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Enhanced Mechanical Properties of Friction Stir Welded 5083Al-H19 Joints with Additional Water Cooling

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Abstract

3-mm-thick 5083Al-H19 rolled plates were friction stir welded (FSW) at tool rotation rates of 800 and 200 rpm with and without additional water cooling. With decreasing the rotation rate and applying water cooling, softening in the FSW joint was significantly reduced. At a low rotation rate of 200 rpm with additional water cooling, almost no obvious softening was observed in the FSW joint, and therefore a

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