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| Autore                  | Godec Damir  |
| Titolo                  | A Guide to Additive Manufacturing // edited by Damir Godec, Joamin Gonzalez-Gutierrez, Axel Nordin, Eujin Pei, Julia Ureña Alcázar   |
| Pubbl/distr/stampa      | Cham : , : Springer International Publishing : , : Imprint : Springer, , 2022  |
| ISBN                    | 3-031-05863-1  |
| Edizione                | [1st ed. 2022.]  |
| Descrizione fisica      | 1 online resource (344 pages)  |
| Collana                 | Springer Tracts in Additive Manufacturing, , 2730-9584   |
| Altri autori (Persone)  | Gonzalez-GutierrezJoamin<br>NordinAxel<br>PeiEujin<br>Ureña AlcázarJulia   |
| Disciplina              | 670  |
| Soggetti                | Industrial engineering<br>Production engineering<br>Materials - Analysis<br>Industrial and Production Engineering<br>Materials Characterization Technique  |
| Lingua di pubblicazione | Inglese  |
| Formato                 | Materiale a stampa   |
| Livello bibliografico   | Monografia   |
| Nota di contenuto       | Introduction -- Introduction to Additive Manufacturing -- General process workflow in AM -- Standardisation in AM -- Design for AM -- General Process Simulations -- Applications of AM -- Development of material and processing parameters for AM -- Development of FGM and FGAM -- Conclusion -- Appendix A - List of AM Standards.   |
| Sommario/riassunto      | This open access book gives both a theoretical and practical overview of several important aspects of additive manufacturing (AM). It is written in an educative style to enable the reader to understand and apply the material. It begins with an introduction to AM technologies and the general workflow, as well as an overview of the current standards within AM. In the following chapter, a more in-depth description is given of design optimization and simulation for AM in polymers and metals, including practical guidelines for topology optimization and the use of lattice structures. Special attention is also given to the economics of AM and when the technology offers a benefit |

compared to conventional manufacturing processes. This is followed by a chapter with practical insights into how AM materials and processing parameters are developed for both material extrusion and powder bed fusion. The final chapter describes functionally graded AM in various materials and technologies. Throughout the book, a large number of industrial applications are described to exemplify the benefits of AM. .

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