

Table of Contents

Preface

Hybrid Hemp/Carbon Fiber Reinforced Composites: Manufacturing, Mechanical Behaviour and Environmental Assessment

D. de Fazio, I. Bianchi, L. Boccarusso, M. Durante, C. Mignanelli, M. Panico, F. Pinto and M. Simoncini 1

Deep Learning-Based Quality Classification of Cold Spray Coatings with Explainable Feature Analysis

A.S. Perna, D. Rossi, A. Auriemma Citarella, D. de Fazio, F. De Marco, L. Di Biasi, M. Durante, G. Tortora and A. Viscusi 17

Increasing Strength of Recycled Materials by Fiberglass Pulverization and Powder Direct Molding

F. Quadrini, D. Bellisario, A. Proietti, L. Iorio, D. Noqra, G. Patrizii and L. Santo 29

Evaluation of Anti-Fouling Behavior of Silver Nanocomposites Made by Nano-Coating Fragmentation

L. Iorio, L. Santo, D. Bellisario, A. Proietti, D. Noqra, G. Patrizii and F. Quadrini 37

Shape Memory Behavior of 3D-Printed Biomedical Polyurethane with Room Temperature Transition

D. Bellisario, L. Iorio, A. Proietti, D. Noqra, G. Patrizii, F. Quadrini and L. Santo 45

Analysis of Connection Geometries for Segmented Stator Cores Machined with Laser Beam Cutting

F. Hoffmann, P. Plänitz, A. May, F. Winkler, M. Barth, S. Majcherek and M. Hackert-Oschätzchen 55

Estimation of the Lateral Gap in PECM: A Case Study on Tool Steel S390

R. Petermann, G. Meichsner, P. Clauß, S. Nickel and M. Hackert-Oschätzchen 63

Beading as a Stabilising Element for Thin Wooden Panels

R. Förster, A. Loth, J. Rösler and J. Hornig 75

Influence of Variable Radius Die Geometry on Tube Bending: A Finite Element Parametric Study

A. Aslanidis, J. Reuter and B. Engel 87

Design and Manufacturing of Complex Geometry PEEK Component through Fused Filament Fabrication

N. Burattini, L. Bottini, D. Corapi and A. Boschetto 99

Development of an Initial FEM Framework to Model Particle-Substrate Contact in Fluidized Bed Finishing of L-PBF Parts

A. Viscusi, A. El Hassanin and A. Squillace 113

Biomaterials' Surface Functionalization by High Frequency Micropatterning Embossing on PEEK Samples

M. Magro, L. Filice, M. Perrelli, D. Mundo, F. Moscato and F. Gagliardi 121

Evaluating the Performance of Composite Tubes Drawn from Hybrids of Aluminum, Steel, and Carbon Fiber

J. Buhl and L.I. Besong 129