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Nota di contenuto	On the Lightweight Characterization of Materials and Structures -- From Raw Data to Master Curve - Improving the Time-Temperature Superposition Process Using Geometrical Properties of Temperature-Frequency Sweeps -- Development of a Lightweight Connection Rod for Motorbikes Fabricated with Hybrid Manufacturing -- Laser Polishing of PBF-LB Fabricated AlSi10Mg – Achievable Surface Quality and Implications on the Mechanical Properties Through Heat Input -- Concept for a Systematic Setup of a Hot Gas Welding Process for Glassfiber Reinforced Polyamides -- The Impact of Mesh Generation in Finite Element Simulations on Stress Gradient and Calculated Fatigue Strength -- Antibacterial Activity of Titanium Dioxide Composites for the Selective Laser Sintering Process -- Moth Eye Lens -- Quantifying

the Conversion Efficiency of a MW Plasma Reactor by Orienting a Vortex Gas Followed by a Downstream CDN Nozzle for Syngas Generation -- Buckling of Beams and Plates. Theoretical Foundations for the Structural Analysis According to Eurocode 3 -- Researching an Assisted Injection Molding Process using Artificial Intelligence -- Thermal Anisotropy Using the Hot Disk Method.

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#### Sommario/riassunto

This book presents the research outcomes from cooperative projects with industrial partners. It showcases the practical relevance of the research, features the knowledge exchange. The papers cover a wide range of engineering disciplines, highlighting the impact of these collaborations in addressing real-world challenges and advancing technological developments.

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