## **Table of Contents**

Preface	
WPS Design of Dissimilar Metal Welds between Austenitic Stainless Steel and Carbon Steel for Building Thermal Power Plants N.D. Thang, T.V. The and N.V. Duc	1
Testing of Welded Joints between Pipes for Pressure Vessels Made of Hot Rolled Fine-	
Grained Steel P460NL1 M. Arsić, S.M. Bošnjak, V. Grabulov, M. Mladenović and Z. Savić	15
Researches on Manufacturing Deo Roll Balls by Infrared Radiation Welding D.F. Teusdea, N. SÎRBU, M. Vodă, O.V. Oancă and E.C. Lovasz	21
Reliability in Microjoining Processes for Instrumented Nuclear Fuel Element Fabrication C. Truţă, A. Amzoi and D. Barbos	31
Considerations on the Ultimate Tensile Strength of Butt Welds of the EN AW 5754 Aluminium Alloy, Made by Friction Stir Welding (FSW) V. Verbiţchi, R. Cojocaru, L.N. Boilă, C. Ciucă and I.A. Perianu	38
<b>Evaluation of the Cavitation Resistance of INCONEL 718, in Delivered and Respectively Heat Treated Condition</b>	
C.L. Salcianu, I. Bordeaşu, N. SÎRBU, R. Bădărău, G. Mălaimare, M. Hluscu, D. Ostoia and O.V. Oancă	47
Assessment of the Cavitation Resistance of Stainless Steel X5crni18-10, Subjected to Thermal Sensitization Based on Average Durability	
C.L. Salcianu, I. Bordeaşu, N. SÎRBU, R. Bădărău, M. Hluscu, L.D. Pîrvulescu, D. Ostoia and O.V. Oancă	52
Researches on Manufacturing Deo Roll Balls by Ultrasonic Welding D.F. Teusdea, O.V. Oancă, M. Vodă, N. SÎRBU and E.C. Lovasz	58
Simulation and Experimental Based Analysis of the Laser Beam Welding of DP Steels R.P.S. Sisodia, M. Gáspár, B. Fodor and L. Draskóczi	73
General Considerations Regarding Friction Stir Welding of some Steels Used in Important Industrial Fields C. Ciucă, R. Cojocaru, L.N. Boilă and I.A. Perianu	83
Thermal and Mechanical Influence of Ultrasonically Aided Electrical Discharge Machining	
on Co-Cr Alloys B.I. Cristea, D. Ghiculescu and D. Mnerie	93
Considerations about the Organic Acids Effect on Weldings in Food Processing Industry M.B. Nistoran, G.V. Mnerie and D. Mnerie	108
Mechanized Welding with Metal Cored Wire A.A. Golyakevich, L.N. Orlov and S.Y. Maksimov	113
Production of Bulk Metallic Glasses by Ultrasonic Welding of Nickel Based Amorphous Ribbons	
M. Nicolaescu, C. Codrean, E.F. Binchiciu and B. Radu	123
Mechanical Properties of Duplex Treated Steels Obtained by Instrumented Indentation A.M. Nistor, A. Becheru, D. Foltu, R.M. Buzdugan, D. Buzdugan and B. Radu	130
Research on Welding with Electron Beam of Multiple Overlapping Nickel Based Amorphous Ribbons M. Nicolaescu, C. Codrean, G.V. Mnerie and M. Popescu	136
Mechanical Testing of GFRP Composite Materials Used in Wind Turbine Blades	130
Construction C. Morăra, C.A. Tugui, R. Steigmann, P.D. Barsanescu, B. Leitoiu and V. Goanta	142
Inspection and Repair Quality Plan of Regeneration Gas Heater M. Jaric, S. Petronic, N. Budimir, A.V. Bîrdeanu and S. Tadic	149
Influence of Cooling Time t <sub>8/5</sub> on Impact Toughness of P460NL1 Steel Welded Joints S.A. Sedmak, M. Aranđelović, R. Jovicic, D. Radu and I. Čamagić	154
Integrity and Life Assessment of Welded Joints Made of Micro-Alloyed High Strength Steels	
S.A. Sedmak, A. Sedmak, A. Grbović and Z. Radaković	161

Investigating the Causes of Destruction of a Crankshaft H. Binchiciu, R. Pascu, V. Geantă and E.F. Binchiciu	168
A Comparison Study on the Influence of Cutting Edge Hybrid Ultrasonic Thermal Technology versus Ultrasonic Cutting on Seatbelt Processing Quality R.I. Iacobici, G.V. Mnerie, D.S. Codat and C.V. Rosu	174
Experiments with the Purpose of Expanding the Loading Capacity of Standard Construction Grapples  D. Tihanov-Tănăsache, R. Stefanoiu, A. Binchiciu and E.F. Binchiciu	182
Efficient Process to Develop Self-Sharpening Active Elements V. Geantă, I. Voiculescu, E.F. Binchiciu, D.M. Iovana, R. Stefanoiu and H. Binchiciu	188