Evaluation Method of Bending Capacity and Ductility of Concrete Filled Steel Tube Members with Square Section

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Concrete filled steel tube (CFT) members with square section can be expected to have higher strength than CFT members with circular section of the diameter of the same size with the width of the square section. However, evaluation method of bending capacity and ductility of CFT members with square section has not been established in the design standard. Therefore, to figure out mechanical properties of CFT members with square section, we carried out cyclic loading tests, focusing on width-thickness ratio, shear-span ratio, axial force ratio and material strength. As a result, we have proposed an evaluation method of bending capacity and ductility in case of applying the yield load and the maximum load.