



3D Printing of Metals

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Three-dimensional printing is a futuristic technology capable of transforming the ways in which we make components and devices. It is almost certain that this technique will find its niche in the manufacturing sector in the very near future. In view of the growing importance of 3D printing, this book addresses key issues related to emerging science and technology in this area. Detailed and informative articles are presented in relation to a wide variety of materials, including those based on critical engineering metals such as aluminum, magnesium, titanium and composites. Advances in various techniques, such as electron beam melting and selective laser melting are discussed. Of key importance in the area of materials science is the end properties of the materials following processing. Accordingly, the articles presented critically discuss the effects of microstructural features such as porosity, forming defects and the heat treatment induced effects on the mechanical properties. Applications covered in these articles are targeted at the aerospace, automobile, defense and aerospace sectors. Overall, the information presented in this book is of significant importance for academic and industrial-based researchers who wish to inform themselves regarding this upcoming highly promising manufacturing technique.



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