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Simulation of Friction Stir Welding of Dissimilar Alloys and Materials; References; 7 Challenges and Opportunities for Friction Stir Welding of Dissimilar Alloys and Materials; 7.1 Formation of Detrimental Intermetallic Compounds; 7.2 Incipient Melting and Solidification Structure; 7.3 Reliability and Durability 7.4 Corrosion, Galvanic Corrosion, and Stress Corrosion Cracking 7.5 Tool Wear; 7.6 Inadequate Material Mixing Between Softer and Harder Materials; 7.7 Opportunity: Aerospace, Automotive, Marine, And Energy

Sommario/riassunto

This book will summarize research work carried out so far on dissimilar metallic material welding using friction stir welding (FSW). Joining of dissimilar alloys and materials are needed in many engineering systems and is considered quite challenging. Research in this area has shown significant benefit in terms of ease of processing, material mixing, and superior mechanical properties such as joint efficiencies. A summary of these results will be discussed along with potential guidelines for designers. Explains solid phase process and distortion of work pieceAddresses dimensional stability an
