

Table of Contents

Preface

Chapter 1: Tribological Performances, Wear Resistance and Fatigue Behavior of Structural Metals

Effect of Normal Load and Bulk Strain on Real Area of Contact in Aluminum Sheet Forming F. Jalali Moghadas, M. de Rooij, T. van den Boogard and J. Hazrati	3
Analysis of Tool Wear Rate during a Rotation of Cutter in Fly Cutting T. Matsumura, S. Tamura and A. Toshiharu	11
Improved Process Efficiency with Microtextured Blanking Punches Using MHP P. Schumann, V. Arne and P. Groche	19
Optimization of Precision Boring Conditions to Enhance the Surface Integrity of a Landing Gear Component W. Jomaa, J. Levesque and A. Gakwaya	29
Image-Based Machine Learning of <i>In Situ</i> Captured Images of Die-Workpiece Interface in Forging R. Matsumoto, S. Kunisawa, Y. Nakamura and H. Utsunomiya	39
Tribo-Corrosion Wear Mechanisms of NiTiNOL60 Alloy in Aqueous Sodium Hydroxide A. Okoani, N. Ashveen and M. Ramezani	45
Evaluation of the Hot Tribological Properties of the AZ80 Alloy by a V-Groove Friction Test T. Funazuka, S. Hosaka, K. Yamazaki and K. Dohda	53
Fundamental Study on Influence of Residual Stress Distribution on Fatigue Strength in ns Pulsed Laser Peening for Welded High-Strength Steel S. Okura, H. Pan, Y. Okamoto, A. Okada, Y. Sakino and T. Kato	61
Influence of Heat Treatment on Tool Wear of High-Carbon Steel (C55) R. Mineta and T. Sawa	69
Improvement of Prediction Reliability of Tool Edge Contour Position in Turning — Influence of Boundary Wear on Process of Dividing Roughness Curve into Feed Marks in Estimating Roughness Components K. Taniyasu, R. Tanaka, I. Espinoza Torres, I. Martínez Ramírez, K. Sekiya and K. Yamada	75
Effect of Cutting Temperature on Material Deformation and Residual Stress after Face Milling R. Hanaki, T. Inoue, K. Somaya, H. Usuki, Y. Aoki and M. Hagino	83

Chapter 2: Heat and Mass Transfer in Engineering Systems

Void Fraction Two-Phase Flow of Air - Sodium Chloride Solution and Glucose in Horizontal Mini-Pipe S. Sukamta, C.T. Pradana, S. Sudarja and R.K. Adi	93
Effect Air Flow Rate on the Performance of Perforated Splash Fill Plate of Forced Draft Wet Cooling Tower K. Umurani, A. Syuhada, M.I. Maulana and Z. Fuadi	107
The Influence of Incoming Water Flows and Head Variations on the Archimedes Screw Turbine Torque Force for Low Head Hydroelectric Power Plants T.F. Ardiansyah, M.I. Maulana and A. Syuhada	117