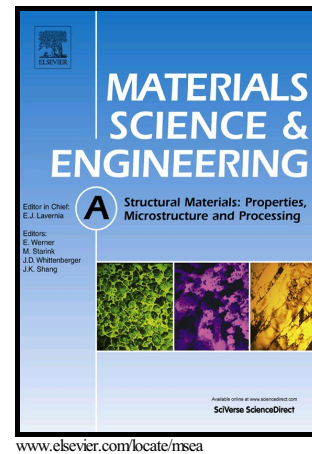


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Influence of thickness reduction per pass on strain,
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Abstract

The influences of thickness reduction per pass (TRPP, 13–75%) on the macro-deformation, strain distribution, microstructural evolution, mechanical properties and their through-thickness uniformities of 7050 Al alloy sheets processed by a series of asymmetric rolling (ASR) are investigated using finite element (FE) and experimental methods. With decreasing TRPPs, the shear distances in rolling direction (RD) between top and bottom surfaces of rolled sheets are increased, resulting in much more shear and equivalent strains, and their homogeneous distribution throughout the thickness of ASR-processed sheets. The quantity of micro-shear bands comprising

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