

Table of Contents

Preface

Chapter 1: Reinforcement Materials in Concrete

Aerated Lightweight Concrete Drain with Reinforced Semantan Bamboo (AeLiConD-RSB) N.A. Idris, H.M. Noh, E.Q. Mohamed Zailani, N.I. Jamil and N.A. Rustam	3
Mathematical Analysis on the Durability of Basalt Rebars in Acidic Environment L.Y. Han, R. Binti Othman, C.B. Wei, R.P. Jaya, M.A. Sulaiman and Y. Duraisamy	25
Durability of Basalt Rebars under Alkaline Environment L.Y. Foon, R. Binti Othman, R.P. Jaya, M.A. Sulaiman and Y. Duraisamy	35
Mechanical Properties of Hybrid (Steel-Kenaf) Fiber Reinforced Concrete S.M.S. Mohsin, R.A. Hammood, N.F. Ariffin, F.M. Yahaya, S. Wan Ahmad and K. Muthusamy	47
A Bibliometric Review of Research Trends on Kenaf Fiber Reinforced Concrete A.O. Baarimah, W.S. Alaloul, M.S. Liew, S.O. Baarimah, M.A. Musarat and A.A. Bin Mokaizh	57

Chapter 2: Conventional Concrete and Concrete Elements

The Impact of Varying Ratios of Water-to-Cement Content on the Fresh and Strength Properties of Self-Compacting Concrete M.I.Y. Al Biajawi and R. Embong	69
Design and Analysis of Blast Resistant RC Beams for Concrete Structures at Off-Site Oil and Gas Plants S. Al-Jasmi, N.F. Ariffin and M.A. Seman	81

Chapter 3: Sustainable Asphalt Mixtures

Characterization of Porous Asphalt Mixture Using Faunus Ater Shell Ash as Filler and Polyethylene Terephthalate (PET) as Bitumen Additive T. Syammaun, F. Rachman, Zainuddin and H. Fauzan	91
The Influence of Colloidal Nanosilica on Microstructure of Asphalt Binder After Long-Term Aging M.S. Samsudin, A.K. Arshad, K.A. Masri, M.K.A. Mohd Lazi, H. Mat Hassan and E. Shaffie	101
Rheological and Mechanical Properties of Hot Mix Asphalt Incorporating Polypropylene and Polyethylene Fibers R. Ferdaus, K.A. Masri, R.P. Jaya and S.M. Shahnewaz	115

Chapter 4: Materials and Technologies in Geotechnics

Beach Profile and Shoreline Sediment Properties at Eroded Area in Batu Pahat M. Mokhtar, M.E. Daud, M. Kaamin, M.S. Sabri, F. Hayazi, M.H. Hisham, M.I. Siddiq, M.A.M. Azmi, N.B. Hamid and H.M. Noor	127
Suitability of <i>Eugenia oleina</i> in Tropical Slope as Bio-Anchorage System Y. Duraisamy, R. Binti Othman, M.A. Sulaiman, R.P. Jaya and S.N.L. Taib	139

Chapter 5: Applied Technologies in Civil Engineering

The Potential Use of Palm Oil Clinker as Drainage Layer in Extensive Green Roof System: Runoff Quality Assessment K.A. Shahid, R. Zailan, F.M. Yahaya, N. Mohd Zain, N.S. Romali and M.F. Md Jaafar	153
Lighting Audit for Energy Conservation and Safety and Health in the Academic Office Building R. Zailan, M.I.Y. Al Biajawi, M.F. Md Jaafar, N. Ghazali and K.A. Shahid	161

Research Trends on Green Roof Applications and Materials in Green Buildings H.N.A. Hamid, N.S. Romali and R.A. Rahman	171
Study of Model and Material Houses Effect on Tsunami Hazard in Banda Aceh City Using SmarthPLS W. Soviana, Munirwansyah, Syamsidik and A. Achmad	181
High-Rise Building Inspection by Using Unmanned Aerial Vehicles N.A. Idris, M. Kaamin, A.S. Sarif, M.S.M. Nawawi, H.M. Noh, M. Mokhtar and A. Abd Kadir	195

Chapter 6: Management in Construction

Preventive Modelling in Risk Management on the Construction Project K. Hayati, Yulia and D. Agung	213
Profit Analysis of Recycled Waste between Two Construction Sites: A Case Study K. Nadarason, S. Nagapan, S. Kaliannan, K.K. Kasvar and K. Poonjolai	223