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Study on Retrofit of Existing Squat Reinforced Concrete Shear Walls

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An integrated analytical and experimental study was conducted on retrofit of existing squat reinforced concrete shear walls in high intensity seismic zones. Two 3/4 scaled specimens, one in the "as-built" condition and another retrofitted with the Tyfo SEH-51A System adhered and anchored on one face of the wall, were constructed and tested under a constant vertical load and cyclic horizontal forces. It was conducted for proportional static loading with the objective of determining the theoretical capacities and failure mode of the specimens and providing guidance to the test program. The test results show that the retrofitted specimen has a better energy absorption capacity than the as-built specimen and developed a maximum capacity of about 10% higher than that of the as-built specimen. The FRP sheets stiffened the wall by reducing its shear deformation.