimum and maximum spacing between shear bolts, minimum cross section area for shear bolts, distance between the support faces and the outer-most peripheral line of shear bolts. The research work represents two design concepts for the design of the rehabilitated concrete connections. The first model is based on a truss model assumption. The second concept presents the design of sandwich steel plates based on the rational shear sandwich model. The recommended design deals with the required number of shear bolts according to minimum shear reinforcement requirements for concrete Plates, bolt spacing and thickness of the steel plate.

کلمات کلیدی:

Steel Strengthening, Shear bolt spacing, Plated Thickness strengthening; Concrete Plates and Cyclic moment on beam column connections

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