

PLASTIC DEFORMATION CAPACITY AND FRACTURE BEHAVIOR OF BEAM-END CONNECTION USING BUILT-UP H-SHAPED BEAM

Structural characteristics of beam-end connection
using pre-built-up H-shaped beam Part 1

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In this paper, structural characteristics of beam-end connection using various type built-up H-shaped beams are investigated by full-scale loading test. Main parameter is the geometrical and material properties at the bottom of weld access hole due to the fabrication method of built-up H-shaped beam. Test results, the brittle fracture of beam flange occurred in all specimens. The plastic deformation capacity of SBR specimen consisting of the pre-built-up H-shaped beam and the joint panel with a square hollow section is lowest; the capacity is 50% of the required performance. It was caused by lower two factors, the toughness of submerged arc weld metal and the joint efficiency of beam web connected part.