

Table of Contents

Preface

Chapter 1: Materials and Technologies

Assessment of Corrosion Effects on Railway Bridges in the Middle Area of Vietnam Using Multibody Dynamics Approach M. Pham, C.T. Dang and C.V. Nguyen	3
Strength Possibilities on Fly ash Based Interlock Pavers S. Kuckian and A. Dalvi	12
Evaluation on the Air Permeability Properties of the Mainstream Sportswear Brands M.T. Lam, W.Y. Wang, C.W. Kan, S. Udon, K. Manarungwit and R. Mongkholrattanasit	20
Moisture Management Behavior of Summer Cooling Towels Y.L. Lam, W.Y. Wang, C.W. Kan, K. Visesphan, S. Areechongchareon, S. Chonsakorn and R. Mongkholrattanasit	25
Water Vapor Transmission Properties of Men's Quick-Dry Sportswear Y.N. Fan, W.Y. Wang, C.W. Kan, K. Promlawan, W. Changmuong and R. Mongkholrattanasit	30
Effect of Heat Treatment Temperature on the Mechanical Properties of Custom-Made NiTi Closed Coil Springs T. Assawakawintip, R. Chintavalakorn, P. Santiwong and A. Khantachawana	35
Abrasion of Reactive Powder Concrete under Direct Water Impact M.L.A. Hussein, S.R. Abid and S.H. Ali	41
Repeated Drop-Weight Impact Tests on RPC Containing Hybrid Fibers H.A. Jabir, S.R. Abid, M.L.A. Hussein and S.H. Ali	49
Study of the Adhesion Strength of Plasma-Sprayed Coatings Using Statistical Methods N. Kuleshov, N. Dolgov, I. Smirnov, L. Vinogradov and V. Shestakov	56
Experimental and Statistical Study of In-Plane Tensile and Adhesion Strength of Plasma-Sprayed Coatings N. Kuleshov, N. Dolgov, I. Smirnov, L. Vinogradov and V. Shestakov	61
Potential-Magnetic Composite of Fe₃O₄/Activated Carbon from Palm Oil Shell A. Allwar, G.D. Apriliani, F.M. Wokas and E.Y. Saputri	68
Frictionless Contact on Elastic Half Plane with Influence of Surface and Couple Stresses T.M. Le, T.Q. Bui, J. Lawongkerd, S. Limkatanyu and J. Rungamornrat	73
Mechanical Properties of ECC Incorporating Low-Cost PVA Fibers S.R. Abid, A.N. Hilo, Y.H. Daek and N.S. Ayoob	78
Preparation and Structures of Ni/Natural Rubber Promoted Carbon Nanofiber Branches via One-Step Carbonization Process S. Chanthee and M. Santikunaporn	85
Influence of Longitudinal Reinforcement Ratio on Shear Strength of RC Slender Beam Under Different Loading Rates H.A. Saifullah, K. Nakarai, N. Chijiwa, K. Maekawa and S. Kristiawan	91
A Study on Eco-Concrete Incorporating Fly Ash and Blast Furnace Slag in Construction in Vietnam T.S. Nguyen and T.S. Nguyen	98
Computation of the Surface Materials Modification by Plasma Technology A.M. Lykov and N.V. Mokrova	106
Study of Fine-Grained Cementitious Composites in Solidification Phase Using Acoustic Testing Technique M. Hoduláková and L. Topolář	111
Mechanical Properties of Porous Ti-Nb-Zr Alloy Fabricated by Using a Combined Process of Decomposite - Sintering Method in Vacuum Atmosphere H.K. Thanh, N.V. Toan and T.V. Dung	117
Prediction of Soil Compression Index in Teziutlán, Mexico M. Al Dianty and W. Wu	124

Elastic Half Space under Axisymmetric Surface Loading and Influence of Couple Stresses J. Lawongkerd, T.M. Le, S. Keawsawasvong, S. Limkatanyu and J. Rungamornrat	129
--	-----

Chapter 2: Civil Engineering

Optimum Process of Pipeline Selection in Water Distribution Network: Case Study B. Mukherjee, S. Das and S.P. Maity	137
Improving the Stability of Optimal Control Systems for Thermal Processing V.A. Velichkin	142
Construction Projects Problems Optimization Using PSO and GSA N.M. Sahib, A. Hussein, S. Falih and H.I. Naji	147
The Effect of Desert Environment on the Cost of Construction Projects (Materials Transportation) K.R. Erzaij and R.H. Ali	152
Prototyping Operation and Maintenance System for a Campus Building P.F. Kaming, A.P.V. Prabowo, F. Raharjo and N.P. Pramesti	157
Investment of Steel Reinforcement Extracted from Destroyed Buildings in Iraq Z.A. Jalil, H.I. Naji and M. Mahmood	166
A Comparative Analysis of Flow Fields around a Composite Hydrokinetic Device A. Kuila, S. Das and A. Mazumdar	173
Accuracy of Three Bracket Transfer Media for Indirect Bonding Techniques (IDB) Fabricated by Three-Dimensional Printing S. Rattanasumawong, P. Santiwong, S. Raocharernporn and S. Tantidhnazet	179
Mechanical Properties of Experimental Non-Latex Orthodontic Elastic Bands S. Malanon, S. Dechkunakorn, N. Anuwongnukroh, P. Sea-Oui, P. Thaptong and W. Wicha	185
Measuring-Diagnostic System for Monitoring and Evaluating the Operational Reliability of Rotor Blades for Aircraft Gas Turbine Engines by Acoustic Emission Method M. Urbaha, A. Urbah, M. Banov, V. Shestakov and P. Pogorodny	190
Algorithm of Calculation of Indicators of an Assessment of Conformity of Functions of the City to Standard Values of Parameters V.A. Gordon, N.V. Bakaeva, D.P. Zuleta and U.Y. Pavlova	195
Experimental Study on the Seismic Behavior of Semi-Precast Reinforced Concrete High-Rise Buildings Using Shaking Table V.T. Nguyen and M. Hoang	202
Establishment of Artificial Accelerogram for Structural Analysis according to the Earthquake Characteristics of Vietnam V.T. Nguyen and M. Hoang	211
Materials Science Introduces Disaster Prevention and Mitigation Education Experiment C.C. Chou, Y.T. Wang, J.J. Hu, S. Liao and C. Hsu	221
Risk Assessment and Management for Lightweight Steel Structure Construction for Industrial and Residential C.C. Chou, C.Y. Ko, L.K. Hsiao, Y.T. Ho and Y.C. Ou	226
A Study of the Technique for Assessment of Locations and Conditions of the Underground Pipeline: Case Study for Nakhon Pathom Province, Thailand S. Sirisuraphong, S. Duangnet, C. U-Tapao and L. Laokhongthavorn	231
Evaluation of Building Structure Resilience due to Flood Disaster that are outside the Riverbanks in the Floodplains G. Fairuz, D.R. Marthanty and J. Sjah	239
Framework for Sustainable Procurement - Identifying Elements for Construction Works R. Wirahadikusumah, M. Abduh and Y. Messah	245
Automation of Concrete Heat Treatment in Thermoactive Formwork in Monolithic Housing Construction A.F. Tikhonov	250