

Microstructure and SEM Analysis of Joints Fabricated by FSW of Aluminum Alloys 5083 and 6063

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Abstract : The purpose of this paper is to perform a microstructural analysis of Friction Stir Welded joints of aluminum alloys 6063 and 5083, also to check the properties of the weld zone by SEM analysis. FSW experiments were carried on CNC Vertical milling machine. The tools used for welding were the round cylindrical pin shape and square pin shape. It is found that Microstructure shows the uniformly distributed material with minimum heat affected zone and dense welded zone without any defect. Microstructures indicate that the weld material is defect free. The SEM shows the diffusion of material with base metal with proper bonding without any defect.

Keywords : friction stir welding, aluminum alloy, microstructure, SEM analysis

Conference Title : ICMAME 2015 : International Conference on Mechanical, Aeronautical and Manufacturing Engineering

Conference Location : New York, United States

Conference Dates : June 04-05, 2015