Special Issue

Mechanical Properties and Formability of FSWed Sheets

Message from the Guest Editors

In recent years, demand for lightweight materials has continuously increased in many industrial fields, such as automotive, aeronautic, and transportation, in order to reduce weight, fuel consumptions, and environmental impact. In the manufacturing of sheet metal assemblies, lightweight structures can be effectively obtained using tailor welded blanks (TWBs), fabricated by performing a friction stir welding process of two or more blanks, also in different materials and/or thicknesses, to produce a single assembly. The desired geometry can also be obtained by plastically deforming the TWBs, with an optimized thickness distribution. In this framework, for this Special Issue, we invite our colleagues to submit papers in the area of friction stir welding, focusing in particular on the mechanical properties and post-welding formability of friction stir welded joints. Review articles and short communications are also of interest for this Special Issue.

Guest Editors

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Metallic materials play a vital role in the economic life of modern societies; contributions are sought on fresh developments that enhance our understanding of the fundamental aspects related to the relationships between processing, properties and microstructure – disciplines in the metallurgical field ranging from processing, mechanical behavior, phase transitions and microstructural evolution, nanostructures, as well as unique metallic properties – inspire general and scholarly interest among the scientific community.

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