

Table of Contents

Preface

Chapter 1: Steel and Alloys, Metalworking Technologies

Characterization of Magnesium Alloy AZ31 due to Thermal Oxidation Temperature Sutyoko, Lutyatmi and R. Afandi	3
Effect of Oil Quenching and Shot Peening to Improve Hardness Behavior of S45C Carbon Steel B.H. Priyambodo, Margono, K.C. Nugroho, N.T. Atmoko and R.I. Yaqin	9
Experimental Study of MQL Performance on the Titanium Material Drilling Process M. Alayaini, M. Rizal, M. Iqbal and M. Dirhamsyah	16
Microstructural Investigation of Acicular Nodular Cast Iron Used for Work Rolls H. Oktadinata, S.B. Pratomo, S.A. Dwiwanto, Y. Nugraha and U. Mardono	27
Simultaneous Double-Sided Metal Inert Gas Welding of AA5052 Aluminum Alloy T-Joints R.A. Himarosa, Mudjijana, R.K. Adi, M.B. Nur Rahman, Sudarisman, A. Wisnujati, A. Yusuf and D. Hidayat	33
Effect of Welding Parameter Conditions of 304L SS and AISI 1015 Dissimilar Steel Weld Joints to Macrostructure and Mechanical Properties H. Kadir, Riswanda, A.D. Saragih, Sugianto, M. Budi and Akhyar	40

Chapter 2: Corrosion and Metal Failure

The Failure Analysis of Crankshaft of Four Cylinder Diesel Engine Using Experimental Method Husaini, A. Rizqullah, I. Hasanuddin and S. Muammar	51
A Comparative Study on Corrosion Rate of Carbon Steel in <i>NaCl</i> Solution with Continuous and Discontinuous Weight Loss Methods N. Ali, M.S. Mustapa, Z.I. Vega, T. Sulaiman and I. Hasanuddin	60
Analysis of the Leaf Spring Failure in Light Duty Dump Truck Husaini, M. Farhan, N. Ali, T.E. Putra, R. Anshari and K. Suherman	67

Chapter 3: Composites

Effect of Silane Coupling Agent on the Mechanical Properties of Oil Palm Frond Fiber Composite Sabri, Z. Fuadi, R. Kurniawan, S. Rizal and H. Homma	79
Finite Element Analysis of the <i>Jaloe kayoh</i> Boat Structure with Load Variations by Using E-Glass and Ramie Fiber Composite Materials A. Tamlichia, S. Rizal, I. Hasanuddin, M.M. Noor and Nazaruddin	85

Chapter 4: Building Materials

The Effectiveness Evaluation of Sacrificial Anode in Reinforced Concrete that has been Installed for One Year M. Isra, S. Huzni, B.M.I. Israr and S. Fonna	97
Flexural Strength and Physical Properties of Cement Board Reinforced with Abaca Fiber M. Iqbal, S.A. Azan, R. Rahmadtullah and L.B. Abhang	106