Record Nr. UNINA9910877401703321 Microengineering of metals and ceramics . Part I Design, tooling and **Titolo** injection molding / / volume editors, Detlef Lohe and Jurgen Haubelt Pubbl/distr/stampa Weinheim,: Wiley-VCH, c2005 **ISBN** 1-281-84298-2 9786611842987 3-527-61672-1 3-527-61694-2 Descrizione fisica 1 online resource (394 p.) Collana Advanced micro & nanosystems;; v. 3 LoheDetlef Altri autori (Persone) HausseltJurgen Disciplina 620.14 Soggetti Micromechanics Ceramic materials - Microstructure Metals - Microstructure Microtechnology Injection molding of ceramics Injection molding of metals Lingua di pubblicazione Inglese **Formato** Materiale a stampa Monografia Livello bibliografico Note generali Description based upon print version of record. Nota di bibliografia Includes bibliographical references and indexes. Nota di contenuto Advanced Micro & Nanosystems Volume 3 Microengineering of Metals and Ceramics; Preface; Foreword; Contents; List of Contributors; Subject Index; I Design; 1 Design Environment and Design Flow; 2 Modeling and Validation in Design; 3 Modeling Micro PIM; II Tooling; 4 Strategies for the Manufacture of Mold Inserts; 5 Micro End Milling of Hardened Steel; 6 3D Microstructuring of Mold Inserts by Laser-based Removal; 7 Micro-EDM for Mold Inserts; 8 Lithographic Fabrication of Mold Inserts; 9 Material States and Surface Conditioning for Mold Inserts III Replication Techniques - Microinjection Molding10 Microinjection Molding - Principles and Challenges: 11 Micro Metal Injection Molding: 12 Micro Ceramic Injection Molding

Microstructures, electronics, nanotechnology - these vast fields of

Sommario/riassunto

research are growing together as the size gap narrows and many different materials are combined. Current research, engineering sucesses and newly commercialized products hint at the immense innovative potentials and future applications that open up once mankind controls shape and function from the atomic level right up to the visible world without any gaps. In this volume, authors from three major competence centres for microengineering illustrate step by step the process from designing and simulating microcomponents of