

Table of Contents

Preface

Chapter 1: Structural Metal Materials

Material Analysis: A Century Old Beam's Steel Compared to Modern Structural Steels A.A. Geana, I. Duma, A.C. Murariu, I.A. Perianu, M. Marin-Corciu and V.. Constantin	3
Experimental Investigation of Monotonic and Cyclic Behaviour of High-Performance Steels A. Ene, I. Both, O. Abrudan, A. Stratan, H.F. Daşcău and N.A. Sîrbu	13
Monotonic and Cyclic Modelling of Structural Steel for Finite Element Analysis A. Ene and A. Stratan	21

Chapter 2: Components of Traditional Materials

Justification of the Manufacturing Plywood Technology on Dry Glues S. Mazurchuk, Y. Tsapko, O. Horbachova and A. Tsapko	33
Study of Humidity During Sand Dewatering Using a Cone-Shaped Installation D. Beliuchenko, K. Tishechkina, T. Hannichenko and O. Salamatina	43

Chapter 3: Concrete Technologies

Corrosion of Concrete in a Water Management Structure in Conditions of Biogenic Sulfuric Acid Aggression V. Iurchenko, O. Melnikova, Y. Levashova and N. Kosenko	55
Optimization of Water Activation Technology for the Production of Fine-Grained Concrete A. Shyshkina	63
Increasing the Speed of Formation of the Structure of Fine-Grained Concrete and its Strength A. Shyshkin	69
Expansion and Mitigation of Alkali-Silica Reaction in Binary Blended Concrete Confining Potentially Reactive Aggregates M.F.Y. Lacsado, V.L. Velasco III and K.S. Juan	75

Chapter 4: Green Building Materials

Research of Properties and Rational Composition of Ecosafe Building Materials with Ash-and-Slag Waste from Masute Fuel and Coal Combustion O. Kondratenko, V. Koloskov, H. Koloskova and V. Babakin	85
Utilization of Ethylene-Vinyl Acetate (EVA) Waste from Footwear Industry as Partial Replacement of Aggregates for Concrete Roof Tile M.F.Y. Lacsado, J.L. Batawan, H. Apalacio and K.H. Sultan	99
Elevated Temperature Basic Oxygen Furnace Slag Stabilisation of Desilicated Foundry Sand T. Sithole	105
Fabrication and Analysis of Thermal Insulation Ceiling Panel from Corn Husk Fiber A.Y. Manalindo, A.R. Arani and W. Quijano	113
Alkali Activation of Solid Waste from Cable Wire Manufacturing Industry for Building and Construction T. Mashifana	121
Analysis of Mechanical Performance of Cementitious Materials with Spent Garnets as Fine Grain Aggregate Partial Replacement C. Baeră, A. Gruin, B. Bolborea, I.A. Perianu and L. Varga	127