

Table of Contents

Preface, Committee and Sponsors

Chapter 1: Architectonics and Materials Study

Analysis of Massive Platform Concrete 3-Dimensional Hydration Heat of Corrugated Steel Webs Bridge J. Wang, Z.Q. Li and X.W. Hao	3
Development of High-Rise Buildings from Materials Perspective Z.M. Hou and J.W. Yao	8
Temperature Field Division at Liupanshan Area of Ningxia for Asphalt Pavement Performance Z.H. Cong, N.X. Zheng and Y. Jin	12
Study on Corrosion Behaviour of Nickel Alloy in Acidic Environments F. Zhang, F.F. Pang, F. Gao, R.F. Zhang and F.F. Deng	16
Study on Corrosion Process of Nickel-Based Alloy in Na₂SO₄ Solutions F. Zhang, W.M. Zeng, K. Juan, Y.C. Li and F. Gao	20
The Preparation and Properties of Natural Bamboo Fiber/Polypropylene Fiber Non-Woven Materials W. Ma and W.B. Yao	24
Case Study on Beneficiation of Cassiterite-Polymetallic Sulphide Ores S.Q. Liu, X. Tong, B.X. Song and W.P. Wang	28
A Comparison on Tailings Treatment and Disposal of Aba Lead-Zinc Concentrator S. Zhao, S.Q. Liu, B.X. Song and J.Z. Pan	32
The Application Study of the Diamond Punching Method in Stamping Production of the Screen Hole Parts Z.Y. Yang and B.B. Yang	36
Study on the Electricity Generation in Steel Production Concerning the Recovery of Waste Heat and Energy J.J. Wang, H.J. Li and H. Meng	40
Research on Influencing Factors of Wood Residual Fiber Foaming Cushion Material B. Cao, S.L. Xiao and X.Q. Pan	46
A Beneficial Attempt - An Engineering Practice of Reusing Old Building Materials Y. Li, Z. Li and Y. Song	51
Digital Recording of Ancient Buildings by Using VTOL UAVS and Building Materials Y. Li	55
Test and Select of Carrier of Phase Change Materials for Asphalt Mixtures Y.Z. Ren, J.Z. Liu, B. Ma and S.S. Wang	60
Analyses of High Grade Strength Steel Bars in the Design of a Five-Storey Reinforced Concrete Structure with Comparison of Energy Consumption and CO₂ Emission P. Zhang, H. Zhu and A. Fafitis	64
Study on Corrosion Resistance of Brass in Circulating Cooling Water with Different Concentration Ratio Y.C. Li, X.W. Liu, R.F. Zhang, K. Juan and F. Gao	70
Study on Anti-Corrosion Behaviour of 304 Stainless Steel in Circulating Cooling Water Y.C. Li, Y. Jiang, H. Zheng, K. Juan and X.W. Liu	74
Research on Carbon Steel Test Conducted by Means of Steady-Damp Heat Periodic Immersion Method D.H. Li, J. Hu and L.X. Li	78
Settlement Research and Prediction on Soft Clay Foundation X.C. Shi, Y.F. Dong and Y. Liu	83
Experience and Study of Austenitic Stainless Steel Machining Z.X. Tu	88

Effect of Thermal Conductivity on Temperature Fluctuations in the Mixing T-Junctions Filled with Porous Metal Materials	
Y.W. Wang, T. Lu and K.S. Wang	92
Comparison of Two Different Methods of Preparing Chemical Raw Materials Using Blast Furnace Gas	
W. Guo, J.J. Wang, W.G. Gao and H. Wang	96
Preparation of $\text{Li}_4\text{Ti}_5\text{O}_{12}$ as Anode Material by Solution Method	
F. Gu	101
The Synthesis and Ion-Exchange Property of Inorganic Material $\text{Mg}_{1.5}\text{Mn}_{0.5}\text{Ti}_{0.75}\text{O}_4$	
J.H. Jiang	105
The Synthesis and Ion-Exchange Property of Inorganic Material $\text{Mg}_2\text{Mn}_{0.5}\text{Ti}_{0.5}\text{O}_4$	
J.H. Jiang	109
Study of Inorganic Ion Exchange Material $\text{MgMn}_{0.25}\text{Ti}_{0.75}\text{O}_3$	
J.H. Jiang	113
A Constitutive Model for Collapsible Loess Material: I Analytic Formulation	
H. Li, Y.M. Zhang, H. Xu, G.Y. Zheng, X.Y. Lu and G.Z. Fu	117
A Constitutive Model for Collapsible Loess Material: II Application	
H. Li, J.C. Jia, P.H. Zhang, G.B. Yang and S.J. Su	122

Chapter 2: Architectural Mechanics, Architectural Environment and Structure

Research on Vibration Energy Recovery of Base on EAPs	
Z.Y. Liu, S.J. E and J.B. Cao	129
Beneficiation of a Cassiterite-Polymetallic Sulphide Ore	
S.Q. Liu, M. Zhang, B.X. Song and W.P. Wang	134
The Application Study on Northern Guangxi Residence Materials Elements in Modern Building Design	
Y.M. Liang	138
Numerical Simulation of Splitting Tensile Strength for Concrete	
H. Sun, J. Zhang and Q. Yang	142
Study on Production of Burning-Free Brick Using Chinese Kuancheng Iron Ore Tailings	
X.Y. Zhou, Y.Z. Yu, S.X. He and Q. Li	146
Numerical Analysis of the Stress in Joggle Double Lap Joint	
X.L. Zheng, L. Wu, M. You, K. Liu and C.J. Chen	150
Hydromechanical Analysis of Desilting Mechanism of Ecological Arc-Shaped Baffle Fishway	
J. Cong, D. Cui, F. Yu, J.Y. Wang and L.Q. Xie	154
Effect of Shock Time on the Thermal Stress in the Single Lap Joint	
M. You, C.Z. Mei, C.J. Chen, J.L. Li and M. Li	159
Analysis of the Spillway Lining Cracks of Shuangquan Reservoir	
L.M. Hu, T. Cao and Y.Z. Li	163
New Method for the Structural Calculation of Concrete Rainwater Infiltration Design in City District	
Y.Z. Li, L.M. Hu and S.Y. Fan	167
Surface Functionalization of Carbon Nanotubes and Compressive Strength of MWCNTs-OPC	
F.X. Wang and Y.Y. Wang	171
Study and Analysis on Engineering Feature and Environmental Influence of Coal Mine	
R.J. Su	175
Study and Current Environmental Situation Evaluation on a Coal Mine Located District	
R.J. Su	179
A Simulation Study on Stress and Strain Change Rule for Channel Steel Cold Roll Forming Process	
L. Chen, C.X. Wu and Y. Wang	183
Study of Effective Stress and Surface Subsidence in Pit Precipitation	
H.F. Tong	188