Table of Contents

Preface, Committees

Chapter 1: Cement Based Binders

The Impact of Basic Minor Oxides on the Clinker Formation T. Staněk and P. Sulovský	3
Polymercement Composites in Environment with Increased Concentration of Sulfate Ions and Extreme Temperatures T. Melichar, J. Bydžovský, Á. Dufka and J. Melichar	10
Evaluation of the Effect of Crystallization Additives on the Durability of Cement	10
Composites Á. Dufka and T. Melichar	15
Effect of Fluidized Bed Ash on the Thermodynamic Stability of Hydraulic Binders	13
K. Kulísek, D. Gazdič and K. Dvořák	21
Chapter 2: Lime Based Binders	
The Effect of Particle Size Distribution of Lime on Properties of the Autoclaved Calcium Hydrosilicate Materials D. Kubátová and M. Boháč	29
Effect of Aggregate Type on Properties of Natural Hydraulic Lime-Based Mortars	29
M. Vyšvařil, T. Žižlavský, Š. Zimmermann and P. Bayer	35
Effect of Ceramic Powder Particle Size Distribution on its Reactivity in Lime-Based Binders P. Reiterman and M. Keppert	40
Effect of Firing Temperature on Reactivity and Sedimentation Volume of Different Types of Limestones D. Dolák, K. Dvořák and J. Bureš	45
Influence of Pozzolanic Additive on Pore Size Distribution of Lime Mortar M. Čáchová, M. Doleželová and M. Keppert	51
Comparison of Mineralogical Changes during Thermal Processing of Limestones D. Dolák, K. Dvořák, J. Bureš and D. Gazdič	56
Chapter 3: Progressive Building Materials	
The Influence of Cavitation Treatment on Nano Structuring of Alkali Aluminosilicate Binder for Intumescent Coatings	
P.V. Krivenko, S. Guzii and R. Hela	63
Zeolite Influence of Vibropressing Concrete Durability G. Girskas	71
Slurry Infiltrated Fibre Concrete with Waste Steel Fibres from Tires - The Behaviour under Static and Dynamic Load	
M. Drdlová, O. Sviták and V. Prachař	76
Nanoadditives - Future of High Performance Concrete M. Labaj, J. Válek, T. Jarolím and L. Osuská	83
The Assessment of High-Temperature Degraded Concrete Specimens of Different Mixtures by Acoustic Emission Method during Three-Point Bending Test and Pulse Velocity Method in Comparison with Destructive Tests L. Topolář, R. Dvořák and L. Pazdera	88
L. Topolar, R. Dvorak and L. Fazdera Lightweight Aggregate Produced with Cold-Bonding of Fly Ash and Binder	00
V. Černý, J. Melichar and M. Magdaléna	94
Electrical Properties of Alkali-Activated Slag Mortar with Carbon Fibres P. Rovnaník, M. Míková and I. Kusák	100

Physico-Mechanical Properties of Lightweight Concrete with Fluidized Bed Combustion Fly Ash Based Light Weight Aggregate	106
M. Ťažký, L. Bodnárová and Ř. Hela	106
Computational Simulation of Behaviour of Developed Thermal Insulation Plaster Based on Silicates with the Use of Program WUFI 2D J. Hroudová and J. Zach	111
Physical Properties of Building Blocks from Hemp Shives Aggregate and Cementitious Binder, Manufactured in the Expanded Clay (Vibro Pressing) Production Line G. Balčiūnas, V. Kizinievič and J. Gargasas	118
Development and Research of Thermal-Acoustical Insulating Materials Based on Natural Fibres and Polylactide Binder R. Stapulionienė, S. Vaitkus and S. Vėjelis	123
Influence of Degradation of Surface Layer of Light-Weighted Panels on its Sunray Absorptance S. Št'astník, J. Vala, F. Šot and M. Majsniar	129
Loose Fill Material from Hemp Shives and Binding Material for Thermal Insulation and Structural Use S. Vėjelis, L. Lekūnaitė-Lukošiūnė and J. Šeputytė-Jucikė	134
The Impact of In Situ-Formed Spinel on the Porosity of No-Cement Refractory Castables L. Nevřivová	139
Stability of Polymer Admixtures in Alkaline Media O. Mikhailova and P. Rovnaník	145
Water-Tight Concrete Constructions and Directives for their Design and Realization A. Hubáček and I. Hájková	154
Properties of Vibro Compacted and Pressed Concrete Products with Varnished Surface A. Hubáček and I. Hájková	159
High Strength Concrete with Enhanced Properties by Addition of Chopped Basalt Fibres I. Nováková and L. Bodnárová	164