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Lingua di pubblicazione	Inglese
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Nota di contenuto	Visualization and Simulation of Particle Rearrangement and Deformation During Powder Compaction -- Full-Field Analysis of Strain-Induced Crystallization in Natural Rubber -- Grain Size and Mechanical Property of Magnesium Experienced Rolling and Post Heat Treatment -- Evaluation and Comparison of the Mechanical Performance of Adhesively Bonded and Self-Piercing Riveted Aluminum Joints under Tension Loading -- Dynamic Strain Aging in Additively Manufactured Steel at Elevated Temperatures -- Material

Characterization of 3D Printed Components with Different Layup Orientation -- Strain Controlled Tensile Test Through High Rate Thermal Expansion -- High Temperature Welded Thermocouple Preparation and Calibration -- Analytical Methods to Understand Deformation Mechanics in Additively Manufactured Metals -- Infrared Thermography Applied to the Assessment of Fatigue Initiation -- DIC-IR Analysis of Transient Thermal Stresses -- The Role of Extraneous Oxygen in the Formation of Oxide Inclusions In 316LStainless Steel Manufactured by Laser Powder Bed Fusion -- Evolution and Impact of Oxygen Inclusions in 316L Stainless Steel Manufactured by Laser Powder bed Fusion -- Implementing a Commercially Available Self-Locking Screw System in Additively Manufactured Medical Implants -- Experimental Validation and Noise Assessment of the Thermal-VFM -- Role of Glass Transition Temperature on Energy Absorption Mechanisms in High Strain Rate Impact Performance of Fiber Reinforced Composites.

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Sommario/riassunto

Residual Stress, Thermomechanics & Infrared Imaging and Inverse Problems, Volume 7 of the Proceedings of the 2020 SEM Annual Conference & Exposition on Experimental and Applied Mechanics, the seventh volume of seven from the Conference, brings together contributions to this important area of research and engineering. The collection presents early findings and case studies on a wide range of areas, including: Test Design and Inverse Method Algorithms Inverse Problems: Virtual Fields Method Residual Stresses: Measurement, Uncertainty & Validation Residual Stresses: Eigenvalues, Modeling, & Crack Growth Material Characterizations Using Thermography Fatigue, Damage & Fracture Evaluation Using Infrared Thermography.

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