

Friction Stir Processing for Microstructural Modifications of Aluminum Casting

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Friction Stir Processing (FSP) can be used to locally tailor the microstructure for enhancement of a specific set of properties. FSP has been applied to cast aluminum plates to modify the microstructure for enhancement of mechanical properties. The influence of FSP parameters on microstructural changes and microstructure-mechanical property correlations will be presented. FSP leads to homogeneous microstructure and eliminates porosity completely. This results in significant enhancement of mechanical properties. This concept can be used to locally enhance the properties of castings.