

Table of Contents

Preface

Chapter 1: Sustainable and High-Performance Building Materials

Diagonal Shear Strength of Masonry Wall Using Mortar Joints Mixed with Rubber Tire Crumbs and Fly Ash	
R. Faizah, S. Yadi, E. Saputra, T.R. Saputra and Z.M. Ihza	3
Strength and Durability of Paving Block with Seawater and POFA (Palm Oil Fuel Ash)	
A. Dasar, D. Patah, M.A. Caronge, F. Mahmuddin and A. Apriansyah	11
The Impact of Fly Ash and Sea Sand on Strength and Durability of Concrete	
D. Patah, A. Dasar, F. Fakhruddin, B. Shintarahayu and A. Apriansyah	23
Formulation of a Mixture of Nutmeg Shell Waste with Coarse Aggregate for Optimal Compressive Strength Values in Lightweight Concrete	
B. Budiman and F. Mahmuddin	35
The Mechanical Properties of Laterite Substituted with Cement and Bottom Ash	
S. Lhajai, M. Jamnongwong and N. Thanasisathit	43
Evaluating the Efficiency of Dust Stone as an Improvement Material for Cement Gravel Column	
T. Pansuwannakun, R. Sukkharak, P. Voottipruex, S. Maneekaew and I. Meepon	49
Evaluating Physical Properties of Biochar-Modified Bitumen: An MCDM Approach Using TOPSIS and VIKOR	
G. Balotiya, A. Gaur, P. Somani, A. Sain and S.C. Bairwa	59
Phase Change Material for Energy-Efficient Concrete Pavement: Evaluating Mechanical and Thermal Performance	
P. Somani, A. Gaur, A. Sain and G. Balotiya	67

Chapter 2: Geotechnical Engineering

Experimental Investigation of Internal Erosion of Gap-Graded Sands	
K. Chawanaputorn, J. Prasomsri and S. Likitlersuang	77
Using Triaxial Geogrid in Reinforcing Crushed Rock Base Constructed on Soft Soil Subgrade	
H. Poorahong and P. Kruavit	87

Chapter 3: Pollutants Absorption

Study on the Adsorption Performance of Lead Ions in Water by Phosphate Base Polymer with Different Ratio	
X. Jiang, X.M. Jiang, N. Li and Z.G. Hu	97
Study on Lead Adsorption Properties of Metakaolin/Red Mud Geopolymer	
X. Jiang, X.M. Yuan, N. Li and Z.G. Hu	103
Polyvinylidene Fluoride Nanofiber Murray Membrane for Quick Oil Absorption	
K.X. Li, G.N. Feng, G.M. Li, Z.B. Zhang, J.H. Xiang, T. Chen and H.L. Zhao	111