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Special Issue Reprint

Welding and Joining of Metallic Materials: Microstructure and Mechanical Properties

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Edited by
Reza Beygi
Mahmoud Moradi
Ali Khalfallah

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This reprint, *Welding and Joining of Metallic Materials: Microstructure and Mechanical Properties*, presents a comprehensive collection of ten research articles focused on recent advancements in welding technologies. The studies included explore three main areas: process optimization, microstructural evolution, and the challenges of welding dissimilar materials. The first set of papers addresses novel approaches to enhance weld quality, energy efficiency, and mechanical properties through advanced welding techniques. The second set investigates the impact of welding-induced microstructural changes on material performance, including strength and corrosion resistance. The third set focuses on strategies for optimizing the welding of dissimilar alloys, offering solutions to the complexities of joining different materials. This collection of articles provides valuable findings for both academia and industry, advancing the understanding of welding processes and improving joint strength, durability, and overall material performance in demanding environments. The presented research not only reflects the current state of the art but also provides new perspectives for future advancements across various industries and technologies.



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