Repair Method and Restorability Assessment Method of Damaged Concrete Filled Tubular Steel Members

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Concrete filled tubular steel (CFT) members have been applied to the columns of rigid frame structures. However, as for CFT members that were damaged during earthquakes, suitable repair methods and their effect have not been experimentally investigated. In this research, we have proposed three repair methods to install additional steel members around the damaged part of CFT members. To evaluate the performance of repaired CFT members, we carried out loading tests of CFT specimens, which were repaired after inducing damage. As a result, it has been found out that the proposed methods are effective in recovering the bending capacity and the deformation capacity of CFT members to their original ones. Considering these results, we re-evaluated restorability assessment method of CFT members.