1. Record Nr. UNINA9910495214203321

Titolo	Additive and Subtractive Manufacturing of Composites / / edited by Sanjay Mavinkere Rangappa, Munish Kumar Gupta, Suchart Siengchin, Qinghua Song
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2021
ISBN	981-16-3184-0
Edizione	[1st ed. 2021.]
Descrizione fisica	1 online resource (XV, 247 p. 94 illus., 65 illus. in color.)
Collana	Springer Series in Advanced Manufacturing, , 2196-1735
Disciplina	620.118
Soggetti	Composite materials Polymers Production engineering Nanoscience Composites Process Engineering Nanophysics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	1. Composite materials, applications and future challenges of friction welding -- 2. Influence of Reinforcement Contents and Turning Parameters on the Machining Behaviour of Al/SiC/Cr Hybrid Aluminium Matrix Composites -- 3. Ultrasound added additive manufacturing for metals and composites: Process and control -- 4. Processing and manufacturing Ti6Al4V-based structures and composites using EBM and SLM -- 5. Laser Drilling of Superalloys and Composites.
Sommario/riassunto	This book describes crucial aspects related to the additive and subtractive manufacturing of different composites. The first half of this book mainly deals with the various types of composite fabrication methods along with the introduction, features and mechanisms and also the processing of composite materials via additive manufacturing route. Also, the thermal, mechanical, physical and chemical properties relevant to the processing of composite materials are included in the chapters. The second half of this book primarily demonstrates an extensive section on the different types of additive manufacturing

processes like selective laser sintering, selective laser melting, stereolithography, fused deposition modeling and material jetting used to fabricate the metals and polymers. Also, the chapters address the complete description of fabrication processes for metal matrix composites and polymer matrix composites. Moreover, the different methods adopted such as short peening, micro-machining, heat-treatment and solution treatment to improve the surface improvement are well discussed. This book gives many helps to researchers and students in the fields of the additive and subtractive manufacturing of different composites.