

Table of Contents

About ICBM and Committees

Chapter 1: Cement and Binders Based on Cement

Influence of Preparation Parameters on Properties of Belite Clinker T. Staněk	3
Study of Increasing of Belite Reactivity D. Gazdič, M. Fridrichová and I. Hájková	9
Proposal and Testing Masonry Cement R. Magrla, K. Dvořák and K. Kulisek	13
Testing Self-Levelling Floor Screeds on the Basis of Ternary Binder R. Magrla, D. Gazdič and J. Novák	17
Thermoanalytical Study of Binders Containing Pozzolanic and Latent Hydraulic Materials P. Mec, F. Khestl, T. Murínová and J. Boháčová	21
Reduction of CO₂ Emissions at Firing of Binders Type Portland Cement M. Fridrichová, J. Gemrich, J. Stachová and R. Magrla	25
Sodium Hexametaphosphate as Deflocculation Agent for Calcium Aluminate Cements in Porcelain Body R. Sokolař and L. Vodová	30
Influence of Different Grinding Types on Granulometry of Cement Grains K. Dvořák	34

Chapter 2: Inorganic Binders

Performance of Fiber-Cement Boards in Biogenic Sulphate Environment A. Eštoková, V.O. Harbulakova, A. Luptáková and N. Številová	41
Decorative Multi-Component Alkali Activated Cements for Restoration and Finishing Works P.V. Krivenko, M. Sanytsky, T. Kropyvnytska and R. Kotiv	45
Testing of Clay Used for Building a Folk House Replica by Traditional Techniques D. Všíanský and M. Novotný	49
Industrial Resources for the Production of Sulphate Binders D. Gazdič	53
Efficiency of Sulphate Paste Liquefaction M. Fridrichová, I. Hájková and K. Dvořák	57
Influence of Grinding α-Gypsum on its Final Property K. Dvořák, I. Hájková and M. Fridrichová	61
Preparation and Properties of Pressed Metakaolin and Fly Ash Based Alkali-Activated Binders J. Boháčová, S. Staněk and P. Mec	65
Thermal Insulating Alkali-Activated Materials with Lightweight Aggregate J. Boháčová, S. Staněk and P. Mec	69
Analysis of Possibility of Using Geopolymers in Rehabilitation of Reinforced Concrete Structures A. Dufka, J. Brožovský and L. Mészárosová	73
Modification of the Raw Mix for Firing of Dicalcium Silicate Using Potassium Sulphate D. Gazdič, M. Fridrichová and M. Walter	77

Chapter 3: Organic Binders

Repair of Composite Structure Using Cold Sleeve with Polymer Filling Material M. Žmindák, P. Novák and V. Dekýš	83
---	----

Properties of Polyurethane and Epoxy Modified Cementitious Hybrids for Flooring Systems V. Petranek and J. Hlawiczka	87
The Behavior of the Advanced Materials for Blast Energy Absorption under Low and High Velocity Load M. Drdlová, V. Prachař and J. Buchar	93
The Influence of Silane Coupling Agent on Glued Spruce Wood Using Epoxy Adhesive J. Vanerek, A. Benešová and P. Klímek	99
Bitumen Substance Analysis J. Plachy, V. Petranek and Z. Caha	103

Chapter 4: Silicate Materials

Determination of Sintering Activity of Sodium-Potassium Feldspar R. Sokolař and L. Vodová	109
Development of Advanced Masonry Structures with Utilization of Alternative Thermal Insulating Materials J. Zach, J. Hroudová, M. Sedlmajer and A. Korjenic	113
Physical-Mechanical Aspects of Preparing Thermal Insulation Materials on the Basis of Liquid (Water) Glass L. Mészárosová and R. Drochytka	117
Possibilities of Reducing the Apparent Porosity of Silica Bricks for the Coke Batteries L. Nevřívová, M. Kotouček and K. Lang	121
Pozzolanic Activity Increase of Recycled Glass K. Dvořák, P. Dobrovolný and D. Gazdič	125

Chapter 5: Building Materials

Comparison of Impedance Spectra of Concrete Recorded with Utilizing Carbon Transition Paste I. Kusák and M. Lunak	131
Reactivity of Brick Powder in Lime Mortars E. Navrátilová and P. Rovnaníková	135
To the Problems of Determination of Dynamic Elasticity Modules of Calcium Silicate Bricks by Means of Resonance Method J. Brožovský and Á. Dufka	139
Corrosion Inhibitors as a Prevention L. Taranza and R. Drochytka	144
The Effect of Concrete Quality on the Acoustic Emission Parameters during Three-Point Bending Fracture Test M. Matysík, L. Topolář, P. Daněk, T. Vymazal and I. Plšková	149
Possibilities of Hydrophobization of Thermo-Insulating Materials Based on Natural Resources J. Zach, J. Hroudová and N. Žižková	153
Influence of Contact Parameters on Load-Carrying Capacity of Hybrid Composite Cross-Section P. Kotes	157
Reinforcement Corrosion <i>versus</i> Crack Width P. Kotes and J. Kozák	161
Study of Cement Composites Properties with Filler Based on Wood Pulp L. Kidalova, N. Številová and A. Geffert	165
Chloride Diffusion in Limestone Cement Concrete Exposed to Combined Chloride and Sulfate Solutions at Low Temperature K. Sotiriadis, S. Tsivilis and V. Petranek	171
Effect of Metakaolin Sand on Properties of Cement Composites E. Krajčí, I. Janotka, M. Kuliffayova and P. Uhlik	176

Comparison of the Values of Compressive Strength and Elasticity Modulus of Concrete of Frozen and Unfrozen Specimens M. Brodňan	180
Effect of Modification of Cement-Bonded Particleboards Composition on their Frost Resistance T. Melichar, J. Bydžovský and V. Černý	184
Basic and Hygric Properties of Concrete Containing Fine Ceramic Powder P. Reiterman, O. Holčápek, M. Čáchová, F. Vogel, M. Jogl and P. Konvalinka	188
Fracture and Mechanical Properties of Fire Resistant Fibre Composites Containing Fine Ground Ceramic Powder P. Reiterman, O. Holčápek, F. Vogel, M. Jogl and J. Kořátková	192
Basic Characteristics of Green Cements of CEM V/A and V/B Kind E. Smrčková, M. Bačuvčík and I. Janotka	196
Study of Influence of Fly Ash Character on its Behaviour during Clinkering Process V. Černý and T. Melichar	200
The Use of Industrial Waste as a Secondary Raw Material in Restoration Plaster with Thermal Insulating Effect V. Václavík, J. Daxner, J. Valíček, T. Dvorský, M. Kušnerová, M. Harničárová, M. Bendová and A. Břenek	204
Development of a New Kind of Aerated Screeds for Lightweight Floors E. Tumova and R. Drochytka	215
Surface Morphology Study on Fibres Treated in Cold Plasma Discharge D. Kopkáně, P. Macháňová, L. Bodnárová and T. Morávek	220
Study of Effect of Various Types of Cement on Properties of Cement Pastes L. Bodnárová, T. Jarolím and R. Hela	224
Effect of High Proportion of Blended Cement in Concrete K. Křížová and R. Hela	230
Study of Properties of Sprayed Concrete Prepared in Laboratory A. Hubáček	234
Use of Impact-Echo Method to Test High-Temperature Degraded Cementitious Composite Materials Containing Rubber Aggregates and Acrylic Polymer Binder D. Štefková, M. Tupý, K. Šamárková, Z. Chobola, K. Sotiriadis and V. Petranek	238
Resistant Multilayer Floor Systems Based on Epoxy Binders with Recycled Various Glass Particles M. Tupý and V. Petranek	242
Possibilities of Recycled Concrete Aggregate in Cement-Based Flowscreed A. Hubáček, L. Boehme and I. Nováková	247
The Use of Cementation Process for Waste Industrial Sludge Solidification B. Vacenovska and R. Drochytka	252
Sealing Layers on Concrete Bridge Decks J. Plachy, V. Petranek and Z. Caha	258
Development of Resistant Coating Systems Based on Polymer Binders M. Tupý, V. Petranek and J. Kosíková	262
The Influence of Vacuum Mixing on the Porosity of Ultra High Performance Concrete J. Kirnbauer	266
Use of Blast Furnace Slag Cements for the Construction of a Canal Lock I. Marquardt, U. Diederichs and V. Petranek	270
Rehydration of Ultra High Performance Concrete U. Diederichs, I. Marquardt and V. Petranek	275
Perlite Concrete Based on Alkali Activated Cements V. Petranek, P.V. Krivenko, O. Petropavlovsky and S. Guzii	280
Polypropylene Fibres and Micro Cracking in Fire Exposed Concrete K. Pistol, F. Weise, B. Meng and U. Diederichs	284
Carbonation Depth vs. Physical-Mechanical Properties of Concretes with Alternative Additions of Concrete Recyclate and Silicate Admixtures T. Stavař and M. Stehlík	290

Mixing of Different Particle-Size Fractions of Fly Ash to Increase its Activity in Cement Composites	
D. Orsáková, A. Masárová, J. Válek, P. Novosad and R. Hela	297
Autoclaving Time Influence on Fly Ash Aerated Concrete Compressive Strength and Microstructure	
E. Helanová, R. Drochytka and R. Janovský	301
Analysis of Building Stone of the Medieval Historical Building	
M. Balintova, A. Eštoková, A. Sicakova, M. Holub and E. Singovszka	305
Polymer-Modified Mortars with Increased Amount of C-S-H Phase	
N. Žížková	309
The External Thermal Insulation Material Made of Technical Hemp	
Š. Keprdová and J. Bydžovský	315
Application of Alternative Fillers in the Cement-Bonded Particleboards Structure	
Š. Keprdová and K. Křížová	319

Chapter 6: Other Related Topics

Laboratory Verifying of Injection Screens Efficiency	
J. Melichar, R. Drochytka and P. Dohnálek	325
On Some Aspects of Application of Vegetative Roofs in Building Structures	
M. Majsnier and S. Šťastník	329
Identification of Thermal Conductivity of Powdery Insulation Materials	
P. Jarošová, S. Šťastník and J. Vala	333