



Additive manufacturing processes /

Bourell, David Lee,
editor

Frazier, William E.,
editor

Kuhn, Howard A.,
editor

Seifi, Mohsen,
editor

Handbook

E-book

Handbooks and manuals

Handbooks and manuals

Guides et manuels

Monografía

"Volume 24 provides information on the metals, ceramics, and polymers used in additive manufacturing (AM) and how they respond to the transformative forces and energies applied over the course of production. It covers all commercially relevant processes including vat polymerization, material jetting, powder bed fusion, directed energy deposition, binder jetting, material extrusion, and sheet lamination. It describes the production and characterization of powders, resins, and slurries, and the mechanisms by which they are transformed into solid structures and shapes. It explains how subtle differences in the shape, size, or surface chemistry of metal powders can have a profound effect on part quality, and how AM processed materials such as stainless steels, nickel-base superalloys, tool steels, cemented carbides, copper alloys, and precious metals compare with conventionally produced alloys. It discusses safe powder handling techniques, process modeling and simulation, material and manufacturing defects, post-processing, and in-line process monitoring and control. It also covers direct-write processes including microdispensing, aerosol jetting, thermal metal embedding, and laser-induced forward transfer."--

<https://rebiunoda.pro.baratznet.cloud:38443/OpacDiscovery/public/catalog/detail/b2FpOmNlbGVicmF0aW9uOmVzLmJhemF0ei5yZW4vMzI2MTk0NDA>

Título: Additive manufacturing processes edited by David L. Bourell, William Frazier, Howard Kuhn, Mohsen Seifi

Editorial: Materials Park, OH ASM International 2020 2020

Descripción física: 1 online resource illustrations (some color)

Mención de serie: ASM handbook volume 24

Nota general: "Selected articles were published online first in advance of the full volume release. The volume was prepared under the direction of the ASM International Handbook Committee."--Publication history page, viewed on April 18, 2022

Bibliografía: Includes bibliographical references and index

Contenido: Additive manufacturing overview: Introduction to additive manufacturing David L. Bourell, Terry Wohlers. -- History and evolution of additive manufacturing David L. Bourell, Joseph J. Beaman, Terry Wohlers. -- Design and manufacturing implications of additive manufacturing David Rosen, Samyeon Kim Polymer additive manufacturing processes: Vat polymerization Don Smith. -- Material extrusion additive manufacturing systems David A. Pravel. -- Powder bed fusion of polymers David K. Leigh, David Bourell. -- Material jetting of polymers Christopher B. Williams, Lindsey B. Bezek. -- Modeling for polymer additive manufacturing processes Neil Hopkinson, David Rosen Ceramic additive manufacturing processes: Vat-photopolymerization-based ceramic manufacturing Xiangjia Li, Yong Chen. -- Material extrusion based ceramic additive manufacturing Wenbin Li, Ming C. Leu. -- Material jetting of ceramics Brett P. Connor. -- Binder jetting of ceramics Li Yang. -- Directed-energy deposition for ceramic additive manufacturing Fangyong Niu, Shuai Yan, Guangyi Ma, Dongjiang Wu. -- Powder bed fusion S.I. Sing, W.Y. Yeong Metal additive manufacturing processes: Metal powder production and powder size and shape distribution Zack Snow. -- Powder characterization for metal additive manufacturing Zheng Wu, Srujana Rao Yarasi, Amir Mostafaei, Anthony D. Rollett. -- Safety in handling of metal powders Eric Maynard, Brian H. Pittenger. -- Energy sources for fusion additive manufacturing processes Abdalla R. Nassar, Edward W. Reutzler. -- Laser powder bed fusion Harish Irrinki, Subrata D. Nath, Arulselvan Arumugham Akilan, Sundar V. Atre. -- Directed-energy deposition processes Richard P. Martukanitz. -- Binder jetting and sintering in additive manufacturing Amy Elliott, Corson Cramer. -- Ultrasonic additive manufacturing Niyanth Sridharan, Christian M. Petrie. -- Deformation processes in additive manufacturing Robert J. Griffiths, Hang Yu, Chase Cox. -- Modeling thermomechanical effects on additive manufacturing E.R. Denlinger, P. Michaleris. -- Defects in metal additive manufacturing processes M. Brennan, J.S. Keist, T.A. Palmer. -- In-line process monitoring of powder-bed fusion and directed-energy deposition processes Thomas L. Starr. -- Post-processing of additively manufactured metal parts Wayne Hung. -- Hot isostatic pressing for metal additive manufacturing Magnus Ahlfors. -- Vacuum heat treating additively manufactured parts Virginia Osterman Additive manufacturing of metals: Additive manufacturing of titanium alloys -- Additive manufacturing of nickel-base superalloys M.M. Kirka. -- Additive manufacturing of steels and stainless steels Carelyn E. Campbell, Mark R. Stoudt, Fan Zhang. -- Additive manufacturing of tool steels Peeyush Nandwana. -- Additive manufacturing of cobalt alloys Amir Mostafaei, Jerard V. Gordon, Anthony D. Rollett. -- Additive manufacturing of tungsten, molybdenum, and cemented carbides Ravi K. Enneti, Juan L. Trasorras, Heinrich Kestler. -- Additive manufacturing of copper and copper alloys Timothy J. Horn, Diana Gamzina. -- Additive manufacturing of precious metals Joseph Strauss Direct write processes: Microdispensing processes Kenneth Church. -- Aerosol jetting for multifunctional additive manufacturing Svenja Pestotnik, Prem Chahal, Lukas Stepien, A. Cagri Ulusoy, Aljoscha Roch, Carolyn Carradero Santiago, Eric MacDonald. -- Laser-induced forward transfer processes in additive manufacturing Alberto Piqué, Kristin M. Charipar. -- Ultrasonic and thermal metal embedding for polymer additive manufacturing Carolyn Carradero Santiago, Eric MacDonald, Jose Coronel, Dominic Kelly, Ryan Wicker, David Espalin

ISBN: 9781627082907 electronic) 1627082905 electronic) 9781627082884 print) 1627082883 print)

Materia: Additive manufacturing- Handbooks, manuals, etc. Fabrication additive- Guides, manuels, etc. Additive manufacturing

Autores: Bourell, David Lee, editor Frazier, William E., editor Kuhn, Howard A., editor Seifi, Mohsen, editor

Entidades: ASM International. Handbook Committee issuing body ASM International publisher

Enlace a formato físico adicional: Print version Additive manufacturing processes. Materials Park, Ohio : ASM International, [2020] 1627082883 9781627082884 (OCOLC)1144093676

Punto acceso adicional serie-Título: ASM Handbook v. 24

Baratz Innovación Documental

- Gran Vía, 59 28013 Madrid
- (+34) 91 456 03 60
- informa@baratz.es

