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Mechanical Behavior of CFTR Column Joint under Pull out Testing

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Abstract : CFTR column is one of the improvements CFT columns by inserting reinforcing steel bars into infill concrete. The presence of inserting reinforcing steel bars is increasing the excellent structural performance of the CFT column, especially on the fire-resisting performance. Investigation on the mechanical behavior of CFTR column connection is summarized in the three parts; column to column joint, column to beam connection, and column base. Experiment that reported in this paper is concerned on the mechanical behavior of CFTR column joint under pull out testing, especially on its stress transfer mechanism. A number series of the pull out test on the CFT with inserting reinforcing steel bar are conducted. Ten test specimens are designed, constructed, and tested to examine experimentally the effect of the size of square steel tube, size of the bearing plate, length of embedment steel bars, kind of steel bars, and the numbers of rib plate.

Keywords : CFTR column, pull out, stress, transfer mechanism
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