

Table of Contents

Preface

Chapter 1: Biocomposites

Antioxidant Activity and Biodegradability of Thermoplastic Starch Red Cabbage/Calcium Carbonate Biocomposite Films	
M.H. Hing, A.F. Osman, S.A. Adnan, M.J. Gulam Tasteker, D.S. Lai, I. Ibrahim and H. Suryanto	3
The Effect of Thermo-Oxidative Aging on Properties of Thermoplastic Starch Biocomposites Films	
I. Ibrahim, H.A. Aziz, A.F. Osman and S. Sattayanurak	13
Polylactic Acid (PLA)/Cellulose Hybrid Biocomposite: The Utilization of Nypa Frutican on Enhancing Mechanical Properties of PLA	
M.N.H. Termizi, M.S.M. Rasidi, A.M. Nasib, F. Zainuddin and A.H. Masa	25
Effects of Temperature and Pressing Time on Flexural Properties of Binderless Chipboards from Coconut Chip	
H.T. Liem, Z. Zakaria and L.Q. Ngoc Tran	35

Chapter 2: Special Materials

The Effect of Particle Size of Recovered Carbon Black (rCB) on the Properties of Epoxy Conductive Material	
S.S. Palaniandy, P.L. Teh, W.M. Che, C.K. Yeoh and W.C. Wong	45
Efficiency Assessment of GaInP/GaAs Tandem Solar Cells: Analytical Investigation and Numerical Simulation	
J.B. Makambo, P.E. Imoisili and T.C. Jen	53

Chapter 3: Waste Recycling Technologies

The Effect of Polymer Amendment on the Colloidal Properties of a Waste K⁺- Rich Bentonite for Water-Based Drilling Fluid Applications	
Y. Ramsis, E. Sarris, L. Papaloizou and D. Vattis	63
Mechanical and Flow Properties of Virgin and Recycled Low-Density Polyethylene (LDPE) Blends Using Twin Screw Extrusion	
C.K. Lim, M.H. Mohd Pisal, K.C. Lim, M.N. Baddrulsham and J.A. Adorna Jr	71

Chapter 4: Non-Destructive Testing

Real-Time Detection of Aircraft Surface Damages Using UAV-Based Aerial Imaging with YOLOv8	
K.C. Liao, J. Lau, W.D. Fan, T.L. Chuang and M. Hidayat	83
Study Regarding the Possibility of Using Ultrasonic Pulse Velocity (UPV) on Earthen Construction Evaluation	
B. Bolborea, S. Dan, C. Baeră, A. Gruin, A. Ion, A. Vasile, I.A. Perianu and A.M. Barbu	91

Chapter 5: Construction Technologies and Materials

Influence of Breakages of Reinforcing Elements of a Composite Orthotropic Stay Rope on Its Stress-Strain State	
I. Belmas, D. Kolosov, S. Onyshchenko, O. Bilous, H. Tantsura and K. Antonova	107
Research Possibilities for Efficient Capitalization in Construction Eco-Products, of Mineral Additions Generated by the Local Romanian Industries as Wastes or By-Products	
C. Baeră, A. Vasile, M. Negruț, B. Bolborea, A. Gruin, A.M. Barbu and I.A. Perianu	119