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Nota di contenuto	Additive friction stir deposition -- Additive layer manufacturing -- Additive layerless manufacturing -- Advantage -- Advantage: cause and perspective -- Advantage: fast process and freedom to design -- Advantage of simple products -- Air deposition -- AM and 3D printing -- AM and CM (conventional manufacturing) -- AM and CM: comparison -- AM and CM: perspective -- AM and CM: technique and complexity -- AM and machining: approach -- AM and machining: build direction -- AM and machining: lattice structure -- AM and machining: material property perspective -- AM and machining: side surface -- AM and machining: strategy -- AM and machining: wall and cavity -- AM and machining: waste generation perspective -- AM is itself not an advantage -- Arc -- Arc welding-based AM: GMAW-based -- Arc welding-based AM: GTAW-based -- Arc welding-based AM: PAW-based -- Beam deposition process: advantage and disadvantage -- Beam deposition process: powder and wire -- Big part -- Binder jet AM and selective inhibition sintering -- Binder jetting -- Binding mechanism -- Binding mechanism: misnomer -- Classification -- Classification: air and ion deposition -- Classification: arc-based deposition -- Classification: non-beam solid deposition -- Classification: powder bed process -- Classification: solid deposition

-- Classification of deposition process and mechanism -- CNC accumulation -- Cold spray -- Cold spray AM -- Complexity -- Complexity in products -- Composite -- Composite fabrication in deposition process -- Composite feedstock -- Conformal cooling channel -- Continuous liquid interface production -- Cost and sustainability -- Design-specific tools: role -- Direct digital manufacturing -- Directed energy deposition -- Disadvantage -- Electrolytic solution-based deposition -- EPBF (Electron beam powder bed fusion) -- EPBF: beam generation -- EPBF: beam manipulation -- EPBF: beam shape control -- EPBF: chamber -- EPBF: processing -- Electrophoretic deposition -- Energy saving -- Energy saving: paradox-Energy-intensive process -- Extrusion-based AM -- Extrusion-based AM: feedstock -- Four-dimensional printing -- Freedom to move -- Friction-based and fusion-based deposition -- Friction surfacing-based AM -- Heater-based sintering -- High speed sintering -- How material is wasted -- How to make AM sustainable -- How to save material -- Ion deposition -- Lack of repeatability -- Laminated object manufacturing -- Laser PBF (powder bed fusion) -- Laser powder deposition: types -- Laser powder deposition: laser-powder interaction -- Layer -- Layer deposition and deposition process -- Layer deposition and layer arrangement -- Layerless FDM (fused deposition modelling) -- Layerless FDM and layerless PBF -- Layerless PBF -- Layerless PBF: part formation -- Layerless PBF: why layerless -- Layerless 3D printing -- Liquid deposition process -- Machining tool: problem -- Marking -- Material extrusion -- Material jetting -- Material saving -- Material saving: why it is saving -- Mold and pattern: mold -- Mold and pattern: permanent pattern -- Mold and pattern: temporary pattern -- Multi-material and composite -- Non-beam PBF -- Non-beam PBF: Localized microwave heating-based AM -- On-demand production and on-location production -- On-demand production and rapid manufacturing -- Optimization of parameters -- Origin of overhangs -- Overhangs and stair-stepping effect -- Part consolidation into assembly -- Perspective of complexity -- Post-processing -- Post-processing: position in AM chain -- Post-processing: pseudo type -- Post-processing does not slow AM process -- PBF: laser and electron beam -- PBF: serial and non-serial production -- PBF: shape limitation -- Process -- Processable materials -- Production volume flexibility -- Rapid manufacturing -- Rapid prototyping -- Repair and refurbishment -- Repair in PBF -- Repair in PBF: customized bed concept -- Selective laser melting -- Selective laser sintering -- Scanning type -- Scanning type differences -- Shaping in manufacturing -- Slurry bed process -- Slurry deposition process -- Solid freeform fabrication -- Speed: methods to increase -- Speed: paradox -- Stair-stepping -- Stair-stepping: an unsolvable problem -- Stereolithography -- Support structure -- Support structure: difficulty in PBF -- Support structure: effect on fabrication time -- Two-photon photopolymerization -- Ultrasonic consolidation -- Water deposition process.

Sommario/riassunto

This is a comprehensive guide to Additive Manufacturing, organized in the alphabetic format of an encyclopedia. The presentation is concise, supported by ample references, including references from 2024 onwards. With entries for most aspects of additive manufacturing and 776 references, this book can serve as an invaluable entry to the field. Provides a single-source reference to a broad range of topics in additive manufacturing; Organized alphabetically, like an encyclopedia, in order to provide easy access to specific topics; Covers topics concisely, while providing ample references to more detailed literature.