Record Nr. UNINA9910564693803321 Autore Deng Lei **Titolo** Precision Forging Technology and Equipment for Aluminum Alloy / / by Lei Deng, Juchen Xia, Xinyun Wang Singapore:,: Springer Nature Singapore:,: Imprint: Springer,, 2022 Pubbl/distr/stampa **ISBN** 981-19-1828-7 [1st ed. 2022.] Edizione 1 online resource (213 pages) Descrizione fisica Collana Springer Series in Advanced Manufacturing, , 2196-1735 Disciplina 669.722 Soggetti Manufactures Metals Materials Machines, Tools, Processes Metals and Alloys Materials Engineering Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di contenuto Chapter 1. Introduction -- Chapter 2. Fundamental of Precision Forging Technology for Aluminum Alloy -- Chapter 3. Finite Element Simulation and Digital Precision Forging Technology -- Chapter 4. Small flash Precision Forging Technology for Long Shaft Aluminum Alloy Parts --Chapter 5. Closed Precision Forging Technology for Complex Rotary Aluminum Alloy Parts -- Chapter 6. Casting and Forging Joint Precision Forming Technology for Branch Type Aluminum Alloy Parts -- Chapter 7. Aluminum Alloy Precision Forging Presses. Sommario/riassunto This book takes the advanced precision forging technology of aluminum alloy parts as the main line, presents the content of precision forging process analysis, process parameter design, mold structure design, numerical simulation of forming process, and process test, combined with a large number of application examples classified according to the structural characteristics of parts. It introduces the theoretical basis of several new technologies and new equipment for precision forging, including the small flash precision forging

technology, flow control forming technology, casting and forging combined forming technology, and new CNC precision forging

hydraulic presses and servo hydraulic presses, which inspire readers to innovate on new technology and new equipment development. This book provides readers with the latest knowledge of aluminum alloy precision forging, which is of great reference value in the context of the current increasing attention to lightweight and the increasing application of aluminum alloy parts in automotive, aerospace, marine, and other fields. This book can be used as a reference book for engineering and technical personnel engaged in aluminum alloy forging technology and can also be used as a reference book for researchers, undergraduates, and graduate students interested in materials processing.