

Table of Contents

Preface

The Effect of EDM Process on the Microstructure of CP-Titanium Grade 2 and AISI 316 L in Cardiovascular Stent Manufacturing E. Pujiyulianto, Y. Amalia, T. Wahyuningsih, F.Y.P.G. Field, R.Z. Mirahati and Suyitno	1
Corrosion Behavior of a Predeformed Fe-Ni Lateritic Steel with Bainite Structure M. Rohmah, M.S. Anwar, R. Roberto and F. Citrawati	8
Carbon and Nitrogen Composition for Non-Precious Metal Catalyst to Physical Characterization and Electrochemical Properties V.A. Setyowati, D. Susanti, L. Noerochim, E.W.R. Widodo and M.Y. Sulaiman	17
Analysis the Effect of Charcoal Mass Variation to Ni Content, Sinter Strength and Yield on Sintering Process of Limonitic Laterite Nickel Ore F. Abdul, S. Pintowantoro and A. Maulidani	25
Direct Reduction of Limonitic Laterite Nickel Ore with Variation Type of Reducing Agents to Fe, Ni Content and Recovery by Using Coal-Dolomit Bed Method S. Pintowantoro, F. Abdul and D. Zulyansyah	32
Effect of Ground Glass Particles on the Water Absorption and Tensile Properties of Epoxy S. Sugiman, P.D. Setyawan and S. Salman	41
The Effect of Acidity and Rotation Speed in Titanium Dioxide Synthesize Process A.E.E. Putra, H. Arsyad, N. Amaliyah, H.E. Prabowo and A. Hayat	48
Improving of Electric Voltage Response Based on Improving of Electrical Properties for Multiferroic Material of BiFeO₃-BaTiO₃ System D. Suastiyanti, Y.N. Maulida and M. Wijaya	54
Effect of Copper Addition on Fatigue Strength Al-10Si Alloys Produced by Die Casting M. Syahid, H. Arsyad and A. Sahid	62
Tensile, Flexural and Water Absorption Properties of Bamboo Fiber/Unsaturated Polyester Composites: Effect of Calcium Carbonate Content S. Sugiman, A. Martino, P.D. Setyawan and B. Anshari	68
Reliability Evaluation of Fatigue Crack Growth Rate of Heat-Treated TIG-Welded Al 6013-t4 by Two-Parameter Weibull I.M.W. Ekaputra, G.D. Haryadi, S. Mardikus, I.G.K. Puja and R.T. Dewa	75
Natural Fiber Reinforced Composites as Bulletproof Panel Materials Sutikno, A. Safaat and K.H.S. Fendy	82
Effects of Oil Palm Empty Fruit Bunch and Magnesium Oxide Volume Fraction on Mechanical Characteristics of Railway Brake Block Composite Material Sutikno, W. Berata, K.H.S. Fendy and A. Safaat	91
Effect of Stirring on the Quality of ADC 12 Cast Aluminium Alloy H. Agustin, I. Sidharta and Leonard	98
Application of Seeds from Psidium Guajava as Organic Inhibitor A. Pradityana, Subowo, H. Subiyanto, E. Widiyono and D.W. Gathot	103
Extraction and Characterization of Nanocrystalline Cellulose (NCC) from Ramie Fiber by Hydrochloric Acid Hydrolysis D.A. Akbar, Kusmono, M.W. Wildan and M.N. Ilman	109
Impact Toughness Characteristics of SM570-TMC Steel Joint Using Welding Wire Containing 0.4% Nickel at Different Level of Heat Input H. Oktadinata, W. Winarto, D. Priadi, E.S. Siradj and A.S. Baskoro	117
Effect of Surface Treatment and Cutting Orientation to the Changes in Stents Surface Roughness A. Syaifudin, J.B. Ariatedja and K. Sasaki	125
Effect of Grain Size in Silica Blasting Processes on the Surface Roughness of Medical Grade SS 316L T.D. Widodo, R. Raharjo, R. Bintarto and F.A. Alamsyah	134
Analysis of Condensor Tube Thinning Distribution and their Failure Modes Based on Eddy Current Data F. Rozaq and F. Mubarak	140

Numerical Convergence in Wear Volume Prediction of UHMWPE Acetabular Cup Paired with cp Ti Femoral Head Hip Implants Handoko, Suyitno, R. Dharmastiti and R. Magetsari	148
Fabrication Membrane of <i>Titanium dioxide</i> (TiO₂) Blended <i>Polyethersulfone</i> (PES) and <i>Polyvinilidene fluoride</i> (PVDF): Characterization, Mechanical Properties and Water Treatment A. Mataram, N. Anisya, N.A. Nadiyah and Afriansyah	159
Effects of Aluminum and Manganese Addition on the Microstructures and Mechanical Properties of Cu-29Zn Alloys I. Basori, R. Fadillah and Y. Sari	166
Correlation of Holding Time and Bottom Ash Particle Size to Mechanical Properties of Polypropylene Composite I.M. Kastawan, I.N. Sutantra and Sutikno	172
Surface Roughness Characterization of Medical Implant Material SS316L Stainless Steel after Cut with Water Jet Cutting Process T.D. Widodo, R. Raharjo and M. Zaimi	182
Non-Monotonous Effect of Adhesive Thickness on The Dynamic Stiffness of Adhesive Butt Joint Yohanes, A.S. Pramono and A.B. Hudayya	188
Deformation Analysis of Internal Fixation Plate on Femur Bone Fracture: A Study Case on Local Raw A. Syaifudin, D. Kuswanto and T.H. Prasetyo	196
Macro-Micro Analysis on 2-Layer Semiautomatic MIG Welding of AA5052 Material Using ER5356 Electrode Mudjijana, R.A. Himarosa and Sudarisman	204
Effect of Sulfuric Acid Concentration on the Corrosion Rate of ASTM A213-T12 Steel Suwarno and M. Nashir	213
Influence of Thermal Cycling Temperature on the Recrystallization of Cold Rolled Stainless Steel 316L F. Mubarak, P.I.U. Fauzia, Sutikno, F. Mahyudin and D.N. Utomo	218
The Effect of Citric Acid Concentration on Corrosion Behavior of Austenitic Stainless Steel 316 L Suwarno and H. Muhtadi	224