

Table of Contents

Preface

Chapter 1: Structural Metals

| | |
|---|----|
| Fatigue Crack-Growth of Aluminum Integral Stiffened Panel under Constant Amplitude Loading J.D. Mattos and M. Arbelo | 3 |
| Effect of Laser Peening and Shot Peening on Fatigue Strength and Harmless Crack Size of 3D Additively Manufactured Maraging Steel J.M. Yun, H.S. Nam and K.W. Nam | 11 |
| Influence the Addition of Basalt Powder on the Protective Properties of Epoxy as a Coating for Steel M.A. Shohide and A. Elhabak | 23 |

Chapter 2: Polymers and Composites

| | |
|---|----|
| Simulation Studies to Compare Innovative Cellulose-Based Fibers Composites Printed Circuit Board with Glass Fibres J.C. Velosa, A.P. Silva, G.R. Mitchell and J.M.R. Curto | 37 |
| Investigation of the Microstructure and Nanoindentation of Processed Ti6Al4V-5ZrO₂-xSi₃N₄ Ternary Composites Using Powder Metallurgy A.O. Ogunmefun, E.R. Sadiku, L.M. Teffo and W.K. Kupolati | 49 |
| Improvement of the Mechanical Properties of GFRP Laminates Used in the Construction of Ship Hulls by Implementing Auxetic Sheet Cores P. Townsend, J.P.R. Rodríguez, C.A.A. León and M. Carboneras | 63 |
| An Interlaminar Model for Delamination Behavior of Composite Curved Beams Considering Inter-Ply Voids Y.Y. Ye, J.X. Gao, Q.S. Chen, S.M. Qian, F. Zhang and S.G. Zhang | 75 |

Chapter 3: Special Materials

| | |
|---|-----|
| Structural, Microstructural and Magnetic Performance of NdFeB/Ni-Zn Ferrites Hybrid Magnetic Composites R. Nazlan and N. Ismail | 89 |
| Synthesis and Characterization of Lead Hydroxyapatite Solid Solutions at 830°C M.A.B. Abdul Jabar | 101 |

Chapter 4: Materials and Technologies in Construction

| | |
|--|-----|
| Preliminary Study on Using LDPE, LLDPE and PP Waste as Concrete Aggregates R. Rachmantyo, R.A. Hutasoit and L.A.T.W. Asri | 115 |
| Encapsulation in Expanded Clay as an Alternative Protection for Bacteria in Bioconcrete-Influence on Compressive and Tensile Strength J.A.R. Chiclla, D.C. Vilcapoma and E.A.A. Carlos | 125 |
| Manufacturing and Evaluation of the Mechanical Response of Geopolymeric Mortars with Raw Materials from Khapia Hill in Puno (Peru) J.C. Grande-Ccalla, F.A. Huamán-Mamani and C.K. Palomino-Ñaupá | 131 |
| The Design of KSITS Steel Modular Growing House as a Development of Local Steel Technology Downstream Industries in the Future B. Suswanto, W. Hastawa, H. Akhmal, D.A.S. Noviawan, A. Rakhmadi, T. Triwulan, T.J.W. Adi, F. Rachmawati, A. Mappajaya, A. Windharto and A. Kurniawan | 137 |