

عنوان مقاله:

POST-TENSIONED CONFINEMENT FOR IMPROVEMENT OF THE AXIAL AND LATERAL BEHAVIOR OF SQUARE-SECTIONED CONCRETE COLUMNS

محل انتشار:

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خلاصه مقاله:

In this paper the results of an experimental study on application of Post-tensioned Metal Strips (PMS) for concrete confinement is presented. At the first stage of the study, axial tests were conducted on 12 small-scale prismatic concrete specimens with different sizes and concrete strengths. These tests showed the capability of the technique in significantly enhancing the axial strength and ductility of concrete. At the second stage, six 2/3 scale models of building columns with square sections and with insufficient transverse reinforcements were retrofitted and tested under constant axial load (either 0.19 f'cAg or 0.38 f'cAg) and cyclic lateral displacement reversals. It was observed that although the control columns showed limited lateral displacement capacity but the columns that were retrofitted with the PMS technique suffered great values of drift ratios (in excess of 13%) without any loss in lateral strength. The gravitational load carrying capacity of the retrofitted columns was preserved by the end of the test and no rupture occurred in any of the confining strips.

کلمات کلیدی:

Seismic Retrofit, Concrete, Rc Column, Seismic Behavior, Confinement

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