

3. Experimental Study on Head Butt Joint using a Square Steel Pipe

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Recently, increasing amounts of reinforcement are used in reinforced concrete rigid-frame railway viaducts in order to build them earthquake resistant. Especially, joints of columns consisting of single piles are congested with bars, and thus it is difficult to assemble bars and place concrete.

The authors devised a structure in which not the bars of the pile but a steel square pipe embedded to the head butts is fixed to the joints. This study investigated the load carrying mechanisms and the deformation performance of the structure from the results of alternating loading tests, and showed the effectiveness of the structure.

Key words : rigid-frame railway viaducts, head butt joint, cyclic loading, load carrying mechanisms, ductility