

Table of Contents

Preface

Chapter 1: Reliability Assessment and Restoration of Concrete Structures and Elements

Color Stability of Colored Concrete over Time Depending on the Type of Pigment M. Utěšená and R. Pernicová	3
Corrosion of Steel Prestressing Reinforcement - The Influence of the Used Construction Technology of Concrete Suspension Footbridges V. Vacek and P. Pokorný	9
Corrosion Properties and Bond Strength of Coated (PE/PAK; Pe/PPE; PAD) Reinforcement (B500B) with Normal Strength Concrete P. Pokorný, N. Prodanovic, K. Hurtig and M. Holeček	15
Degradation of Colored Concrete Elements due to Frost R. Pernicová, K. Hurtig and M. Utěšená	21
Resistance of Electrically Conductive Concrete to Sulphate Attack I.S. Polyanskikh, A.N. Gumenyuk, A.F. Gordina, I.A. Pudov and G.I. Yakovlev	27
Corrosion of Zinc Dust in Cement Paste - Evaluation of Hydrogen Gas Evolution Time Period P. Pokorný, N. Prodanovic, L. Topolář, L. Pazdera and I. Kusák	35

Chapter 2: Reliability Assessment and Restoration of Architectural Structures

Chemical Analysis of the Building Material Coating from Historical Bridge in Prague K. Sladká and R. Pernicová	43
Rehabilitation of Historic Farmstead near Klecany J. Marková, P. Pokorný and P. Marek	49
Investigation of the Effectiveness of the Rehabilitation of Historical Constructions Using Wireless Dehumidification Technologies P. Šťastný	55
Long-Term Monitoring Side Chapel Church from the Point of View of Formation and Course of Condensation on its Inner Surface L. Kudrnáčová, L. Balík and K. Hurtig	63

Chapter 3: Persistence to External Factors, Protection, Treatment and Insulation

Assessment of Chemical Resistance of Polymer Repair Mortars R. Hermann, J. Majerová, R. Drochytka and P. Figala	71
Effect of Carbon-Containing Additives on the Properties of Fluoroanhydrite Compositions Used for Flooring D. Kalabina, G.I. Yakovlev, Z. Saidova, G. Pervushin and A.F. Gordina	77
Experimental Testing Results of a Timber Structure's Fire Resistance in a Combustion Chamber T. Žajdlík and K. Šuhajda	83
Influence of Moisture and Density of Wood on the Depth of Holes Made by a Kucera's Drilling Machine P. Černý, E. Frimlová and V. Heřmáňková	89
Influence of Physical and Chemical Stress on the Properties of CIPP Pipes Based on Vinyl Ester J. Hodul, L. Mészárossová and J. Majerová	95

Study of the Preparation of Micronized Zinc Phosphate Dihydrate with Potential for Application in the Phosphating Process	
A. Zabloudil, N. Prodanovic, P. Pokorný, J. Kolísko and K. Cech Barabaszova	103
The Use of Thin-Layer Insulation Material in Technical Installations in Building Reconstructions	
P. Vrbová and L. Prokopová	111

Chapter 4: Structural Health Monitoring and Reliability Level Assessment

Comparison of Different Sensors Used in the Assessment of Concrete Elements by Impact-Echo Method	
J. Puchýř, R. Dvořák, A. Hubáček and Z. Chobola	121
Detection of Internal Defects and Failures of Concrete Structures Using Non-Destructive Methods	
J. Šnědar, V. Bartoň and P. Cikrle	129
Study of Microstructure of Electrically Conductive Silicate Composites with Graphite-Based Fillers	
Š. Baránek, L. Mészárossová, R. Drochytka and G.I. Yakovlev	135
The Expansion of Defects of Solid Fired Bricks due to their Freezing	
V. Bartoň, J. Šnědar and P. Cikrle	145
Effect of Target Reliability Level on Partial Factors for Existing Steel Railway Bridges	
V. Nadolski, M. Holicky and M. Sýkora	153
Introductory Chapter to Microbially Induced Deterioration of Concrete – Focus on Groups of Typical Microorganisms	
P. Pokorný	163