

## Assessing the Seismic Performance of Threaded Rebar Coupler System

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**Abstract :** Currently there are many use of threaded reinforcing bars in construction fields because those do not need additional screw processing when connecting reinforcing bar by threaded coupler. In this study, reinforced concrete bridge piers using threaded rebar coupler system at the plastic hinge area were tested to evaluate seismic performance. The test results showed that threads of the threaded rebar coupler system could be loosened while under tension-compression cyclic loading because tolerance and rib face angle of a threaded rebar coupler system are greater than that of a conventional ribbed rebar coupler system. As a result, cracks were concentrated just outside of the mechanical coupler and stiffness of reinforced concrete bridge pier decreased. Therefore, it is recommended that connection ratio of mechanical couplers in one section shall be below 50% in order that cracks are not concentrated just outside of the mechanical coupler. Also, reduced stiffness of the specimen should be considered when using the threaded rebar coupler system.

**Keywords :** reinforced concrete column, seismic performance, threaded rebar coupler, threaded reinforcing bar

**Conference Title :** ICSECM 2015 : International Conference on Structural Engineering, Construction and Management

**Conference Location :** Osaka, Japan

**Conference Dates :** October 08-09, 2015