

Table of Contents

Preface

Chapter 1: Green Building Materials

Influence of Ferrochrome Slag Co-Binder on Mechanical Behaviour of Fly Ash Geopolymer Mortars	
K. Magugu, S.O. Ekol, A. Naghizadeh and H. Quainoo	3
Experimental Determination of the Coefficient of Thermal Expansion of Hardened Alkali-Activated Slag Pastes	
P. Nápravník, D. Lisztwan, P. Daněk and B. Kucharczyková	19
Parameter Study of Metakaolin/ Blast Furnace Slag-Based Alkali-Activated Materials	
V. Boel and L. Van Cauter	29
Effect of Calcium Nitrate on the Performance of Slag Blended Cement	
H. Justnes, T. Danner and M. Torabzadegan	45
Contribution to the Optimization of Quantitative and Qualitative Parameters of the Composition of Slag Aggregate Permeable Concrete	
A. Sicakova and M. Kovac	55
Improving Frost Resistance with Lightweight Aggregate in High-Performance Concrete	
V. Bilek, F. Khestl, B. Sousedik, L. Procházka and L. Malíková	69
Effect of Tire Cords, Steel and Polypropylene Fiber Content on the Fatigue Response of Cement-Based Mortars	
J. Domski, M. Gancarz, A. Benešová, H. Šimonová, S. Seitzl, P. Frantík and Z. Keršner	77
Empirical Model for Predicting Elastic Modulus of CRCA Concrete: An Approach towards Sustainable Concrete Design	
E.A. Ohemeng, A. Naghizadeh and M.C. Ramabodu	87
Compatibility of Different Aluminium with a New Environmental-Friendly Concrete	
Y.P. Wang, M. Fagermo, T. Furu, H. Justnes and K. Marthinsen	97

Chapter 2: Advanced Technologies in Civil Engineering

Properties of Steel Fiber Reinforced Concrete Dedicated for Casting Columns with Fractal Based Cross-Sections	
J. Katzer and A. Skoratko	107
Cement-Based Coating as Concrete Anti-Carbonation Barrier	
L. Húlek, M. Bačuvčík, I. Janotka, J. Gašpárek and P. Paulík	119
Calculating Rheological Properties of Fresh Mortar for Additive Manufacturing Based on Experimental, Multi-Sensor Data	
E. Schoensee, G. Hüskén, A. Jeyifous, A. Mezhov and C. Strangfeld	131
Experimental Investigation of Reinforced High-Strength Concrete Beam	
M. Racek, P. Mateckova and O. Sucharda	141