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FATIGUE PERFORMANCE OF COMPOSITE TUBULAR K-JOINTS FOR TRUSS TYPE BRIDGE

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The structural performances of composite tubular K-joint leading to real truss bridge construction of high speed Shinkansen train are presented. The experimental studies on improving the fatigue performance of welded steel tubular joints by upgrading the structural joint details and improving the weld toe profiles were carried out on ten tubular K-joints under repeated constant amplitude load. The behaviour of all joints were examined through the analyses and the tests. The results suggest that concrete filled tubular joints are able to improve the fatigue strength substantially compared to unfilled joint.

Key Words: composite tubular K-joints, fatigue strength, stress concentration

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