1. Record Nr. UNISALENTO991003232849707536 Autore Khoei, Amir R. Titolo Computational plasticity in powder forming processes [e-book] / Amir R. Khoei Amsterdam; London: Elsevier, 2005 Pubbl/distr/stampa 9780080446363 **ISBN** 0080446361 xii, 449 p.: ill. (some col.); 25 cm Descrizione fisica Disciplina 531.385015118 Soggetti Plasticity - Mathematical models Electronic books. Lingua di pubblicazione Inglese **Formato** Risorsa elettronica Livello bibliografico Monografia Nota di bibliografia Includes bibliographical references and index Sommario/riassunto The powder forming process is an extremely effective method of manufacturing structural metal components with high-dimensional accuracy on a mass production basis. The process is applicable to nearly all industry sectors. It offers competitive engineering solutions in terms of technical performance and manufacturing costs. For these reasons, powder metallurgy is developing faster than other metal forming technology. Computational Plasticity in Powder Forming Proceses takes a specific look at the application of computer-aided engineering in modern powder forming technologies, with particular attention given to the Finite Element Method (FEM). FEM analysis provides detailed information on conditions within the processed material, which is often more complete than can be obtained even from elaborate physical experiments, and the numerical simulation makes it

possible to examine a range of designs, or operating conditions

processes. \* 2D and 3D numerical modeling of powder forming processes are presented, using advanced plasticity models

economically. \* Describes the mechanical behavior of powder materials using classical and modern constitutive theories. \* Devoted to the application of adaptive FEM strategy in the analysis of powder forming