

Table of Contents

Preface and Editorial Board

Chapter 1: Energy Saving and Ecological Buildings

Operation Energy Consumption after the Renewal of an Elementary School I. Chmúrny	3
Green Building Studio Test Result Comparison with Test from ANSI ASHARE Standard 140-2011 M. Jamnický	11
Diagnosis of Elected Industrial Hall Object and Idea for its Reconstruction J. Katunská, J. Oberleová, A. Rusnák and S. Tóth	19
Energy Saving Building in Mountain Area L. Bosák and M. Palko	27

Chapter 2: Thermal Performance of Building Materials and Constructions

Optimization of Design of Pitched Roofs According to Phase Shift of Thermal Oscillation P. Buday and E. Jakeš	37
Theoretical and Experimental Research of Glazed Systems in Real Conditions of Outdoor Climate J. Szabó, D. Szabó and A. Puškár	45
Numerical Analysis of Window Structure Seating Depth Effects on Surface Temperature and Linear Thermal Transmittance M. Zozulák, M. Vertal' and D. Katunský	53
Method for Determination of Time Constants for Annual Balance of Moisture in Building Constructions R. Mend'an and M. Pavčeková	61
Hydrothermal Problems of Wooden Windows A. Palková and M. Palko	68
Influence of Thermal Break Element Applied in Balcony Slab on Internal Surface Temperature P. Buday, R. Ingeli and M. Čekon	79

Chapter 3: Aerodynamic Characteristics of Buildings and Construction

Determination of the Wind Pressure Coefficients on the Model of the Silsoe Cube by the Measurements Made in Wind Tunnels P. Lobotka and J. Žilinský	89
Comparison of Different Wind-Driven Rain Gauges P. Juras, P. Ďurica and R. Korenkova	97
Interference Effects on High-Rise Buildings – Overview of the Recent Research M. Franek and J. Žilinský	105
New Facade Ventilation Units of under Pressure Controlled Ventilation System B. Bielek and D. Szabó	113
Use of CFD Simulation to Measure the Effects of Floor Plan Shape and Building Height on Pedestrian Wind Comfort and Wind Safety D. Čehel'ová, M. Janák and B. Bielek	121
Function of Double-Skin Transparent Facade and its Impact on the Energy Regime of Internal Climate of Adjacent Spaces S. Míkle and B. Bielek	129
Selected Aerodynamic Problems of Double Skin Facade M. Palko and A. Palková	137

Chapter 4: Fire Safety Materials, Spaces and Construction

Efficiency of Water Curtains Z. Kadlec and M. Kvarčák	147
Evaluation of Fire Resistance of Historical Structures T. Česelská	155
Fire and it is Grown in a Fire Zone M. Jurickova and I. Mikolai	163
Analysis of Real Fire as a Basis for Future Simulation M. Reháková and I. Mikolai	171
Analysis of Fire ETICS in Bratislava in Slovak Republic J. Olbřímek, D. Jankovič, S. Leitnerová and J. Tkáč	180
Fire Stations Deployment in Slovakia, Czech Republic and Germany J. Jurdík and I. Mikolai	188
Firefighting Systems and Video Smoke Detection as a Significant Part of Fire Safety in the Building I. Mikolai and J. Tkáč	196
Problems of Current Classification of Building Materials in the Context of Solution of Structure Fire Safety R. Leško and M. Lopušniak	204

Chapter 5: Noise Protection and Daylight Conditions

Sound Insulation Determination of Door D. Dlhý and P. Tomašovič	215
Assessment of Internal Residential Environment with Regard to Noise Load in Slovak Republik D. Dlhý, P. Tomašovič and L. Mihalčík	223
The Effect of the Colour Selection for Internal Surfaces on Non-Visual Daylight Human Response P. Hartman, P. Hanuliak, L. Maňková and J. Hraška	231