

Initiation Condition and Preventive Measures for Center-line Shrinkage in Thermite Welds

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The number of thermite weld failures has decreased due to improvement of ultrasonic inspection method, however a few number of thermite weld failures are still taking place in its early stage by center-line shrinkage. It is considered that center-line shrinkage is caused by the moving of rail to longitudinal direction just before its weld metal has been solidified, but the details of initiation mechanism are not yet clear. In this study, the simulative test of center-line shrinkage was conducted to find out the initiation mechanism, and then initiation condition and preventive measures of center-line shrinkage were discussed.