

Table of Contents

Preface

Chapter 1: Biopolymers and Composites

Effects of Plasticizers on Physical and Mechanical Properties of Tamarind Kernel Powder Film A. Phumkacha, T. Leejarkpai and S. Kirdponpattara	3
High Density Polyethylene/Calcium Silicate Hybrid Composite: Preparation, Characterization and <i>In-Vitro</i> Bioactivity P. Siriphannon and S. Rukchonlatee	9
Lignin Particle Production by Spray Dryer with Self-Assembly Technique C. Kanana, D. Cresry and T. Pongprayoon	15
Montmorillonite/Tripolyphosphate Crosslinked Chitosan Nanocomposites for Eco-Friendly Agricultural Applications P. Siriphannon, S. Rungkron, S. Soetsom and S. Sukyee	21
Effects of Holding Time and Temperature of Creasing Knife on Crease Bending Characteristics of Milk Carton Subjected to Indentation of Flat-Edge Creasing Knife S. Nagasawa and T. Nagumo	27

Chapter 2: Electro- and Photochemistry

Investigation of Peptization Technique to Synthesize Si@TiO₂ for a Li-Ion Battery Anode Material B.N. Vats, R. Gupta, A. Gupta, S. Fatima and D. Kumar	45
Carbon Dots Modification Surface of Titanium Dioxide and Their Photocatalytic Activity G. Wongwaen, C. Suwanchawalit and N. Triamnak	53

Chapter 3: Materials and Technologies of Chemical Processing

Competitive Adsorption of Butanol from ABE Fermentation Solution by Silicalite-1 W. Tachanuwanaphan and S. Tontisirin	63
The Utilization of N-Butanol to Olefins over Different Zeolite Structures P. Suksamran and S. Tontisirin	69
Development and Optimization of Chemical Deinking of Laser-Printed Paper R. Muangnamsuk, S. Chuetor and S. Kirdponpattara	75

Chapter 4: Green Building Materials

Experimental Investigation on Tensile Strength of Twisted Ramie Fiber Yarns M. Maidina, F. Muslim, S. Sudarmanto, D. Purnomo, A. Sumarno and H. Purnomo	83
Terahertz Optical Properties of Graphite-Cement Paste J.L. Castro, D.J.C. Nagal, A.L.C. Jusi, M. Madlangbayan, A.E. De Los Reyes and A.K.G. Tapia	89
Durability Performance of Reinforced Concrete-Based Fly Ash Exposed to Combined Chloride-Sulfate Attack A. Ejbouh, A. Ech-chebab, S. Hassi, M. Galai, H. Benqlilou and M. Ebn Touhami	95
Corrosion Resistance Enhancement of Reinforced Concrete in Marine Environment by Partial Replacement of Black Rice Husk Ash W. Chandra-Ambhorn, E. Bumrunghthaichaichan, C. Rotchan, N. Haema, P. Wongpromrat and S. Wattananusorn	101
Characterization of Coconut Husk Ash as Potential Substitute for Fly Ash in Geopolymer Concrete J.K. Lorenzo, A.R. Andal, A.J. Morales, J.J. Davantes and M.A.M. Taguba	109

Chapter 5: Structural Mechanics

Analysis of the Behavior of Different Steel Alloys Subjected to Uniaxial Mechanical Fully Reversed Fatigue Tests	
J. Brnic, M. Brcic and S. Krscanski	119
Analysis of the Effect of Slenderness Ratio on Nominal Moment in T Section	
T.H. Chang, H.C. Chung, K.Z. Ho and W.T. Hsu	125
Lateral Torsional Buckling Strength Analysis of Single Symmetric I-Beam Section	
W.H. Hsu, C.H. Liu, K.Z. Ho and W.T. Hsu	131