



Strengthening of reinforced concrete beam-column joints to increase seismic resistance

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Fraunhofer Irb Stuttgart Mrz 2014, 2014. Taschenbuch. Book Condition: Neu. 205x146x22 mm. Neuware - The categorized literature review of retrofitting and strengthening methods of reinforced concrete (RC) beam-column joints clarified that non-disruptiveness; practical implementation, ductility and perseverance of lateral resistance as well as economical issues still remain the most challenging aspects of seismically retrofitting the vulnerable existing RC beam-column joints. Current research attempted to observe the seismic design principals of RC frame structures in seismic retrofitting of the vulnerable frames as a strategy of retrofitting based on the capacity design concept. Accordingly, the beam sidesway mechanism was redefined for seismic retrofitting by relocating the beam plastic hinges far enough away from the joints. Consequently, with introducing innovative energy dissipation devices such as Multi Functional Corbels (HMFC) and Harmonica Damper Plates (HHDP), the innovative Retrofitting Techniques 1 and 2 (RT1 and RT2) were proposed. The introduced devices of HMFC and HHDP as a passive energy dissipation system absorb energy through inelastic deformations. The proposed RT1 and RT2 were experimentally evaluated through a series of 3/4-scale beam-column joint specimens under an extremely severe loading history. The excellent performance of retrofitted specimens through the experimental study confirmed that the proposed retrofitting techniques (RT1...



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