

Table of Contents

Preface

Chapter 1: Polymers and Composites

Effect of h-NS Content on the Viscosity, Morphology, Gelation, and Mechanical Properties of the Modified-rPET from Bottle Waste B. Roonthong, S. Damdenngam, N. Intarasuwan, N. Parneam, P. Suwankan and S.I.N. Ayutthaya	3
A Novel Elastomeric Dielectric Materials: Natural Rubber/Copper-Modified Activated Carbon T. Yingshataporn-a-nan, P. Thusanaphoom, T. Lardsaluk, N. Moolchai, N. Sosa, W. Jeunghanasirigool and N. Sukhawipat	11
AlZn-Matrix Cast Composites Reinforced with Ti Aluminides P.K. Krajewski, A.L. Greer, J. Orava, B. Gracz, G. Piwowarski, M. Kawalec, E. Olejnik and W.K. Krajewski	19

Chapter 2: Functional and Special Materials

Use of Modified Organic and Inorganic Phase Change Materials for the Development of Personal Cooling Device F. Farhan and M.A. Hamza	29
Synergistic Effect of Surface Hydrophobicity and <i>In-Vitro</i> Antimicrobial Activity of Polymeric Nano-Formulation in Textile Finishing S. Javaid, S.U. Rehman and N.M. Ahmad	37
Antimicrobial Performance of Different Metals R. Jayachandran	43
Effects of the Solid Concentration of Ceria Slurry on the Removal Rate and Selectivity of Si Wafer during Chemical Mechanical Polishing A. Chafidz, K.K. Gupta, C.W. Yu and C.H. Lu	53

Chapter 3: Processing Technologies of Aluminum and Aluminum Alloys

Design Optimal Riser Size for Reducing Shrinkage Defect in 1100 Aluminum Alloy Sand Casting Process S. Hoochaiyaphum, P. Jantasorn and P. Suwankan	61
Design a Gating System for an Aluminum Cast Three-Way Pipe in Sand Casting P. Kwanthong, P. Jantasorn, P. Saisirirat and P. Suwankan	69
The Influence of Surface Segregation on the Anodizing of AlSi11Cu2(Fe) Diecastings G. Scampone, A. Russo, R. Muzzani, A. Carminati and G. Timelli	77
Influence of Gas Oven Temperature on the Microstructure and Extrudability of Al-Mg-Si Aluminium Alloys A. Schiffl, S. Tourey and P. Riepler	83
Research on the Cavitation Resistance Testing of Friction Stir Welded Joint of En Aw 1200 Aluminium Alloy C.V. Besalic, A.N. Luca, M. Gabriela Victoria, L.N. Botila, C. Ghera and R. Bădăraș	91