

Table of Contents

Preface

Effect of Ferrite/Austenite Phase Transformation on 475 °C Embrittlement in Duplex Stainless Steel Weld	1
K. Saida, S. Yamashita and H. Hirata	
Effect of High-Temperature Tempering on Microstructure and Mechanical Strength of Laser-Welded Joints between Medium-Mn Stainless Steel and High-Strength Carbon Steel	11
A.S. Hamada, S. Ghosh, M. Ali, M. Jaskari and A. Järvenpää	
Experience in the Fabrication of Tube Grade 7CrMoVTiB10-10 with Inconel 625 Weld Overlay for Use in Steam Superheaters Exposed to Highly Corrosive Environments	19
M. Urzynicok, H. Purzynska and K. Kwiecinski	
Microstructure and Mechanical Properties of A6061/GA980 Resistance Spot Weld	25
T. Nonomura, T. Kosaka, T. Kobayashi, I. Shohji and M. Iyota	
High Energy Density Welding of IN792 Ds Superalloy	
G. Barbieri, F. Cognini, C. de Crescenzo, A. Fava, M. Moncada, R. Montanari, M. Richetta and A. Varone	31
Effect of Cold Rolling on Bonding Interface of C1020/A1050 Butt Joints by Friction Stir Welding	
T. Nagaoka, M. Tada, T. Hagino, C. Okada, M. Ando and T. Miwa	37
High-Speed Laser Beam Welding of Magnesium Alloy AZ31 for Enhancing the Mechanical Properties	
S. Riekehr, N. Al-Hamday, V. Ventzke, G. Rudenko and N. Kashaev	43
Friction Stir Welding of Various Aluminium Alloys to Titanium	
S.F. Grassel, L. Bergmann and B. Klusemann	49
Solute Enrichment in the Fusion Zone during Resistance Spot Welding of a Third Generation Advanced High Strength Steel	
D. Marshall, C. Schenck, L. Hines and J.G. Speer	55
Premium Rail Flash-Butt Welding Process Window Based on Phase Transformations	
H.B. Pereira, E.A.A. Echeverri, D.M.A. Centeno, L.H.D. Alves and H. Goldenstein	63
Resistance Spot Welding of QP Stainless Steels: Role of Heat Treatment and Microstructure on Joint Strength	
A. Smith, E. Macia, M. Muratori, A. Sierra-Soraluce and I. Sabirov	71
Phase Transformations in Layered Composites Based on Zr, Nb, Ta or Ti Sheet Explosively Welded to Stainless Steel Plate	
H. Paul, S. Puchlerska, M. Prażmowski, R. Chulist and M.M. Miszczyk	77
Evaluation on Joint Performances of Advanced Multi-Material Dissimilar Lap Joints	
H. Serizawa	83
In Situ TEM Observation of the Ultrasonic Bonding Process	
Y. Otani, C. Iwamoto and K. Hamada	91
Evaluation of Simulated Heat Affected Zone of Molybdenum- and Niobium Alloyed Ultra-High-Strength Steels	
J. Hannula, A. Kaijalainen and J.I. Kömi	97
Joining Aluminum Alloy and Steel by Friction Stir Forming from Steel Side	
T. Ohashi, H.M. Tabatabaei and T. Nishihara	103
Parallel Computing of Thermo-Fluid Modeling Related to the FSW Process	
A. Aoufi, F. Montheillet and C. Desrayaud	109
Gleeb Simulation of HAZ in S690QL Steel: Microstructural and Mechanical Properties	
D. Tomerlin, N. Gubeljak and D. Kozak	115