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Nota di contenuto	The use of the addition of Cr3C2 in nanocrystalline sintered carbides to create a composite tool material with better operational properties -- Composite Materials Composites from Tururi (Manicaria saccifera Gaertn) fibrous material: effect of structural parameters on the tensile properties, and applications -- Characterisation of Additive Manufactured Ti6Al4V-W-Ni Composite -- Three dimensional printed Kevlar/glass fiber reinforced nylon structures with various fiber orientations exhibit mechanical properties under varying temperatures -- A Comparison of Weldability and Mechanical Properties of Additive Manufactured and Bulk Ti6Al4V Alloy -- Effects of process parameters on the interlayer bond quality of multi material Thermoplastic Polyurethane parts built by Extrusion-based 3D printing -- Investigation of the effect of alkaline environment on mechanical properties of additively manufactured 17 4 PH Stainless Steel parts produced using recycled metal powder -- Additive Manufacturing and

Sustainable Materials: A Biomimetic Design Approach to Develop Artificial Coral Substrates for Enhancing Marine Biodiversity -- Integrated Lattice Structures in Additive Manufacturing: Design and Optimization of Compliant Robotic Grippers -- Experimental and numerical determination of strain and displacement fields on Brazilian disc -- Analysis of the displacement field along a surface crack with Moiré interferometry -- Design and conceptual solutions for industrial storage systems -- No risk no progress a quick tour focusing on materials and structures -- Microstructural behaviour of friction stirred Al/Ni-Fe hybrid in situ composite.

Sommario/riassunto

This book discusses several issues relevant to materials design and applications. The focus is on fundamental research and application areas in the field of the design and application of engineering materials, predominantly within the context of mechanical engineering applications. This includes a wide range of materials engineering and technology, including metals, e.g., lightweight metallic materials, polymers, composites, and ceramics. Advanced applications include manufacturing of new materials, testing methods, multi-scale experimental and computational aspects. The book publishes selected papers presented at the 5th International Conference on Materials Design and Applications 2024 (MDA 2024), held during July 4–5, 2024.