

Table of Contents

Preface and Commitees

Chapter 1: Protection and Restoration of Wood Structures

Durability Evaluation of Wood Based Board Materials against Brown-Rot Fungi Effect J. Vanerek, D. Palovcikova and E. Helanova	3
Non-Destructive Methods for the Localization of Woodworms via Acoustic Analysis P. Fiala, M. Friedl, P. Šmíra and A. Nasswettrová	11
The Existing Timber Structures – Possibilities and Limits of Diagnostic Methods in Assessment Process J. Daňková, T. Murínová and P. Mec	17
Utilization of Wood Modification for the Purpose of Moisture Volume Changes Reduction T. Murínová, J. Daňková and P. Mec	25

Chapter 2: Surface Treatment

Determination of Effects of UV Radiation on Remedial Plasters K. Fořtová, L. Balík and E. Burgetová	33
Investigation of Glass Fibre Reinforced Cement (GFRC) Material Exposed to High Temperatures M. Kostecká, M. Vokáč and D. Dobiáš	37
Modified Plasters for Restoration and Finishing Works M. Sanytsky, T. Kropyvnytska and R. Kotiv	42
Stabilization, Conversation and Strengthening of Historic Plaster Using Nanofibres K. Kroftová and M. Šmidtová	48
The Application of Nanomaterials in Restoring Historic Structures K. Kroftová	52

Chapter 3: Restoration of Stone

Experimental Comparison of Moisture Characteristics of Two Types of Sandstone E. Burgetová, F. Kulháněk and V. Raicic	59
Selected Non-Destructive Methods Suitable for Evaluation of Roofing Slate M. Vavro, K. Souček, T. Daněk and L. Staš	63
The Influence of Mineralogical Composition Changes of Sandstone Cement on Physical-Mechanical Properties K. Kovářová and Z. Pala	71

Chapter 4: Restoration of Masonry

Analysis of Suitability of Mortar Used for Reconstruction R. Pernicová and D. Dobiáš	77
Load-Bearing Capacity Determination of Historic Masonry Structures J. Witzany, T. Čejka and R. Zigler	81
Determination of Selected Mechanical and Physical Properties of Historic Full Burnt Bricks in Frame of Project of Monitoring their Diffusion Properties Š. Nenádalo, L. Balík and J. Kolísko	85
Effect of Pozzolan Additive on Pore Structure of Cement Mortar R. Pernicová and D. Dobiáš	89
Stabilization and Strengthening of Historic Buildings' Stone Masonry Columns J. Witzany and R. Zigler	93

Chapter 5: Restoration of Concrete Structures

Analysis of Relations for Determination of Parameters of Various Types of Concrete Based on Ultrasonic Pulse Method Measurement J. Brožovský and J. Bydžovský	99
Analyzing of Alternative Raw Materials for Production of Cement-Bonded Particle Boards T. Melichar, E. Helanová and J. Bydžovský	108
Chemical Grouting Method and its Effectiveness for Protection of Autoclaved Aerated Concrete Masonry A. Struhárová	112
Evolution of Reconstruction of Plecnik Footbridge at Prague Castle V. Vacek, J. Kolísko and M. Hrabánek	117
Geocement-Based Coatings for Repair and Protection of Concrete Subjected to Exposure to Ammonium Sulfate P.V. Krivenko, S.G. Guziy and V.I. Kyrychok	121
Options of Assessment of Absorption Capacity of Noise Barrier V. Vacek and J. Holub	125
Production Possibilities of Concrete Based on Artificial Fly Ash Aggregates V. Černý, P. Sokol and R. Drochytka	130
Shrinkage-Compensating Alkali Activated Slag Cement Mortars for Crack Repair and Joint Grouting in Concretes P.V. Krivenko, G.V. Vozniuk, A.M. Goncharova and E.S. Kavalerova	134
Surface Modification of Fresh Placed Concrete and its Durability at Effect of Defrosting Substances J. Urban and T. Klečka	138
Use of Textile Reinforced Concrete – Especially for Facade Panels M. Novotná, M. Kostecká, J. Hodková and M. Vokáč	142

Chapter 6: Physical-Chemical Properties

Assessment Tool for Refurbishments reSBToolCZ Emphasising Cultural-Historical Buildings S. Mancik and J. Růžička	149
Bacterial Deteriorations of Wooden Pile Foundations due to Permanent Soil and Water Contact G. Haroske, U. Diederichs and V. Petranek	153
Effect of Artificial Lightweight Aggregate on Resistance of Polymer Cement Mortars to Extreme Temperatures Š. Keprdová, T. Melichar and V. Černý	161
Introduction to Problems of Candle Combustion in Buildings J. Souček	165
Non-Destructive Prospection of Ancient Steam Bathes Covered with Tadelakt — First Preliminary Comparison of Hammam Kasbah des Caids of Tamnougalt and Hammam Kasbah of Taourirt, Morocco B. Wolff, U. Diederichs and H. Ait el Caid	174
Observation of Biological Pests on Building Facades by Thermocamera Z. Peřina, J. Solař, B. Maršálek, E. Maršálková, R. Fabian and F. Čmiel	183
The Elimination of Reflected Radiation in an Infrared Thermographic Measurement in the Exterior Z. Peřina, J. Solař, F. Čmiel and R. Fabian	187
Verification of Range of Chemical Grouting of Masonry by Non-Destructive Method Using Infrared Thermography Z. Peřina, B. Plšek and M. Wolfová	191
Parameters of Cement Bonded Particle Boards Modified with Stone Wool Fibre M. Vacula, M. Klvač, R. Mildner and Š. Keprdová	195

Chapter 7: Statics and Dynamics of Structures

Connection of New Steel Rods to Original Wrought Iron Tongs Using a Clamp Joint during a Renovation of Teplá Monastery M. Pospíšil	205
Degradation of Laminated Glass as Result of Increased Temperature T. Bittner, P. Tej, P. Bouška and M. Vokáč	209
Evaluation of Compressive Strength of Historic Masonry Using Measurements M. Sýkora and M. Holický	213
Shear Tests of Composite Slabs, Experimental and Numerical Investigation J. Holomek, M. Bajer, J. Barnat and M. Vild	217
Experimental Investigation of Transparent Glazed Noise Reducing Traffic Barrier against Impact of Flying Stones P. Bouška, M. Špaček, M. Vokáč, M. Eliášová and T. Bittner	221
Numerical Investigation of a Masonry Column Reinforced by the Helical Reinforcement M. Jašek, L. Mynarzova, J. Hurta and J. Brozovsky	225
Usage of Distributed Fiber Optical Temperature Sensors during Building Redevelopment V. Vašínek, P. Šmíra, V. Rasnerova, A. Nasswettrová, J. Jaros, A. Liner and M. Papes	229