

Investigation of Advanced Welding Technology for Railway Vehicles

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It is important for manufacturing of railway vehicles to investigate the recent development of welding technology. This paper reports the results of investigation of advanced weld technology with focus on the material feature, and of application of advanced technology to light weight alloy such as magnesium. The recent advanced welding technologies such as Friction Stir Welding (FSW) and Laser MIG hybrid welding were investigated in this report. It was found out that formation of the heat affect zone in welding parts was less in FSW and Laser MIG hybrid welding in comparison with that in MIG and TIG welding. The application of those techniques to the manufacturing vehicles is increasing every year. For enlargement of application of FSW and Laser MIG hybrid welding, it is considered that further investigation on items such as the effect of material type, the joint geometry, and the strength property of weld material including fatigue properties will be needed.