

Table of Contents

Preface

Chapter 1: Additive Manufacturing

Influence of Styrene-Ethylene-Butylene-Styrene and Stearic Acid on Poly(Lactic) Acid/Alumina Filament Composite for Fused Deposition Modeling Application M.S. Tolentino and B.A. Basilia	3
Assessment of Microstructural and Mechanical Properties of 420 Stainless Steel Fabricated by Laser Powder Bed Fusion H. Bongao, P.A. De Yro, K. Chadha, Y. Tian and C. Aranas	11
Mechanical Behavior of Functionally Graded ABS Gyroid Lattice Structures Using Fused Deposition Modeling S.A.C. Arañez, B.A. Basilia, C.L. Custodio and M.T. Margarito	19

Chapter 2: Surface Engineering and Coatings

Improving the Electroplating Coating Uniformity Based on Fuzzy Control of the Setting Value Using the Combined Defuzzification Method with the Presence of Stochastic Influences D.S. Solovjev	27
Assessment of Shear Bond Strength of Thermal Spray Coatings by Applying Prismatic Samples A.N. Zaytzev, A.N. Lukianova and D.A. Demoretsky	35

Chapter 3: Chemical and Hydrometallurgical Technologies

Selective Copper Extraction from Spent Lithium-Ion Batteries E.B. Kolmachikhina, K.D. Naumov and D.I. Bludova	45
---	----

Chapter 4: Bioceramics

Effect of Sintering Temperature on the Properties of Calcia-Stabilized Zirconia (Ca-SZ) Bioceramics A.S. Johari, Z.A. Ghani, K.A. Shariff and T. Liszen	55
The Effect of Glazing, Reglazing, and Polishing on Zirconia Biaxial Flexural Strength S.N.I. Farhani, T. Sumarsongko and L. Damayanti	65
Upscaling of CaO Derived from Cockle Shells as Stabilizer for Zirconia with Improved Properties for Dental Applications N.A.A. Abd Wahab, Z.A. Ghani, K.A. Shariff, A. Husein and A.I. Hussein	73
Carbonate Apatite Crystal Formation in Novel Endodontic Sealer E. Megasari, H.D.A. Dharsono, M.N. Zakaria, S. Pramudita and A. Cahyanto	81

Chapter 5: Alternative Inorganic Binders

Dependence of Lignosulfonate Plasticizer Efficiency on the Activator Concentration in Alkali-Activated Blast Furnace Slag Paste P. Hrubý, V. Bílek Jr., V. Iliushchenko and L. Kalina	89
Influence of KOH and Granite Cutting Waste on the Formation of Calcium Silicate Hydrates under Hydrothermal Conditions at 200 °C G. Kazlauskaitė, T. Dambrasukas and K. Baltakys	97

Self-Sensing Properties of Carbon Black or Graphite Modified Fly Ash Geopolymer under Flexure	
C. Mizerová, P. Rovnaník, I. Kusák, P. Schmid and L. Topolář	103
The Development of Composites Based on Alkali-Activated Matrices Resistant to Extreme Temperatures	
Á. Dufka, J. Melichar, T. Melichar and J. Bydžovský	109
The Technology of Processing of Bed Combustion Fly Ash for Cement Composite Production	
M. Ťažký, R. Hela and K. Křížová	117
Belite-Rich Cement - A more Environmentally Friendly Alternative to Ordinary Portland Cement	
V. Cába, M. Sedlačík, V. Iliushchenko and L. Kalina	123
Influence of Nitrate Species $A(NO_3)_2$ on Physico-Mechanical Properties of the Aluminosilicate Adhesives for Wooden Structure	
S.G. Guzii, V. Romanyuk, O. Yermakova, O. Kostyrkin, O. Petrova and V. Ishchuk	129