Table of Contents

Preface

Chapter 1: Properties and Machining Processes of Steel and Alloys

A Study on Optimization of CO ₂ weiging Process Parameters on Structural Steel by Using Taguchi Method	
P. Math and B.S. Praveen Kumar	3
Microstructural and Mechanical Behaviourial Properties of Cold Compacted Ultra-Fined Grained (UFG) Magnesium AZ31B Alloy Prepared by Ball Milling Process P. Mansoor and S.M. Dasharath	13
Experimental Investigation on Al 6061 and Al 2024 Aluminium Alloys for Achieving Surface Roughness Using CNC Vertical Face Milling Process R. Poornesh, B.L. Sunith and S. Hemavathy	25
Study of Microstructural and Mechanical Properties of Ti-Alloys Synthesis from High Energy Ball Milling by Spark Plasma Sintering - A Review P. Pushp and S.M. Dasharath	37
Aluminum 4.5 wt. % Copper Alloy Powder Sintering Temperature Effect on Microstructure and Mechanical Properties of Spark Plasma Sintered Compact K.S. Narayana Swamy, S. Devaraj and H.K. Chandra Mohan	47
Chapter 2: Tribology and Coatings	
Mechanical and Tribological Properties Correlations of Die Cast and Spray Formed Aluminum 2.5wt.% Cu-2.5wt.% Mg - 5wt.% Zn Alloy H.K. Chandra Mohan, S. Devaraj, K.S. Narayana Swamy and B.K. Venkatesha	57
Improving the Disseminations of Boiler Tube Material T-SA213-T-11 at High Temperature Behavior of CNT Reinforced NiCrAlY with HVOF J. Nalini Kumari, N. Jegadeeswaran and B.S. Raju	69
Study on Solid Particle Erosion Studies of Stellite-6 HVOF Coating on Titanium Alloy D. Prabhakaran, N. Jegadeeswaran, B. Somasundar and B.S. Raju	81
Performance and Characterization of 4-Stroke Diesel Engine Using Zirconium Dioxide (ZrO ₂) Coated Piston of Various Thickness M. Kalyana Kumar and P.D. Sudersanan	87
Chapter 3: Composite Materials	
Investigations on Machinability Behavior in Turning of Al7075/Beryl/Graphene Nano Platelets Hybrid Composites with Multilayer Coated Carbide Insert Using Taguchi and Statistical Techniques	
S. Patil, S.A. Ahmed, P. Gunaki, A.A. Pasha and M. Nagaral	99
Investigation on Wear Analysis of Aluminium (Al) 7075 Alloy Reinforced with Titanium Carbide (TiC) and Graphene (Gr) Nanoparticles	
S.V. Lingaraju, C. Mallikarjuna and B.K. Venkatesha	111