

Table of Contents

Preface

Chapter 1: Flaws and Failures Affecting Historical and Contemporary Buildings

Modification of Masonry Mortar and Structure of Ceramic Bricks to Reduce Efflorescence G.I. Yakovlev, I. Ginchitskaia, V. Grakhov, G.N. Pervushin, I.S. Polyanskikh, R. Drochytka, A.F. Buryanov, D. Khaseev and Z.S. Saidova	3
Review of Factors Affecting the Quality of Architectural Concrete J. Sestak, M. Utěšená and R. Pernicová	9
Several Comments on Bearing Capacities of Selected Parts of Enclosure Walls from the Broumov Region P. Kuklík, P. Gajjar, J. Scacco and M. Valek	15
Assessment of the Cement Plate Building Covering Facade M. Novotný, M. Novotný and K. Šuhajda	27
Preliminary Construction-Technical Survey of the Underpass at Hlucínská Street in Ostrava - Přívoz M. Pešata, L. Procházka, J. Boháčová and J. Daňková	33
Analysis of Reconstruction in Terms of CO₂ Concentration M. Budiaková	39
Monastic Water Systems E. Burgetová	46
Influence of Wood Mineralization on the Thermal Degradation of Material T. Majstríková, P. Mec and E. Sviderová	60
The Possibility of Using Nonlinear Acoustic Spectroscopy with a Single Excitation Signal for Testing of Concrete Elements Damaged by High Temperature M. Matysík, I. Plšková and Z. Chobola	66

Chapter 2: Advanced Materials Used in Buildings Reconstruction

Mechanically Resistant Composite Material Using Optimal Amount of Pre-Treated Hazardous Waste T. Žlebek, J. Hodul and R. Drochytka	75
Development of New Adhesives with Share of Secondary Raw Materials for Depositing of Non-Absorbent Facing Elements in Aggressive Environments J. Melichar, J. Hodul, K. Bergerová and R. Drochytka	82
Optimizing Composition of Gypsum Mixture for Preparation and Testing of Partition Blocks I. Hájková and D. Gazdič	88
Measurement Uncertainty in Tests of Cast Irons K. Jung, M. Sýkora and J. Marková	93
Examination of Microstructure of Cement Composite Material for Renovation of Horizontal Structures L. Mészárosová, V. Černý, R. Drochytka and W. Malorny	103
Trenchless Sewer Rehabilitation Methods and Solving Diversity of Cured Sleeves Thickness J. Majerová, J. Hodul and R. Drochytka	109
Viscoelastic Properties of PVB Interlayer for Laminated Glass Structures Used in Building Reconstructions M. Vokáč, T. Hána, K.V. Machalická and M. Eliášová	115
Assessing the Effect of Protective Coatings on the Resistance of the Concrete Floor to the Abrasion K. Mikulica and R. Hela	123

Silicate Sprayed Mixture Based on Secondary Raw Materials P. Figala, R. Drochytka, R. Hermann and J. Kolísko	129
Influence of Expansion on Properties and Microstructure of Calcium Silicate Composite Material J. Hušťavová, V. Černý and R. Drochytka	136

Chapter 3: Fire Safety of Buildings

Restorations of Historic Buildings Considering the Fire Safety in Model Solutions A. Iringová and D. Vandlíčková	145
Damage of Industrial Reinforced Concrete Chimneys Caused by High Temperatures M. Pešata, L. Procházka, J. Boháčová and J. Daňková	153
Monitoring of Thermal Damage Evolution in Concrete Parts by Acoustic NDT Methods I. Plšková, M. Matysík and Z. Chobola	159
Changes in the Crystal Structure of Cement Mortars Subjected to a High Temperature M. Ratajczak, M. Babiak and P. Kulczewski	165
Alkaline Aluminosilicate Binder-Based Adhesives with Increased Fire Resistance for Structural Timber Elements P.V. Krivenko, S.G. Guzii and O.P. Bondarenko	172
Experimental Study of Concrete Beams Reinforced with GFRP Rebars Exposed to High Temperatures P. Daněk, I. Rozsypalová and O. Karel	177