

## **PULL-OUT BEHAVIOUR OF EMBEDDED BLIND BOLTS IN CONCRETE-FILLED STEEL TUBES**

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**Abstract.** Pull-out behaviour of extended blind-bolts embedded in the concrete-filled tubes is evaluated experimentally in this study. The experimental studies were carried out on individual extended blind bolts and those embedded in the concrete-filled tubes. The suitable procedure to fabricate the extended blind bolt was determined. Based on the test results, the pull-out behaviour of blind bolts with different embedded lengths is presented and discussed. Three different failure modes i.e. chord plastification, localized plastification around the bolt hole and bolt fracture were observed in the pull-out tests, which demonstrated the effects of infill concrete and embedded length on the pull-out behaviour. The infill concrete can significantly reduce the overall deformation, and the presence of embedded extensions can increase the initial stiffness. Meanwhile the maximum pull-out strength substantially increases with the embedded length due to the effective use of concrete strength through embedded extensions.