

12. An Experimental Study on the Structural Performance of RC Columns with Corroded Reinforcement and on the Structural Performance of Repaired Columns

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Alternate horizontal loading and unloading tests were conducted to obtain information on the effects of the corrosion of reinforcement on the load bearing capacity of columns and on the effectiveness of repairing columns with corroded reinforcement. Columnar specimens with electrochemically corroded longitudinal reinforcement and specimens in which a column was repaired by chipping and removing corroded reinforcement and butting reinforcing bars of the same diameter at the base of the column and using arc welded joints. As a result of loading tests, it was found that the columns with corroded reinforcement had much lower strength and deformation capacity than the columns free from corrosion and that repaired columns had nearly the same strength and deformation capacity as the corrosion-free columns.

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