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	Nota di contenuto	Introduction -- Kinematics of industrial processes -- Fundamental balance laws for a moving continuum -- Constitutive equations -- Fluids versus solids -- Process model for L-PBF 3D printing of metals -- Analytical solution in one dimension -- Temperature-dependent 1D models, with analytical techniques and their limitations -- Numerical solution in two dimensions.
	Sommario/riassunto	This book elucidates the fundamental thermomechanical behaviour inherent in the 3D printing process within a laser-based powder bed fusion (L-PBF) system. It presents foundational concepts and provides in-depth derivations of the governing equations. The analysis encompasses arbitrary anisotropic linear viscoelastic materials, accounting for thermal effects. The authors leverage the theory of axially moving materials, a framework previously employed in the analysis of production processes within the process industry. They introduce a coordinate frame that moves in tandem with the printing laser, adopting an Eulerian perspective towards the in-motion solid. Designed for graduate students and researchers, this book is poised to foster a profound comprehension and spur innovative technological