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Nota di contenuto	Cover -- Series Page -- Title Page -- Copyright Page -- Contents -- Preface -- Chapter 1 Aluminum and Its Different Graded Alloys -- 1.1 Introduction -- 1.1.1 AA1XXX Series -- 1.1.2 AA2XXX Series -- 1.1.3 AA3XXX Series -- 1.1.4 AA4XXX Series -- 1.1.5 AA5XXX Series -- 1.1.6 AA6XXX Series -- 1.1.7 AA7XXX Series -- 1.1.8 AA8XXX Series -- 1.2 Other Aluminum Materials -- 1.3 Applications -- 1.4 Conclusion -- 1.5 Future Scope -- References -- Chapter 2 Cold Spray Additive Manufacturing -- 2.1 Introduction -- 2.2 Phenomena and Factors Behind CSAM -- 2.3 Different CSAM Techniques -- 2.4 Advantages of CSAM -- 2.5 Disadvantages of CSAM -- 2.6 Numerical Simulation of CSAM of Ti6Al4V Pellets on Ti6Al4V Substrate -- 2.7 Conclusion -- 2.8 Future Scope -- References -- Chapter 3 Optimization of Gas Metal Arc Welding (GMAW) Cladding Parameters for Enhanced Weld Integrity in Low-Carbon Steel Plates (EN30) -- 3.1 Introduction -- 3.2 Experimental Work -- 3.2.1 Dilution Calculation Procedure -- 3.3 Parametric Study -- 3.3.1 Influences on PSF -- 3.3.2 Influences on RFF

-- 3.3.3 Influence on D -- 3.4 Taguchi Optimization -- 3.4.1 Determination of Optimal Cladding Conditions -- 3.4.2 Maximization of PSF -- 3.4.3 Minimization of RFF -- 3.4.4 Minimization of D -- 3.5 Conclusions -- Acknowledgement -- References -- Chapter 4 Design and Development of Brake Pedal by Topology Optimization Approach -- 4.1 Introduction -- 4.2 Structure Optimization -- 4.3 Topology Optimization -- 4.4 Optimization Results -- 4.5 Conclusion -- References -- Chapter 5 Enhancing Resistance Spot Welding Weld Quality: A Comprehensive Analysis of Influencing Factors and the Role of Modeling and Optimization for Improved Quality -- 5.1 Introduction -- 5.2 Influence of Welding Current and Time -- 5.3 Influence of Resistivity, Surface Preparation, and Cleanliness.
5.4 Effect of Electrode Force and Electrode Tip Geometry -- 5.5 Modeling and Optimization of RSW Parameters -- 5.6 Conclusion -- References -- Chapter 6 Shot-Peening Influence on Corrosion Behavior of SiC Particle Reinforced Aluminum Composite -- 6.1 Introduction -- 6.2 Experimental Procedure -- 6.2.1 Fabrication of Composite -- 6.2.2 Microstructure Analysis -- 6.2.3 Shot-Peening Process -- 6.2.4 Surface Characteristics -- 6.2.5 Residual Stress Measurement -- 6.2.6 Microhardness Measurement -- 6.2.7 Immersion Corrosion Test -- 6.3 Results and Discussion -- 6.3.1 Microstructure of AA6061- SiCP MMC -- 6.3.2 Surface Morphology -- 6.3.3 X-Ray Diffraction -- 6.4 Residual Stress -- 6.5 Hardness Variation -- 6.6 Surface Roughness -- 6.7 Corrosion Behavior -- 6.8 Conclusion -- References -- Chapter 7 3D Printing: Fundamentals, Applications, and Future Prospects -- 7.1 Introduction -- 7.2 Materials for 3D Printing -- 7.2.1 Stages Involved in the Process of 3D Printing -- 7.2.2 3D Printing Technologies -- 7.2.3 Applications of 3D Printing -- 7.2.4 Advantages of 3D Printing -- 7.2.5 Disadvantages of 3D Printing -- 7.3 Future Prospects of 3D Printing Technology -- 7.4 Conclusions -- References -- Chapter 8 Cutting Zone Temperature and Cutting Force in 3D-Milling Operations Using ABAQUS -- 8.1 Introduction -- 8.2 Literature Review -- 8.3 Objectives -- 8.4 Methodology -- 8.5 Simulation -- 8.5.1 Geometry -- 8.5.2 Boundary Conditions -- 8.5.3 Meshing Details -- 8.5.4 Step Information -- 8.6 Milling Conditions -- 8.7 Result and Discussion -- 8.7.1 Effect of Cutting Parameters on Force Distribution -- 8.7.2 Effect of Cutting Parameters on Stress Distribution -- 8.8 Conclusion -- References -- Chapter 9 A Rare Ferroelectric Material: Fresnoite (Ba2TiSi2O8) -- 9.1 Introduction -- 9.2 Experimental -- 9.2.1 Materials and Methods -- 9.3 Characterization Details.
9.3.1 Powder X-Ray Diffraction -- 9.3.2 Scanning Electron Microscope -- 9.3.3 Raman Spectroscopy -- 9.3.4 DC Conductivity and Dielectric -- 9.3.5 Modulated Differential Scanning Calorimetry -- 9.4 Result and Discussion -- 9.4.1 X-Ray Diffraction Analysis -- 9.4.2 Morphological Analysis -- 9.4.3 Raman Spectroscopic Analysis -- 9.4.4 Electrical Analysis -- 9.4.5 Thermal Analysis -- 9.5 Conclusion -- References -- Chapter 10 Research Progress and Developments in GTAW Process Using Visual Sensing and Weld Penetration Estimation -- 10.1 Introduction -- 10.2 GTAW Process -- 10.2.1 Current -- 10.2.2 Speed -- 10.2.3 Voltage -- 10.2.4 Shielding Gas -- 10.3 Sensing Technologies in Welding -- 10.3.1 Sensor-Based Technology -- 10.3.2 Acoustic Emission Technology -- 10.3.3 Several Sensor Information Fusion Techniques -- 10.4 Online Vision Inspection -- 10.4.1 Inspection Sensors -- 10.4.2 Vision Inspection Contents -- 10.4.3 Camera Calibration Techniques -- 10.5 3 Dimensional Image Processing of Weld Pool Geometry Using Dot Matrix -- 10.5.1 Image Processing -- 10.6 Real-Time Three-Dimensional Measurement of Topside and Backside Width of Weldment -- 10.7 Dynamic Estimation

of Weld Pool Geometry -- 10.8 Visual Sensing Based on Supervised Machine Learning Technique -- 10.9 Hybrid Network Model Using Convolutional Neural Network and Long Short-Term Memory -- 10.10 Conclusion -- References -- Chapter 11 Simulation of Sulfur Recovery Unit Using Aspen Plus -- 11.1 Introduction -- 11.2 Process Description -- 11.3 Methodologies -- 11.3.1 Description of Simulation Flow Sheet -- 11.3.2 Validation of Simulation Model -- 11.4 Results and Discussion -- 11.4.1 Effect of Acid Gas/Air Molar Flow Ratio on Sulfur Recovery and Tail Gas Ratio -- 11.4.2 Effect of H2S Concentration in Acid Gas Stream on Sulfur Recovery and Tail Gas Ratio -- 11.5 Conclusion -- Acknowledgments.
References -- Chapter 12 Fabrication of Magnesium Metal Matrix Nanocomposites Using Ultrasonic-Assisted Stir-Casting Method -- 12.1 Introduction -- 12.1.1 Ultrasound Equipment -- 12.1.2 Ultrasonication-Assisted Stir-Casting Technique (UASCT) -- 12.1.3 Nanocomposites Processing -- 12.2 Effect of Ultrasound on Magnesium Alloys -- 12.2.1 AlN Reinforcement -- 12.2.2 Al2O3 Reinforcement -- 12.2.3 SiC Reinforcement -- 12.2.4 TiB2 Reinforcement -- 12.3 Conclusion -- References -- Chapter 13 Friction Stir Welding of Dissimilar Magnesium Alloys: Analytical Modeling, Simulation, and Experimental Validation -- 13.1 Introduction -- 13.2 Analytical Modeling -- 13.3 Heat Input Modeling -- 13.3.1 Calculation of Heat Generation -- 13.3.2 Heat Flux Modeling -- 13.4 Experimental Detail -- 13.4.1 Tool Preparation -- 13.4.2 Work Material -- 13.5 Experimental Setup -- 13.5.1 Tensile Test -- 13.5.2 Microhardness Test -- 13.6 Experimental Results -- 13.6.1 Weldments -- 13.6.2 Tensile Test Results -- 13.6.3 Hardness Test Results -- 13.7 Conclusion -- References -- Chapter 14 Advancements in Welding Techniques: Surface and Mechanical Property Insights -- 14.1 Introduction -- 14.1.1 Arc Welding Processes -- 14.1.2 Tungsten Inert Gas Welding -- 14.1.3 Metal Inert Gas Welding -- 14.1.4 Submerged Arc Welding -- 14.1.5 Flux-Cored Arc Welding -- 14.2 Resistance Welding -- 14.2.1 Spot Welding Processes -- 14.2.2 Projection Welding -- 14.2.3 Seam Welding -- 14.2.4 Butt Welding -- 14.3 Hybrid Welding -- 14.4 Rotary Friction Welding -- 14.5 Friction Stir Welding -- 14.6 Properties of Friction Welding -- 14.7 Future Research Opportunities and Conclusions -- References -- Chapter 15 Advanced 3D Printing for Industrial Components: Welded Joint Analysis and Strength Assessment -- 15.1 Introduction -- 15.2 Material Used for SLM Technology -- 15.3 SLM Technology 3D Component.
15.4 TIG Welding Method for Joining -- 15.5 ABS and PLA 3D Component Material -- 15.5.1 Fused Deposition Modeling -- 15.6 Welding Method Used for ABS and PLA -- 15.6.1 Solvent Welding -- 15.6.2 Mechanical Fastening -- 15.6.3 Adhesive Bonding -- 15.7 Characterisation Techniques -- 15.7.1 Examining the Base Material's Porosity -- 15.7.2 Analysis of Mechanical Properties -- 15.8 Challenges Faced in the Development Process -- 15.8.1 Due to the Solvent Welding -- 15.8.2 Due to Mechanical Fastening -- 15.8.3 Due to Adhesive Bonding -- 15.8.4 Method to Avoid Issue -- 15.9 Conclusion -- References -- Chapter 16 Advancements in Electrochemical Surface Coatings: Innovations, Applications, and Future Prospects -- 16.1 Introduction -- 16.2 Fundamentals of Electrochemical Process -- 16.2.1 Electrode Kinetics -- 16.2.2 Faraday's Laws of Electrolysis -- 16.3 Types of Electrochemical Surface Coatings -- 16.3.1 Electrodeposition -- 16.3.2 Anodization -- 16.3.3 Electrophoretic Deposition -- 16.3.4 Electroless Plating -- 16.4 Overview of Surface Preparation Methods -- 16.4.1 Cleaning -- 16.4.2 Degreasing -- 16.4.3 Surface Activation -- 16.4.4 Surface Roughening -- 16.5

Characterization of Electrochemically Coated Surface -- 16.6 Applications of Electrochemical Surface Coating in Various Fields -- 16.6.1 Automotive -- 16.6.2 Aerospace -- 16.6.3 Biomedical Application -- 16.6.4 Application in Dental Implants -- 16.6.5 Microelectronics -- 16.7 Challenges and Limitations of Electrochemical Surface Coating Methods -- 16.8 Conclusions -- 16.9 Future Trends -- References -- Chapter 17 Process Variable Impact Analysis in Unconventional Machining: Enhancing MRR, Accuracy, and Surface Quality -- 17.1 Introduction -- 17.2 Nontraditional Machining Processes -- 17.2.1 Electro-Discharge Machining -- 17.2.2 Parameters Affecting the MRR in EDM.
17.2.3 Parameters Affecting the Surface Quality and Accuracy in EDM.

Sommario/riassunto

This book provides a comprehensive overview of advanced materials, their processing, and fabrication techniques. It covers a wide range of topics including the properties and applications of aluminum alloys, cold spray additive manufacturing, gas metal arc welding, and the optimization of design processes through topology optimization. The book also delves into various manufacturing techniques such as 3D printing, resistance spot welding, and the fabrication of metal matrix composites. It is intended for professionals and researchers in the field of mechanical engineering and materials science, aiming to impart knowledge on the latest technological advancements and their practical applications in industry.