

Anchorage Effect on Axial Strength of Fiber Reinforced Polymers Confined Rectangular Columns

Authors : Yavuz Yardim

Abstract : FRP systems have been largely used to improve the performance of structural members, due to their high strength to weight ratio and corrosion resistance. Application of this strengthening procedure in circular columns has resulted quite beneficial in increasing their seismic and axial capacity. Whereas in the rectangular ones, strength enhancement was considerably less due to stress concentration in the corner. In this work three anchorage configurations are tested for their efficiency in increasing the uniformity of confinement pressure in the CFRP strengthened non-circular sections. There is a slight increase in the axial strength of specimens as a general trend. More specifically fan anchorage reached an increase of 17.5% compared to the unanchored specimens. The study shows that uniformity of confining pressure has increased by adding anchorage.

Keywords : rectangular columns, FRP, confinement, anchorage

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