1. Record Nr. UNINA9910760293203321

Autore	Wang Di
Titolo	Laser Powder Bed Fusion of Additive Manufacturing Technology / / by Di Wang, Yongqiang Yang, Yang Liu, Yuchao Bai, Chaolin Tan
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2024
ISBN	9789819955138 9819955130
Edizione	[1st ed. 2024.]
Descrizione fisica	1 online resource (302 pages)
Collana	Additive Manufacturing Technology, , 2731-6122
Altri autori (Persone)	YangYongqiang LiuYang BaiYuchao TanChaolin
Disciplina	620.11
Soggetti	Materials Production engineering Materials Engineering Process Engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Chapter 1. Introduction to laser powder bed fusion additive manufacturing -- Chapter 2. Laser powder bed fusion equipment and operation procedures -- Chapter 3. Factors affecting the quality of laser powder bed fusion parts -- Chapter 4. Research on the single-pass, multi-pass, and multi-layer manufacturing process -- Chapter 5. Unstable factors and defects in laser powder bed fusion process -- Chapter 6. Mechanism of spatter formation in laser powder bed fusion process and subsequent influence on mechanical properties -- Chapter 7. Research on surface characteristics and roughness of laser powder bed fusion parts -- Chapter 8. Crystallography feature and microstructure characterization in laser powder bed fusion parts -- Chapter 9. Research progress on quality-feedback detection technology in laser powder bed fusion process -- Chapter 10. Research on the manufacturing of typical geometric features -- Chapter 11. Influence of the delay of laser and galvanometer on manufacturing quality -- Chapter12. Scanning strategy and its effect on stress in laser powder

	bed fusion -- Chapter 13. Typical materials used in laser powder bed fusion -- Chapter 14. Frontier and development of laser powder bed fusion technology -- Chapter 15. Powder pollution and safety protection in laser powder bed fusion process estimated.
Sommario/riassunto	This book systematically introduces the powder bed laser melting technology and its application and summarizes the author's team's experience in scientific research, engineering development, and data accumulation in recent 15 years. It includes in-depth theoretical analysis and a lot of engineering experience in equipment debugging, process development, and material testing. The book takes the powder bed laser melting technology as the object and divides the content into 15 chapters. It is used as technical learning materials for researchers and engineering development personnel engaged in metal 3D printing.