

Cause Investigation and Prevention Measures of Surface Defect of Thermit Welds

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Thermit welding method is the most popular rail welding process in Japan. The reliability of the thermit welds is highly evaluated, because the failure rate was only about 0.005% for the last 10 years in Japan. On the other hand, there are many cases where thermit welds are judged to be defective due to surface defects in these days. Surface defects are often observed in case of execution of welding the new rails and the worn rails. From the results of welding test, it is judged that surface defects are caused due to gas generated by the contact of luting sand and molten steel which enters into the gap between welding mold and rail surface.