

Table of Contents

Preface and Committees

Physical Properties of Volcanic Ash Based Geopolymer Concrete P. Risdanareni, A. Karjanto and F. Khakim	1
Effect of Bentonite Addition on Geopolymer Concrete from Geothermal Silica H.T.B.M. Petrus, J. Hulu, G.S.P. Dalton, E. Malinda and R.A. Prakosa	7
Effect of Poly(Ethylene-co-Vinyl Acetate) as a Self-Healing Agent in Geopolymer Exposed to Various Curing Temperatures A. Kusbiantoro, N. Rahman, S.C. Chin and R. Bayu Aji	16
The Potential of Geopolymer as High Quality Refractory Nurfadilla, M. Dzulkifli, F. Ramli and Subaer	21
The Strength of Bottom Ash-Based Geopolymer Brick with Inclusion of Fly Ash L.M. Deraman, M.M.A.B. Abdullah, Y.M. Liew, K. Hussin and Y. Zarina	26
Compressive Properties of White Clay Based Geopolymer Filled Epoxy Composite Y.M. Daud, K. Hussin, C.M.R. Ghazali, A.F. Osman, A.M.M. Al Bakri and M. bin Hussain	30
Correlation between Mix Design Study and Flexural Strength of Kaolin Coated Lumber Wood via Geopolymer Technology S. Ramasamy, K. Hussin, M.M.A.B. Abdullah, C.M.R. Ghazali, A.V. Sandhu and M. Binhussain	34
Geopolymer Grout Material R. Trimurtiningrum and J.J. Ekaputri	40
Fire Retardant Performance of Rice Husk Ash-Based Geopolymer Coated Mild Steel - A Factorial Design and Microstructure Analysis M.S. Mohd Basri, F. Mustapha, N. Mazlan and M.R. Ishak	48
Adhesion Study of Kaolin and White Clay as Source Materials on Non-Metallic Substrate in Geopolymer Coating N.F. Shahedan, M.M. Al Bakri Abdullah, C.M.R. Ghazali, M. Binhussain, K. Hussin, M. Al Husaini and S. Ramasamy	55
Assessment to the Solid to Liquid Ratios on the Soil Strength and Water Absorption of the Kedah's Soil H.N. Hamzah, M.M. Al Bakri Abdullah, C.Y. Heah, M.R.R. Arif Zainol and K. Hussin	59
Analysis of Coal Waste Solidification as an Alternative Filler Material in Asphalt Concrete Mixture E. Ahyudanari, J.J. Ekaputri and M. Tardas	65
The Use of Fermipan in the Production of Lightweight Geopolymer as an Environmentally Friendly and Fire-Resistant Concrete R. Irfanita, A. Ansar, M. Armayani and Subaer	72
Synthesis of Geopolymer Paste as Coating Material Based on Kaolinite and Rice Husk Ash R.M. Kaloari, Syamsidar, Sulfiana, A. Haris and Subaer	79
Performance of Blended Fly Ash (FA) and Palm Oil Fuel Ash (POFA) Geopolymer Mortar in Acidic Peat Environment Y.S.D. Satya, E. Saputra and M. Olivia	83
Factors Affecting the Setting Time of Fly Ash-Based Geopolymer Antoni, S.W. Wijaya and D. Hardjito	90
Compressive Strength of Geopolymer Based on the Fly Ash Variation Antoni, S.W. Wijaya and D. Hardjito	98
Flexural Strength of Low Calcium Class F Fly Ash-Based Geopolymer Concrete in Long Term Performance A. Wardhono, D.W. Law and T.C.K. Molyneaux	104
Application of Pozzolan as Materials of Geopolymer Paste D.N.D. Triani, J.J. Ekaputri, Triwulan, S. Hardono and T.E. Susanto	111
Characterization of Fly Ash on Geopolymer Paste R. Nurwidayati, M.B. Ulum, J.J. Ekaputri, Triwulan and P. Suprobo	118
Study of Fly Ash (FA) and Palm Oil Fuel Ash (POFA) Geopolymer Mortar Resistance in Acidic Peat Environment M. Olivia, C. Wulandari, I.R. Sitompul, L. Darmayanti and Z. Djauhari	126

Development of Nanozeolite-Geopolymer as Adsorbent Material for Motor Vehicle Emissions	
A. Saludung, N.K. Wardani, Subaer and Muris	133
Lightweight Geopolymer Binder with Abaca Fiber in Different Curing	
Triwulan, L.Y. Dwijayanti, J.J. Ekaputri and R. Bayuaji	140
Development of New Green Cement for Oil Wells	
A.K. Valliappan, R.R. Suppiah, S. Irawan and R. Bayuaji	148
Utilization of Fly Ash, Red Mud, and Electric Arc Furnace Dust Slag for Geopolymer	
A. Harmaji and B. Sunendar	157
Review on Alkali-Activated Fly Ash Based Geopolymer Concrete	
K. Zerfu and J.J. Ekaputri	162
The Influence of Si:Al and Na:Al on the Physical and Microstructure Characters of Geopolymers Based on Metakaolin	
Subaer, A. Haris, Nurhayati, I. Andi and J.J. Ekaputri	170
The Effect of Pb²⁺ and Cd²⁺ Addition to Mechanical Properties of Fly Ash Geopolymer Paste	
W. Supriadi, Subaer, R. Bayuaji, R.Y.P. Burhan and H. Fansuri	178
Cd²⁺ and Cr³⁺ Cation Immobilization by Using Geopolymer Based on PT. IPMOMI Fly Ash	
H. Fansuri, I.M. Anisatun, A. Fatmawati, W.P. Utomo, W. Supriadi, R. Bayuaji and Subaer	186
Effect of Microwave Curing to the Compressive Strength of Fly Ash Based Geopolymer Mortar	
M.M. Al Bakri Abdullah, M.F. Mohd Tahir, K. Hussin, M. Binhussain and J.J. Ekaputri	193
Oil Palm Clinker Potentility for Producing Lightweight Concrete: Compressive Strength, Tensile and Modulus of Elasticity Analysis	
R. Kamaruddin, A.M.M. Al Bakri, M.F. Mohd Tahir and J.J. Ekaputri	200