

Journal of The Institution of Engineers (India): Series C

Volume 103 · Issue 1 · February 2022

Special Theme: Advancements and Futuristic Trends in Mechanical & Materials Engineering

Guest Editor: Ravi Kant

FOREWORD

Foreword 1

EDITORIAL

Editorial

R. Kant 3

ORIGINAL CONTRIBUTIONS

Investigations on the Effect of Sheets Positioning in Advancing & Retreating Side for Dissimilar FSW of DH36 Steel and Aluminum Alloy 6061

P. Pankaj · A. Tiwari · L.N. Dhara · S. Raj · P. Biswas 5

Analysis of Discharge Gap using Controlled RC based Circuit in μ EDM Process

S. Raza · R. Nadda · C.K. Nirala 21

Finite Element Modeling of Thermal Residual Stresses generated during EDM of AISI 1018 Steel

S. Kumar · S. Das · S.N. Joshi 29

Processing and Properties of Biodegradable Composites to Strengthen Structures

D.P. Archana · H.N. Jagannatha Reddy · R. Prabhakara · M.U. Aswath · A. Chandrashekar 39

Numerical Computation and Analysis of Cutting Forces during Nanometric Scratching of Silicon Carbide

B.M. Barkachary · S.N. Joshi 53

Microstructure and Microhardness of Mg/SiC Metal Matrix Composites Developed by Microwave Sintering

S. Gupta · A.K. Sharma 63

Optimization of Electroless Nickel Tungsten Composite Coating on 3D-Printed ABS Substrate for Maximum Tungsten Content

M.S.N.M. Shaikh · B.B. Ahuja 69

Loose Coupled Simulation Method for FEA of Electromagnetic Forming of Muffler

S. Pawar · S.D. Kore · A. Nandy 83

Determination of Material-Dependent Parameters and Friction in Ultrasonic-Vibration-Assisted Turning by Inverse Modeling

A. Srivastav · V. Yadav 93

CASE STUDY

Analysis of Causes and Remedy of Chattering in the Aluminum Four stand Tandem Cold Rolling Mill: A Case Study

V.A. Vaidya · N.V. Vaidya · V.V. Vaidya 107

REVIEW PAPERS

The Small Punch Test a Viable Alternate for In-service Components Preserved Strength Estimation

P. Patel · B.K. Patel 121

**Designing Nanostructured Materials through
Self-Assembly and their Applications**
H. Shahi · J. Kaur · S. Vaidya 135

Further articles can be found at link.springer.com

Instructions for Authors for *J. Inst. Eng. India Ser. C* are available
at <http://www.springer.com/40032>