

## **Experimental Studies on Strengthening of RC Frames**

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**ABSTRACT:** Thousands of RC buildings were severely damaged or collapsed in Turkey during the past major earthquakes due to various deficiencies. This has initiated extensive studies on strengthening methods. Two 1/3 scaled, 2-story, 3-bay test specimens were cast to investigate two types of strengthening techniques. Both frames were designed such that they had the common deficiencies of existing buildings in Turkey. One of the frames was strengthened with RC infill wall and the other frame was strengthened with CFRP strengthened hollow clay tile infill. The test specimens were subjected to reversed cyclic quasi-static loading. Special transducers were used to measure the internal forces at the base of the exterior columns. Strength, stiffness, and story drifts of the test specimens were evaluated.

**Keywords:** Earthquake resistant structures, reinforced concrete, rehabilitation, carbon fiber reinforced polymer (CFRP)

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