

1. Record Nr.	UNINA9910816356703321
Titolo	Manufacturing technology research [[electronic resource]] . Volume 2 / / J. Paulo Davim and Mark J. Jackson, editors
Pubbl/distr/stampa	New York, : Nova Science Publishers, Inc., 2012
ISBN	1-61470-042-7
Edizione	[1st ed.]
Descrizione fisica	1 online resource (318 p.)
Collana	Manufacturing technology research, , 2157-2658 ; ; v. 2
Altri autori (Persone)	DavimJ. Paulo JacksonMark J
Disciplina	670
Soggetti	Manufacturing processes
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	<p>Intro -- MANUFACTURING TECHNOLOGY RESEARCH --</p> <p>MANUFACTURING TECHNOLOGY RESEARCH -- Library of Congress Cataloguing-in-Publication Data -- CONTENTS -- PREFACE -- FORCES MEASUREMENT IN TURNING OF FEMORAL HEADS FROM AISI 316L STAINLESS STEEL -- ABSTRACT -- NOTATION AND ABBREVIATION -- 1. INTRODUCTION -- 2. HIGH SPEED MACHINING -- 3. CUTTING FORCE MODELS -- 4. EXPERIMENTAL METHOD AND PROCEDURE -- 4.1. Workpiece and Cutting Tool Material -- 4.2. Measurements -- 5. RESULTS AND DISCUSSION -- Surface Quality -- CONCLUSION -- REFERENCES -- FINITE ELEMENT ANALYSIS OF MICROMACHINING -- ABSTRACT -- 1. INTRODUCTION -- 2. FINITE ELEMENT MODELING OF MACHINING AND MICROMACHINING -- 2.1. Background on Machining Modeling and Simulation -- 2.2. Micromachining Modeling and the Size Effect -- 2.3. FEM Model of Micromachining -- 3. RESULTS AND DISCUSSION -- CONCLUSION -- REFERENCES -- EFFECTS OF MINIMUM QUANTITY LUBRICATIONIN DRILLING 1018 STEEL -- ABSTRACT -- 1. INTRODUCTION -- 2. EXPERIMENTAL METHODS AND PROCEDURES -- 2.1. Objectives -- 2.2. Design of Experiment -- 2.3. Cutting Tool -- 2.4. Drilling Equipment -- 2.5. Data Collection Method -- 2.6. Measuring Surface Finish -- 3. ANALYSES -- 3.1. ANOVA Assumptions -- 3.2. Hypothesis -- 3.3. Analysis of Variance for Inside Diameter Data -- 3.4. Surface Finish Analysis of Variance -- 3.5. Results -- CONCLUSIONS -- REFERENCES -- STATISTICAL MODELING AND</p>

PREDICTION OF WEAR IN FRICTION STIR WELDING OF A METAL MATRIX COMPOSITE (AL 359/SIC/20P) -- ABSTRACT -- LIST OF SYMBOLS AND ABBREVIATIONS -- 1. INTRODUCTION -- 2. EXPERIMENTAL DESIGN -- 3. EXPERIMENTAL PROCEDURE -- 4. ANALYSIS -- CROSS-VALIDATION STUDY -- CONCLUSIONS AND DISCUSSION -- ACKNOWLEDGMENTS -- REFERENCES -- MICROSTRUCTURE EVOLUTION IN TITANIUM ALLOYS ENFORCED BY JOULE HEATING AND SEVERE PLASTIC DEFORMATION CONCURRENTLY -- ABSTRACT -- 1. INTRODUCTION.

2. MATERIALS AND TEST METHODS -- 3. THERMODYNAMICS PROPERTIES EVOLUTION -- 4. MICROSTRUCTURE FORMING INSTANCES -- 5. PHASE ANALYZE -- 6. MECHANICAL PROPERTIES -- CONCLUSIONS -- ACKNOWLEDGMENTS -- REFERENCES -- EFFECT OF PROCESS PARAMETERS ON MICROSTRUCTURE, COMPRESSION STRENGTH AND CTE OF 7075 AL ALLOY COMPOSITE -- ABSTRACT -- 1. INTRODUCTION -- 2. LITERATURE REVIEW -- 3. STIR CASTING PROCESS -- 3.1. Heat Treatment of Reinforcement Particles -- 3.2. Design of Stir Caster -- 3.3. Operation of Stir Caster -- 4. MATERIALS AND METHODS -- 4.1. Analytical Thermo- Elastic Models -- Kerner Model -- Schapery bounds -- Turner Model -- 4.2. Fabrication of 7075 Aluminium Alloy and 10 wt% SiCp Composite -- 4.3. Microstructure -- 4.3. Thermo Mechanical Analyses (TMA) -- 4.4. Compression Test -- 5. RESULTS -- Microstructure -- TMA -- Compression Test -- DISCUSSION -- Microstructure -- Al Alloy -- Al Alloy SiCp Composite -- TMA -- Compression Test -- CONCLUSIONS -- ACKNOWLEDGMENTS -- REFERENCES -- OPTIMUM TOLERANCE SYNTHESIS WITH PROCESS AND MACHINE SELECTION FOR MINIMIZING MANUFACTURING COST AND MACHINING TIME BY USING GENETIC ALGORITHM -- ABSTRACT -- 1. INTRODUCTION -- 2. PROBLEM DEFINITION -- 3. RESEARCH METHODOLOGY -- 4. NUMERICAL EXAMPLE -- 4.1. Implementation of GA -- 5. RESULT AND DISCUSSION -- 6. MANAGERIAL IMPLICATION -- CONCLUSION -- REFERENCES -- SELECTION OF CUTTING VELOCITY IN WIRE-EDM PROCESS USING TAGUCHI-FUZZY APPROACH -- ABSTRACT -- 1. INTRODUCTION -- 2. METHODOLOGY -- 3. EXPERIMENTAL RESULTS -- 3.1. Influence of Operating Parameters on Cutting Velocity -- 3.2. Influence of Operating Parameters on Average Surface Roughness -- 4. FUZZY MODEL FOR WEDM PROCESS -- 4.1. Membership Functions for Various Input and Output Variables -- 4.2. Fuzzy Rules for Cutting Velocity -- 4.3. Fuzzy Cutting Velocity Evaluation Strategy -- 5. RESULTS AND DISCUSSION.

CONCLUSIONS -- REFERENCES -- DEVELOPMENT OF MATHEMATICAL MODELS FOR PREDICTION OF WELD BEAD GEOMETRY OF HARDFACED GATE VALVE BY PLASMA TRANSFERRED ARC SURFACING -- ABSTRACT -- 1. INTRODUCTION -- 2. EXPERIMENTAL WORK -- 3. DEVELOPMENT OF MATHEMATICAL MODELS -- 4. RESULTS AND DISCUSSION -- 4.1. Direct Effects of Process Parameters on Weld Bead Geometry -- 4.1.1. Effect of Process Parameters on Depth of Penetration -- 4.1.2. Effect of Process Parameters on Height of Reinforcement -- 4.1.3. Effect of Process Parameters on Bead Width -- 4.1.4. Effect of Process Parameters on Percent Dilution -- 4.2. Interaction Effects of Process Parameters on Weld Bead Geometry -- 4.2.1. Interaction Effect of Welding Current and Welding Speed on Penetration -- 4.2.2. Interaction Effect of Welding Current and Welding Speed on Reinforcement -- 4.2.3. Interaction Effect of Welding Current and Welding Speed on Bead Width -- 4.2.4. Interaction Effect of Welding Current and Welding Speed on Percent Dilution -- CONCLUSION -- ACKNOWLEDGMENTS -- REFERENCES -- RECENT RESEARCH TRENDS IN THE FIELD OF SUBMERGED ARC WELDING - AN OVERVIEW -- ABSTRACT -- 1. INTRODUCTION -- 2. RECENT RESEARCH TRENDS IN SUBMERGED ARC

WELDING -- 3. RESEARCH RELATED TO WELD METAL CHEMISTRY AND ELEMENT TRANSFER BEHAVIOR -- 4. RESEARCH RELATED TO HEAT AFFECTED ZONE, MECHANICAL PROPERTIES AND WELD BEAD GEOMETRY -- 5. RESEARCH RELATED TO OPTIMIZATION TECHNIQUES OF SUBMERGED ARC WELDING -- 5.1. Response Surface Methodology (RSM) and Artificial Neural Network for Process Modeling and Simulation -- 5.2. Other Optimization Techniques -- 6. UTILIZING OF SAW SLAG AND WASTE FLUX DUST -- CONCLUSION -- REFERENCES -- ON-LINE PRODUCT DIMENSION VERIFICATION ON CNC MACHINE TOOL -- ABSTRACT -- 1. INTRODUCTION -- 2. PRODUCT DESCRIPTION -- 3. MANUFACTURING OPERATIONS -- 4. VERIFYING PROCESS -- 4.1. Pin Bore Inspection.

4.2. Measurements on CMM -- 5. SOME OTHER PROCESS FINDINGS -- 5.1. Drilling Problems -- 5.2. CNC-Machine Tool Inaccuracy -- 5.3. Cooling Lubrication Fluid Temperature Problems -- 6. FINAL SOLUTION -- 6.1. Touch Probe Head Specifications -- 6.2. Company Benefits Using the Touch Probe Head -- CONCLUSION -- RESPONSIBILITY NOTICE -- REFERENCES -- EXPERIMENTAL INVESTIGATION OF THE PART COORDINATE SYSTEM EFFECTS ON THE DIMENSIONAL EVALUATION OF GEOMETRIC FEATURES -- ABSTRACT -- INTRODUCTION -- BACKGROUND -- PRELIMINARY WORK -- FOLLOW UP EXPERIMENTATION -- RESULTS AND DISCUSSIONS -- DISCLAIMER -- ACKNOWLEDGMENTS -- REFERENCES -- A GENETIC ALGORITHM FOR THE MACHINING CONDITION OPTIMIZATION IN THE PROCESS PLANNING OF CYLINDRICAL PARTS -- ABSTRACT -- 1. INTRODUCTION -- 2. BACKGROUND -- 3. THE WEBMACHINING SYSTEM -- 3.1. WebCADbyFeatures -- 3.2. WebCAPP -- 3.3. WebTurning -- 4. METHOD -- 4.1. WebCAPP and the Search for Cutting Tools in the Database -- 4.2. WebCAPP and the Optimization of Cutting Conditions through a Genetic Algorithm -- 5. RESULTS AND DISCUSSION -- CONCLUSION -- REFERENCES -- METHODOLOGY FOR SPUR GEARS MANUFACTURING WITH TEETH PROFILE MODIFICATION THROUGH 3D MODELING -- ABSTRACT -- 1. INTRODUCTION -- 1.1. Teeth Profile Modification Technique -- 1.2. Educational Computer Program -- 2. METHODOLOGY -- 2.1. Modeling of Spur Gears -- 2.2. Numerical Command Codes -- 2.3. Validation of Methodology -- CONCLUSION -- REFERENCES -- ANALYSIS OF DRILLING COMPACTED GRAPHITE IRON WITH CARBIDE-COATED HELICAL DRILLS USING DIFFERENT CUTTING FLUIDS -- ABSTRACT -- 1. INTRODUCTION -- 2. EXPERIMENTAL PROCEDURE -- 3. RESULTS AND DISCUSSIONS -- 3.1. Tool Wear -- 3.2. Tool Life Tests -- 3.3. Diameter -- 3.4. Circularity -- 3.5. Straightness -- 3.6. Cylindricity -- 3.7. Surface Roughness -- CONCLUSION -- ACKNOWLEDGMENTS -- REFERENCES.

INFLUENCE OF CUTTING PARAMETERS ON DEEP HOLE DRILLING OF AISI 4144 STEEL -- ABSTRACT -- 1. INTRODUCTION -- 2. METHODOLOGY -- 2.1. Machinability Assessment: Chip Shape Criterion -- 2.2. Identification of Tool Fracture -- 2.2.1. Test Methodology -- 2.2.2. Evaluation Methodology -- 2.3. Machinability Improvement Test -- 2.3.1. Test Methodology -- 2.3.2. Evaluation Methodology -- 3. RESULTS AND DISCUSSION -- 3.1. Influence of the Cutting Parameters and Drill Condition on Tool Fracture -- 3.1.1. Analysis of the Risk of the Chip -- 3.1.2. Analysis of the Amount of Chips -- 3.1.3. Analysis of the Risk of Tool Fracture -- 3.2. Validation of the Influence of Cutting Speed and Feed Speed on Machinability -- 3.2.1. Machinability Results -- CONCLUSION -- REFERENCES -- INFLUENCE OF CURRENT ON WELD BEAD GEOMETRY OF PLASMA-MIG WELDING PROCESS -- ABSTRACT -- 1. INTRODUCTION -- 2. EXPERIMENTAL PROCEDURE -- 3. RESULTS AND DISCUSSION -- CONCLUSION -- ACKNOWLEDGMENTS -- REFERENCES

-- GTAW ARC MONITORING USING SPECTROSCOPY AND CHANGE  
DETECTION ALGORITHMS -- ABSTRACT -- INTRODUCTION --  
Spectroscopy -- Change Detection -- EXPERIMENTAL PROCEDURE --  
RESULTS -- CONCLUSION -- REFERENCES -- HIGH SPEED MECHANICAL  
TESTING USING AN INNOVATIVE ELECTROMAGNETIC COMPRESSIVE  
SPLIT HOPKINSON BAR -- ABSTRACT -- 1. INTRODUCTION -- 2.  
ELECTROMAGNETIC COMPRESSIVE SPLIT HOPKINSON BAR -- 2.1. Basic  
Structural Parts -- 2.2. Specific Mechanical and Pneumatic Parts -- 2.3.  
Electrical and Electromagnetic Parts -- 3. RESULTS AND DISCUSSION --  
CONCLUSION -- ACKNOWLEDGMENTS -- REFERENCES -- INFLUENCE OF  
TEMPERING TEMPERATURE IN WEAR OF AISI T15 HIGH SPEED STEEL  
TOOLS PRODUCED BY TWO DIFFERENT SINTERING PROCESSES --  
ABSTRACT -- INTRODUCTION -- MATERIALS AND METHODS --  
RESULTS AND DISCUSSION -- CONCLUSION -- ACKNOWLEDGMENTS --  
REFERENCES -- INDEX.

---