

# Table of Contents

## Preface

<b>Heat Losses through Insulated Glazing Placed Horizontally or Diagonally</b> Z. Respondek	1
<b>Influence of Cracks on Frequency of the Self-Vibration of Reinforced Concrete T Beam of Road Bridges</b> A. Sargsyan, G. Sargsyan and B. Resnik	9
<b>Influence of Mix Fly and Bottom Ashes from Biomass on Selected Properties of Cement Mortars</b> M. Ulewicz and J. Jura	14
<b>Stress State of an Inhomogeneous Elastic Layer Made of Heterogeneous Materials with a Coin-Like Rigid Inclusion under Torsion</b> Z. Davtyan, A. Gasparyan and A. Melkonyan	18
<b>The Use of Lightweight Concrete Effectiveness in Volcanic Resistant Construction</b> M. Badalyan, G. Arakelyan and A. Karapetyan	24
<b>On the Interaction of Cracks and Stringers with a Heterogeneous Wedge-Shaped Body, Manufactured from Different Materials at an Antiplane Deformation</b> M. Grigoryan and V. Yedoyan	31
<b>Full-Scale Experimental Investigations on Seismic Performance of Square RC Frame Columns with Hollow Sections</b> C.T. Yang, A.Q. Li, Y. Chen and L.L. Xie	40
<b>The Analytical Aspect of Pressure Dependence and the Change of Edge Crack Propagation of Horizontal Layer</b> G. Ter-Petrosyan	53
<b>Stone and Brick Work Churches Composition and Structural Features</b> E. Ordoukhanian	58
<b>ETFE Plastic Application for Reconstruction and Preservation of Architectural Structures in Syunik Province, RA</b> L. Babayan	63
<b>Techno-Economic and Material Science Expediency of Modernization and the Renaissance of Large-Panel House Building in Armenia</b> G. Galstyan, A. Arzumanyan and H. Galoyan	68
<b>Reinforcement of the Steel Connection between Column and Binding Joist</b> M. Major, J. Nawrot and I. Major	73
<b>On the Interaction at Anti-Flat Deformation of Stress Concentrators of the Type of Cracks and Stringers with Regard to the Layer Manufactured from Miscellaneous Materials</b> N. Grigoryan and M. Mkrtchyan	81
<b>Acoustic Materials Based on Expanded Obsidian</b> A. Safaryan and H. Melyan	89
<b>Application of Modern Materials in Conditions of Complete Reconstruction of Existing Buildings</b> G. Babajanyan	94
<b>Enriching Methods of Porous Fillers</b> V. Grigoryan and V. Grigoryan	100
<b>On the Stress State of a Heterogeneous Plate Made of a Material with a Step Change in Elastic Characteristics in the Presence of an Inclusion System and Temperature Influence</b> E. Kanetsyan, M. Mkrtchyan and S. Mkhitarian	106
<b>Mathematical Modeling of the Test Process of Construction Materials</b> N. Pirumyan, M. Stakyan and G. Galstyan	115
<b>Software Processing of the Test Results of Building Materials</b> N. Pirumyan, M. Stakyan and G. Galstyan	121
<b>Damping Optimization in Seismic Isolation Systems</b> Y.L. Rutman and N.V. Ostrovskaya	129
<b>A Theoretical Model of Strain Measurement System of Membrane Materials in Biaxial Tensile Tests</b> M. Andriasyan	136

<b>Heat-Acid-Resistant Light Concretes on the Base of Volcanic Tuff Lava and Pumice Aggregates of Armenia</b>	
A. Arzumanyan, A. Arzumanyan and N. Muradyan	141
<b>New Energy Efficient Technology of Cellular Glass</b>	
E. Saakyan, A. Arzumanyan and G. Galstyan	146
<b>Problems of Formation of Complex Monolithic Reinforced Concrete Structures</b>	
A.B. Ghulyan, G.L. Tepanyan and B.J. Sargsyan	153
<b>Test of Asphalt Working from a Mill from the Frez from the Exploded Asphaltobetone Layers of Road Surfaces</b>	
M. Rajczyk, P. Rajczyk and J. Rajczyk	158
<b>Fire Resistance of Reinforced Concrete Corrosion-Damaged Columns of the "Standard" Fire</b>	
A.G. Tamrazyan, M.S. Mineev and A. Urasheva	163
<b>Analysis of Factors Affecting the Direction of Plastic Strain Increment in Sand</b>	
Y.P. Guo, C.Z. Qi, C. Ma, Z.H. Lu and Y.J. Sun	170
<b>Nonlinear Deformations of Stiffened Reinforced Concrete Shells</b>	
A. Panin and A. Semenov	180
<b>Analysis of Bored Piles' Field Test Results</b>	
L. Kondratieva, V. Konyushkov, L.V. Trong and V. Kirillov	194
<b>Saint Petersburg Flood Protection Dam as Tool to Solve the Environmental Tasks</b>	
L. Tsvetkova	202