

Table of Contents

Preface and Committee

A Brief Analysis of Domestic Construction and Demolition Waste Recycling Techniques S.P. Cui, Q.D. Liu, J.H. Yan and X. Du	1
Combined Effect of Mineral Admixture and Curing Condition on Pore Structure of Concrete Z.H. Shui, H.N. Geng and P. Duan	6
Effect of Polycarboxylate Superplasticizer on Properties of Phosphogypsum-Based Cement Z.S. Lin, H.D. Shi and E. Beguedou	13
Effects of Gypsum on Cementitious Systems with Different Mineral Mixtures F. Liu and M.Z. Lan	20
Improvement on the Crack Resistance Property of Semi-Flexible Pavement by Cement-Emulsified Asphalt Mortar C. Huang, J.P. Liu, J.X. Hong and Z.F. Liu	26
Influence of Metakaolin on Strength and Microstructure of High-Strength Concrete Z.H. Shui, J.J. Zeng, Y. Liao and Z. Leng	33
Investigation on Recycled Cement Based on Waste Concrete Z.S. Lin and Y. Chong	40
Physico-Mechanical Properties of Rubberized Lightweight Aggregate Concrete for Tunnel Pavements J. Wang, Y. Li and X.C. Fan	45
Preparation of Polyacrylamide Emulsion Modified Waterproof Desulfurization Building Gypsum Q.S. Wu, S.P. Li and C.S. Zhang	51
Relationship between Structure and Performance of Polycarboxylate Superplasticizer Z.M. Wang, Z.C. Lu, F. Lu and H.Q. Li	57
Solid Phase Synthesis of S-Doped TiO₂ Nanomaterials with Visible Light Degradation Property Y.L. Gao, S.Y. Liu, F. Zhang and Q.G. Feng	65
Study on Hexagonal Mesoporous Silica Film for Antireflective Coating Q. Pan, J. Shen, X.D. Wang and Z.H. Zhang	74
Study on the Frost Resistance of Artificial Aggregates Recycled Concrete J.B. Wang and Z.H. Zhou	82
Study on the Influence of Painting Processes on the Protective Property of Concrete Coating Y. Zheng, Q.J. Mao, Y.L. Wang, Z.M. Wang and S.P. Cui	88
Study on the Volatility of Organic Contaminated Soil from Tar Workshop H. Wang, Q.J. Mao, S.P. Cui, L.J. Zhang and M.Z. Lan	93
The Effect of Layered Double Hydroxides on the Concrete Resistance of Chloride-Ion Penetration Z.H. Shui, J.T. Ma, W. Chen and X. Gao	99
The Influence of Steel Slag on Phosphorous Slag Cement Q. Zhao and Y. Wu	106
The Properties of Steel Slag Bricks Prepared by both Alkali Activation and Accelerated Carbonation W.S. Zhang, D. Shi, Z.J. Shao, J.Y. Ye and Y. Wang	113
The Study on the Impact of Recycled Fine Aggregate and Powder on the Mechanics and Thermal Performance of Recycled Concrete Hollow Blocks W. Zhou, L.H. Lu and Z. Li	119
Application of Limestone Manufactured Sand as Fine Aggregate in Asphalt Concrete S.P. Wu, P.Q. Cui and D.F. Zhang	123
Effect of Substitution of Recycled Aggregate by Natural Aggregate on Related Properties of Blended Aggregate and Asphalt Mixture J.Q. Zhu, S.P. Wu, J.J. Zhong and D.M. Wang	128
Effects of Sasobit on Rheological Properties of Asphalt Binders Z.F. Liu, J.P. Liu, J.X. Hong and C. Huang	136

Mechanical Properties of Asphalt Mixture Reinforced with Cellulose-Polyester Hybrid Fibers	
Z. Chen and D.C. Ma	142
Moisture Sensitivity of Bituminous Mixtures with Compound Fly Ash Modifier	
J. Xie, J. Cai, S.P. Wu and L. Pang	149
Morphology and Rheological Analysis of Nanoclay in Polymer Modified Bitumen	
J.Z. Zhang, M. Van de Ven and S.P. Wu	155
Research of AC-20 Grading of Conductive Asphalt Concrete Based on Fractal Theory	
N. Tang, S.P. Wu and C.J. Sun	162
Research on Pavement Performance of Steel Slag Conductive Asphalt Concrete for Deicing and Snow Melting	
F. Chen, M.Z. Chen, S.P. Wu and J.Z. Zhang	168
Research on the Fatigue Properties of Organo-Montmorillonite Modified Bitumen Mortar	
X. Liu, S.P. Wu, L. Pang and P.D. Guo	175
Influence of Mechanically-Treatment on Physical-Chemical Properties of Circulation Fluidized Bed Combustion Fly Ash	
D.Y. Chen, Y. Yan, Y.Z. Liu and M. Huang	181
Study of High Temperature Performance and Low Temperature Property on Layered Silicate Modified Asphalt Concrete	
S.P. Wu, T.G. Liu, L. Pang, T.W. Cao and P. Pan	189
Study on Preparation and UV Ageing Resistance Effect of LDHs Modified Asphalt	
J.S. Wang, S.P. Wu, J. Han and X. Liu	194
The Influence of Electrode on Resistivity of Conductive Asphalt Concrete for Self-Monitoring	
C.J. Sun, L.J. Qin, S.P. Wu, G.L. Sun and L. Chen	203
Utilization of Dacite as Alternative Aggregate in Asphalt Mixture	
S.P. Wu, P. Pan and M.Y. Chen	209
A Novel Way to Change Color of Allphatle Sulfonated Resin	
Q. Liu, H.X. Guo, Z.M. Wang, P. Yang and S.P. Cui	215
Clean Synthesis of Silver-Silica Aerogels via Supercritical Drying and Impregnation	
X.Y. Li, J. Shen, A. Du, Z.H. Zhang and H.Y. Yang	220
Crystallization Kinetics of MgO–Al₂O₃–SiO₂ Transparent Glass–Ceramics	
J.S. Cheng, J. Wang, L.Y. Tang and Z.L. Deng	230
Crystallization Properties of Ge-Se-Bi Thermoelectric Glasses	
F.D. Shangguan, J. Xie, Z.P. Wu, J.M. Xing, B. Zhao, Y.Y. Liu and G.R. Chen	235
Effect of MgO/CuO on the Microstructure and Thermal Properties of Cordierite–Alumina Ceramics	
L.Y. Tang, X. Cheng, P. Lu and F. Yue	240
Effect of Polyvinyl Pyrrolidone Molecular Weight on the Silver Morphology Synthesized by N, N-Dimethylformamide Reduction	
X.M. Zhu, X.J. Zhao, Z.Y. Ning and X.T. Sui	245
Experimental Research on AZ31 Magnesium Alloy Sheet with Electromagnetic Forming and Quasi-Static Forming	
F. Feng, Z.H. Meng, S.Y. Huang, J.H. Hu and Z.L. He	253
Facile Fabrication and Efficient Photocatalytic Activity of 3D-Ordered Macroporous ZnO Film	
H. Xie, T. Zeng, X.L. Wang and X.J. Zhao	259
Finite Element Method on Electromagnetic Shaping for Aluminum Alloy Sheet Parts	
J.H. Hu, X.C. Du, X.M. Song and H. Cai	266
Influence of Fluorine on the Structure and Luminescence Properties of Sm³⁺ Doped Strontium Titanium Silica Glass	
L. Hong, Y. Qing and H. Ning	273
Light Scattering by Textured Al-Doped Zinc Oxide Film for Thin Film Silicon Solar Cells Coated on Glass Substrates	
D.K. Miao, Q.N. Zhao, Y.H. Dong, W.H. Yuan, L. Wu, H.Y. Liang, B. Wang and X.Q. Lu	279
Microstructure and Luminescent Properties of the YAG: Ce Phosphor-Doped Glass of the P₂O₅-ZnO-SiO₂ System	
L. Hong, H. Ning and Y. Qing	288

Optimization of Optical Properties of SiO₂/TiO₂/SiO₂ Multilayer Films J.M. Ni and Q.B. Gu	294
Phase Separation and Luminescence of Eu₂O₃ Doped Boron Silicate Glass P.J. Tian, J.S. Cheng, G.K. Zhang and Q. Yang	303
Preparation and Analysis of Doped TiO₂ in the Bi₂O₃-SiO₂-ZnO-B₂O₃ Low-Melting Sealing Glasses Q.B. Gu and J.M. Ni	308
Preparation and Characterization of Superionic Conductive Li₂O-Al₂O₃-La₂O₃-TiO₂-P₂O₅ Glass-Ceramics H.P. Chen, H.Z. Tao, Q.D. Wu and X.J. Zhao	314
Preparation and Characterization of Supported H₃PW₁₂O₄₀ and Supported Cesium-Substituted Dodecatungstophosphate Z.L. Liu, C.X. Xu, Q.W. Dai, C. Xiang and J.J. Zhang	321
Rheological Characteristics of Residue Binder from Low Penetration Grade Bitumen Emulsion G.J. Xu, M.Z. Chen, S.P. Wu, M. Van de Ven and S. Mookhoek	328
Synthesis and Properties of SnS Thin Films by Chemical Bath Deposition D.L. Xia, J. Xu, W.Q. Shi, P. Lei and X.J. Zhao	333
The Effect of Al₂O₃/SiO₂ on the Structure and Properties of Na₂O-CaO-Al₂O₃-SiO₂ Glasses J. Xie, Z.F. Xiao, W.H. Zheng, Y. Liu and J.S. Cheng	339
The Effect of Fluorine on the Viscosity and Crystallization of Lithium Aluminosilicate Glasses W.H. Zheng, Y. Dai, M.Z. Lin, K. Yang and H. Wu	346
The Thermodynamic Characteristic of Diesel with 21-30% Oxygen-Enhanced Combustion J.S. Cheng, Z.L. Deng and J. Wang	353