

Table of Contents

Preface

Chapter 1: Metalworking and Surface Treatment

Effect of Heat Treatment on Formability of AZ61 Magnesium Alloys A.K. Alfozan	3
Modeling and Optimization of Turning Hastelloy C-276 under Sustainable Machining Environments B. Singh, S. Singh, V. Aggarwal and G. Singh	9
Electrochemical Metallization for Enhancing the Quality and Performance of Electric Motor C.M. Llaccohua, W.C. Escobar, R.S. Reyes and G.W.Q. Santivañez	21

Chapter 2: Composite Materials and Structures

Mechanical Properties of Luffa Fiber Reinforced Recycled Polymer Composite H.T.N. Kuan, M.K. Afiq and S.J. Lumpong	29
Research on the Influence of Humidity on the Manufacture of GFRP Vessels in the Equatorial P. Townsend, C. Astudillo, K. Larrea and J.C. Suárez	35

Chapter 3: Preparation and Properties of Green Building Materials

Compressive Strength Target Method for Optimal Zero Carbon Concrete Mixtures Synthesized from Fly Ash M.M. Hassoon and M.A. Qissab	43
Sustainability Assessment of Lightweight Artificial Aggregates Made from Industrial Waste Using a Double-Step Cold Bonding Palletization Process J. Raza, N. Singh, F. Colangelo and I. Farina	55
Analysis of the Electrical and Mechanical Properties of Cement Composite Produced with Brake Lining Waste J.B.L. Palma e Silva, R.C.C. Lintz and L.A. Gachet	61

Chapter 4: Mechatronics

Development and Evaluation of a Vision Inspection System for Plastic Bottle Measurement J. Zhou and N.W. Hartman	73
--	----

Chapter 5: Scientific Data Management

Ontology-Oriented Modeling of the Vickers Hardness Knowledge Graph H.B. Nasrabadi and B. Skrotzki	85
---	----

Chapter 6: Production Engineering and Management

Lean Production Model to Reduce Defects and Achieve Sustainability in a Peruvian Textile SME V. Camones-Caballero, F. Feril-Encarnacion, C. Leon-Chavarri and F. Noriega-Bardalez	93
Lean Maintenance Design to Optimize the Manufacturing Process: A Peruvian Textile Company Case J. Cabana, W. Quino and E. Ramos	101

**Integrated Maintenance Management to Increase the Availability of Drilling Equipment:
Case Study in a Peruvian Mine**
L. Banda, N. Sanchez and E. Ramos