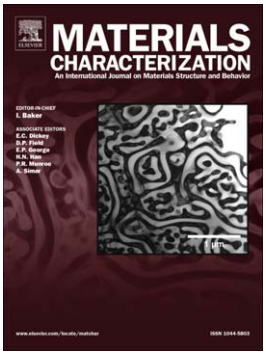


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# The effect of post processing on tensile property and microstructure evolution of friction stir welding aluminum alloy joint

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**Abstract**:

Friction stir welding is an efficient manufacturing method for joining aluminum alloy and can dramatically reduces grain size conferring excellent plastic deformation properties. Consequently, friction stir welding is used to manufacture tailor welded blanks to optimize weight or performance in the final component. In the study, the microstructural evolution and mechanical properties of friction stir welding joint during plastic forming and subsequent heat treatment were investigated. The microstructural characteristics of the friction stir welding joints were studied by Electron Backscattered Diffraction and Transmission Electron Microscopy. The mechanical properties were evaluated by tensile and