

Evaluation of Deformation Performance and Seismic Retrofit Design to Existing Wall Type Pier

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The existing wall type pier in the railway structure has a smaller tensile reinforcement ratio and shear reinforcement ratio than RC rigid frame viaduct columns. However we evaluate it using a deformation performance calculation method of the past based on the experiments on RC columns. In this study, we carried out a loading examination and confirmed that the deformation performance calculation method is applicable in the range where the reinforcement ratio was small. As a result, the calculation method of the past underestimated experimental result and it was confirmed that we could evaluate them reasonably by expanding the lower limit of the plasticity hinge angle of rotation. In addition, we confirmed the reinforcement effect of the prestressing bar which penetrated through wall type pier using the steel jacketing on the buckling of the reinforcement ratio, and suggested seismic retrofit design.