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A Study on Tool Directions of an Underwater Friction Stir Welded AA5083 Plate Butt Joint

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Authors :

Ikram, I.M.,

Ismail, A.,

Zakaria, A.,

dzakaria@unikl.edu.my

Makhtar, M.F.,

Rahman, F.A.,

Baharudin, B.A.

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Abstract:

Underwater friction stir welding (UFSW) is a joining technique with an important role. This present study investigated the effects on the AA5083 plate butt joint configuration from various tool directions that were carried either as forward or as backward during the UFSW process. Experiments were conducted using different travel directions and welding parameters. Based on the results, the travel tool at forward with a tilt angle of 2° in a water temperature of 100° C gives an improved joining capability. This result showed that the tool direction will determine the quality of UFSW specimen.