

Table of Contents

Preface, Committee, Reviewers, Sponsors and Exhibitors**Thickness Effect of Polyurethane Foam Core on the Flexural Behaviour of Composite Sandwich Materials**

P. Ardiyanto, P. Suwarta, Sutikno, I. Sidharta and W. Wijanarko 1

Effects of Liquid Viscosity on the Wave Velocity and Wave Frequency in Horizontal Annular Flow

A. Setyawan, Indarto, Deendarlianto and A. Badarudin 7

Development of the Third Darrieus Blade of Sultan Wind Turbine for Low Wind Speed

Erwin, S. Wiyono, E. Listijorini, R. Lusiani and T.P. Soemardi 13

Multiple Performance Characteristics Optimization in the WEDM Process of SKD61 Tool Steel Using Taguchi Method Combined with Weighted Principal Component Analysis (WPCA)

B.O.P. Soepangkat and H. Agustin 21

Effects of Dwell-Time and Plunge Speed during Micro Friction Stir Spot Welding on Mechanical Properties of Thin Aluminum A1100 Welds

A.S. Baskoro, Suwarsono, M.D. Habibullah, Z. Arvay, G. Kiswanto, Winarto and Z.W. Chen 29

Inverse-Turbulent Prandtl Number Effects on Reynolds Numbers of RNG $k-\epsilon$ Turbulence Model on Cylindrical-Curved Pipe

Budiarsa, A.I. Siswantara, S. Darmawan and H. Tanujaya 35

A Comparative Study of the Damping Force and Energy Absorbtion Capacity of Regenerative and Conventional-Viscous Shock Absorber of Vehicle Suspension

H.L. Guntur and W. Hendrowati 45

Analysis of Micropattern Fabrication for Micromold Using Low Power CO₂ Laser

A.S. Baskoro and Y.M. Bali 51

Stiffness Effect on Low-Frequency Stick-Slip Motion Generated on a Simple Caliper-Slider Experimental Model

Z. Fuadi and K. Adachi 57

Experimental Study on the Effect of Vortex Generator on the Aerodynamic Characteristics of NASA LS-0417 Airfoil

S. Sutardi and A.E. Nurcahyah 63

Performance Analysis of 3-URU Spherical Parallel Mechanism Designed Based on Velocity Transmission and Force Constraint Indices

S. Huda, Syafri and M. Bur 71

FEM Simulation of Machining AISI 1045 Steel Using Driven Rotary Tool

Y. Burhannudin, S. Harun and G.A. Ibrahim 77

Impact Behavior of Apus Bamboo (*Gigantochloa apus*) Fiber/Epoxy Green Composites

Sudarisman, B.N.R. Muhammad and A. Bagus Prabowo 83

Stability Analysis of Rail-Conveyor for Coals Transportation

B. Budiwantoro, M. Agus Kariem, R.R. Basia and G. Prima 89

Effect Pouring Temperature on Casting Defect Susceptibility of Hot Tearing in Metal Alloy Al-Si

A. Hasan and Suyitno 95

The Effect of Hollow Glass Reinforced Epoxy in Absorbing Impact Energy for Vehicle Bumper Application

H. Amalia, Sutikno, I. Sidharta, W. Wijanarko and P. Suwarta 101

Wear Characteristic of Stainless Steel 304 Sliding against Cast Iron under Lubrication Environment of Palm Biodiesel Fuel

T. Muhammad, Z. Fuadi, K. Fazmi and H. Husaini 107

Design of Sea Currents Turbine

I.G.B. Wijaya Kusuma and R.S. Hartati 113

Tensile and Flexural Properties of Bamboo (*Gigantochloa apus*) Fiber/Epoxy Green Composites

Sudarisman, B.N.R. Muhammad and R.H. Aziz 119

Effect of Plasma Nitrocaburizing on the Mechanical and Corrosion Properties of SS 304

A.W. Nugroho, H. Nur Rosyid and T. Sujitno 125

Fabrication of Bicycle Frame of A356 Aluminum Alloys by Using Sand Casting	131
Suyitno and U.A. Salim	
The Effect of Using Current Stabilizer to the Dynamic Characteristic of a Regenerative Shock Absorber	
H.L. Guntur, W. Hendrowati and S. Mochammad	137
CFD Study on the Ventilation System and Shape Configuration of Underground Car Park in Case of Fire	
M.A. Santoso, Z. Bey and Y.S. Nugroho	143
Experimental of Three Parallel Water Current Turbine with Optimized Straight Blades and Using Flow Concentrator Channeling Device to Augmented Performance and Self-Starting Capability	
P. Sutikno, Y.S. Nurdin, D. Risqi, E. Mardani and E. Sihombing	153
Electrode Design for Orbiting EDM: An Experimental Approach	
T. Sriani, G.S. Prihandana and H. Aoyama	159
Comparative Study on Performance of Very Low Head Axial Hydraulic Turbine Using a Single Rotor and a Contra-Rotating Rotor	
A. Muis, P. Sutikno, A. Suwono and F. Hartono	165
Steady-State Cornering Modeling and Analysis of Three-Wheel Narrow Vehicle	
U.W. Wasiwitono, I.N. Sutantra, Yohanes and Y. Triwinarno	173