

عنوان مقاله:

DESIGN CONCEPT OF RETROFITTED RC BEAM-COLUMN JOINTS BY PRESTRESSED JOINT ENLARGEMENT

محل انتشار:

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خلاصه مقاله:

Post-earthquake inspections of damaged RC buildings have demonstrated that poorly detailed beam-column joints can suffer serious damage. A retrofit technique called "joint enlargement using prestressed steel angles" was experimentally investigated by authors and found to be an effective and practical technique for the seismic retrofit of non-seismically detailed reinforced concrete beam-column joints. In this method, the beam-column joint is enlarged by locating stiffened steel angles at the re-entrants corners of the beam-column joint, both above and below the beam, with the steel angles mounted and held in place using high tensile strength bars. The main objective of designing the proposed retrofit method is to avoid joint shear failure and to encourage beam flexural hinging. The size of the joint enlargement should be designed such that to increase the joint shear capacity through increasing effective joint area and to improve the anchorage bond of the beam longitudinal bar within the joint panel zone through increasing apparent column depth. In this paper the design concept of retrofitted RC beam-column joints by joint enlargement using prestressed steel angles is discussed with considering the load transfer mechanism in the beam-column joint sub-assemblages.

کلمات کلیدی:

RC Beam-Column Joint, Seismic Retrofitting, Prestressed Joint Enlargement, Strut And Tie Model, Non-Seismic Detailing

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