

Table of Contents

Preface

Drying Characteristics of *Chlorella pyrenoidosa* Using Oven and its Evaluation for Bio-Ethanol Production

Megawati, A. Damayanti, R.D.A. Putri, I.N. Pradnya, H.F. Yahya and N.K. Arnan 1

Reduction of Surface Cracks at Al-Mg Alloy Strip Surface Cast by Unequal Diameter Twin Roll Caster

T. Haga, K. Yamazaki, H. Watari and S. Nishida 6

Roll Casting and Die Casting of Si-Added Al-Mg Alloy

T. Haga, S. Imamura, H. Fuse, H. Watari and S. Nishida 12

Effect of Si and Mn Addition on Fluidity, Mechanical Property and Casting Crack in Die Casting

H. Fuse, S. Imamura and T. Haga 18

Casting of Clad Strip Consisting of Al-Sn Alloy and Pure Aluminum

T. Haga 23

Changing from a Vertical Burr to a Horizontal Burr in the Vertical-Type High-Speed Twin-Roll Caster

T. Haga, Y. Murakami, S. Kitamura, H. Watari and S. Nishida 29

Globular Crystals in the Center of Roll Cast Aluminum Alloy Strips

T. Haga, M. Tsuchida, H. Sakata, H. Watari and S. Nishida 34

Effect of Alloying Elements on Mechanical Properties of High-Strength Low-Alloy Steel

N. Li, W. Kingkam, Z.M. Bao, R.H. Han, Y. Huang, H.X. Zhang and C.Z. Zhao 41

Effect of Synthesis Conditions on the Preparation of Ag/ZnTiO₃ via Sol-Gel Method and its Antibacterial Properties

H.T.A. Le, T.A. Nguyen and K.P.H. Huynh 47

Pebax 1657 Nanocomposite Membranes Incorporated with Nanoadsorbent Derived from Oil Palm Frond for CO₂/CH₄ Separation

A.A. Ghazali, S.A. Rahman and R.A. Abu Samah 52

Mechanochemical Synthesis of Zinc Oxide Nanoparticles and their Antibacterial Activity against Escherichia Coli

T.A. Nguyen, T.Y. Mai, T.X.M. Nguyen, K.P.H. Huynh, M.V. Le and T.A.N. Nguyen 59

Geopolymer Synthesis Using Metakaolin and High Calcium Fly Ash as Binary System Geopolymer

T. Pantongsuk, C. Tippayasam, P. Kittisayarm, S. Nilpairach and D. Chaysuwan 65

Synthesis of Magnetically Separable Activated Carbon from Pineapple Crown Leaf for Zinc Ion Removal

W. Astuti, T. Sulistyaningsih, D. Prastiyanto, B.S.A. Purba and R. Kusumawardani 71

An Innovative Method of Voided Reinforced Concrete One-Way Slabs Using Bundled Waste PET Bottled Tubes

M.S. Mohammed, M.L. Ahmed, Z.M. Ali and A.S. Mahmoud 76

The Effect of Volumetric Hydrophobization on Moisture Transfer during Hardening of Concrete

S.V. Fedosov, V.E. Rumyantseva and V.S. Konovalova 85

Rice Husk Ash as a Cement Replacement in High Strength Sustainable Concrete

A. Ahmed, F. Hyndman, J. Kamau and H. Fitriani 90

Effect of Temperature on Phase Angle and Dynamic Modulus of Asphalt Mixtures Using SPT

J. Ahmad, M.R. Hainin, E. Shaffie, K.A. Masri and M.A. Shaffi 99

Non-Destructive Detection of GIS Aluminum Alloy Shell Weld Based on Oblique Incidence Full Focus Method

X.X. Wang, C. He, P. Zhao, Y. Zheng, S.H. Jiang and Y.D. Wei 105

Mechanical Characterization of a Masonry System Made of Alkaline Activated Pozzolana Blocks

J. Salirrosas, G. Silva, S. Kim, J. Nakamatsu, B. Bertolotti and R. Aguilar 111

A Study of Thermal Conductivity Property of Socks W.Y. Wang, K.T. Hui, C.W. Kan, K. Viseshpan, S. Areechongchareon, S. Tiyasri and R. Mongkholrattanasit	118
Evaluating the Air Permeability Properties of Summer Cooling Towels Y.L. Lam, W.Y. Wang, C.W. Kan, K. Manarungwit, W. Changmuong, J. Pattavanitch, W. Wongphakdee and R. Mongkholrattanasit	125
Bioactive Membranes of Polymeric Micro and Nanocomposites Prepared with the Natural Anionic Marine Polysaccharide (Alginate) Functionalized with Extracts of Cat's Claw (<i>Uncaria tomentosa</i>) and <i>Aloe vera</i> S. Kim, M. Elgegren, A. Donayre, B. Galaretta and J. Nakamatsu	131
Oxidation Behavior of TiC/Mo Composites by Spark Plasma Sintering Y.L. Liu, Y.Q. Zhu, X.K. Yang, Z.M. Bao, R.H. Han, H.X. Zhang and C.Z. Zhao	137
Synthesis Study of Silver-Doped Zinc Oxide for Near-Infrared Shielding Applications S. Kaenphakdee, S. Yodyingyong, J. Leelawattanachai, W. Triampo, N. Sanpo, J. Jitputti and D. Triampo	143
Effect of Morphology on Near-Infrared Shielding Properties of Aluminum-Doped ZnO by Solvothermal Synthesis P. Putthithanas, S. Yodyingyong, J. Leelawattanachai, W. Triampo, N. Sanpo, J. Jitputti and D. Triampo	148
Characterization of Semi-Refined Carrageenan Reinforced with Cellulose Nanofiber Incorporated α-Tocopherol for Active Food Packaging Applications W.A. Wan Yahaya, R.N. Raja Ahmad and N.A. Mohd Azman	154
Analysis of Pitting Corrosion for 2219 Aluminium Alloy under Different Corrosion Circumstances Y.F. Li and S.L. Lv	160
Reviews on Different Types of Rooftile BIPV: Materials Point of View N. Safitri, R. Syahyadi, F. Rizal and Y. Yassir	165