

**P 6. STRENGTHENING OF RC BEAMS SUBJECTED TO CORROSION UNDER THE  
EFFECT OF FLEXURAL**

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**ABSTRACT:** As a result of the failure of the reinforcement to resist corrosion, it is known to have a negative effect on the structural performance and structural safety under the influence of the earthquake. During the seismic evaluation of existing buildings, it is recommended to consider the corrosion effects in a multidimensional manner. Reduction of reinforcement diameter, loss of adherence, change of concrete cracks and mechanical properties of reinforcement are the main results of corrosion. As a result of corrosion, mass-section loss occurs in the reinforcement, concrete is cracked without any load, loss of adherence occurs, mechanical properties of reinforcement are adversely changed. There are different repair / reinforcement methods to solve these negative consequences in reinforced concrete structures. Fiber Reinforced Polymer is one of the most important methods that need to be investigated. In the scope of the project, an experimental study was carried out by considering the bending effect in structural analysis. In this study, 6 x 25x40x250 cm beam samples were produced. As a result of rusting, the behavior of the test specimens under bending, ductility, load-displacement relationship, moment-curvature relationship, adherence-slip relationship, crack width and distribution were investigated. Secondly, reinforced concrete beams rusted with 6%, 10% and 18% strengthened by FRP were investigated and the effect of FRP on corrosion and bending was investigated. The results obtained have helped to better evaluate the seismic performance levels of the building due to the comparison of the bending strength of reinforced concrete beams with different rust ratios before / after reinforcement.

*Keywords: Corrosion, FRP, Strengthening, Flexural Effect*