

1. Record Nr.	UNINA9910317807703321
Titolo	Additive manufacturing of high-performance metals and alloys : modeling and optimization // edited by Igor Shishkovsky
Pubbl/distr/stampa	IntechOpen, 2018 London, England : , : IntechOpen, , [2018] ©2018
ISBN	1-83881-390-X 1-78923-389-5
Descrizione fisica	1 online resource (154 pages) : illustrations
Disciplina	670
Soggetti	Manufacturing processes Three-dimensional printing Alloys
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Sommario/riassunto	Freedoms in material choice based on combinatorial design, different directions of process optimization, and computational tools are a significant advantage of additive manufacturing technology. The combination of additive and information technologies enables rapid prototyping and rapid manufacturing models on the design stage, thereby significantly accelerating the design cycle in mechanical engineering. Modern and high-demand powder bed fusion and directed energy deposition methods allow obtaining functional complex shapes and functionally graded structures. Until now, the experimental parametric analysis remains as the main method during AM optimization. Therefore, an additional goal of this book is to introduce readers to new modeling and material's optimization approaches in the rapidly changing world of additive manufacturing of high-performance metals and alloys.