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Applications -- Processing Challenges in the Fabrication of In-situ Al-Mg2Si Composite Sheet through Continuous Casting Route -- Role of Energy and Materials in Industry 4.0 – A Pragmatic Deliberation -- Computational Analysis of Various Fin Configurations – A Comprehensive Assessment -- Experimental Investigations of CO2 Laser Cutting of Glass Fibre Reinforced Unsaturated Polyester Composites -- Mathematical Modelling to Predict Angular Distortion in Duplex Stainless Steel 2101 Plates -- Analysis of a Hybrid Composite Material for a Relation Between Ply Angle, Strength and Fibre Volume Fraction.

Sommario/riassunto

This book encompasses peer-reviewed proceedings of the International Conference on Advancement in Materials Processing Technology (AMPT 2023). The recent developments in the domain of materials and mineral processing are briefly discussed. Keen attention has been paid toward techniques involving sustainable development incorporating green building materials aiming toward clean technology and circular economy. A range of durable, energy-efficient, and advanced materials, encompassing nano-materials, bio-materials, composite, smart, multifunctional, functionally graded, energy materials, etc. are analyzed and presented. The topics covered also include sustainable coal use, modeling and simulation, 3D-printing, and high-entropy alloys. The book also discusses various properties and performance attributes of advanced materials including their durability, workability, and carbon footprint. The book serves as a valuable platform for students, researchers, and professionals interested to delve deeper into recent advancements in Material Science and Engineering.