عنوان مقاله:

EVALUATION OF REDUCTION FACTOR FOR REINFORCED CONCRETE BUILDINGS RETROFITTED WITH CFRP JACKETS

محل انتشار:

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خلاصه مقاله:

Reduction factor shows the efficiency of lateral load resistance systems in dissipation of seismic energy through inelastic behavior. This parameter is broadly used in guidelines to determine elastic resistance of the structure. Since these seismic guidelines mainly put their emphasis on common lateral load resistance systems, it may not be appropriate to use the published reduction factor values in designing composite or strengthened lateral load resistant systems. The main objective of this research is to examine the quantitative impacts of confined concrete columns with CFRP jackets on reduction factor. Therefore, three models of 4, 7 and 10-story buildings, in a veryhigh seismic zone were selected. Pushover analyses were performed by means of the software SAP 2000 for threedimensional models. Finally, the reduction factor of reinforced concrete (RC) buildings that were retrofitted with CFRP jackets was found to be 9.9. This result indicates an enhancement in the seismic resistance and specially, in ductility of the buildings.

کلمات کلیدی:

concrete buildings, reduction factor, confinement, carbon fiber reinforced polymer (cfrp) jackets, pushover analysis

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