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Titolo	Additive Manufacturing Technologies [[electronic resource]] : 3D Printing, Rapid Prototyping, and Direct Digital Manufacturing / / by Ian Gibson, David Rosen, Brent Stucker
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ISBN	1-4939-2113-4
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Descrizione fisica	1 online resource (XXI, 498 p. 224 illus., 108 illus. in color.)
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Soggetti	Engineering design Manufactures Nanotechnology Engineering Design Manufacturing, Machines, Tools, Processes
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Introduction and basic principles -- Development of AM technology -- Generalized AM process chain -- Photopolymerisation processes -- Powder bed fusion processes -- Extrusion based systems -- Printing processes -- Sheet lamination processes -- Beam deposition processes -- Direct write technologies -- Low-cost AM technologies -- Guidelines for process selection -- Post-processing -- Software issues for AM -- AM Standards -- Multiple materials in AM -- Direct Digital Manufacturing -- Design for AM -- Rapid tooling -- Medical applications for AM -- Aerospace applications for AM -- Automotive applications for AM -- Business opportunities and future directions.
Sommario/riassunto	This book covers in detail the various aspects of joining materials to form parts. A conceptual overview of rapid prototyping and layered manufacturing is given, beginning with the fundamentals so that readers can get up to speed quickly. Unusual and emerging applications such as micro-scale manufacturing, medical applications, aerospace, and rapid manufacturing are also discussed. This book provides a comprehensive overview of rapid prototyping technologies as well as support technologies such as software systems, vacuum

casting, investment casting, plating, infiltration and other systems. This book also: Reflects recent developments and trends and adheres to the ASTM, SI, and other standards Includes chapters on automotive technology, aerospace technology and low-cost AM technologies Provides a broad range of technical questions to ensure comprehensive understanding of the concepts covered .