

1. Record Nr.	UNINA9910134854303321
Titolo	Handbook of software solutions for ICME // edited by Georg J. Schmitz and Ulrich Prah
Pubbl/distr/stampa	Weinheim, Germany : , : Wiley-VCH Verlag GmbH & Co. KGaA, , 2017 ©2017
ISBN	3-527-69359-9 3-527-69358-0 3-527-69356-4
Descrizione fisica	1 online resource (628 p.)
Disciplina	620.110113
Soggetti	Materials - Computer simulation Materials - Data processing Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Cover ; Title Page ; Copyright ; Contents ; List of Contributors ; Preface ; Chapter 1 Introduction ; 1.1 Motivation ; 1.2 What is ICME? ; 1.3 Industrial Needs for ICME ; 1.4 Present ICME ; 1.5 Scope of this Book ; 1.6 Structure of the Book ; References Chapter 2 Modeling at the Process and Component Scales 2.1 Overview of Processing Methods and Process Chains ; 2.1.1 History of Metalworking ; 2.1.2 History of Modeling of Manufacturing Processes ; 2.1.3 Overview of Processing Methods ; 2.1.4 Processes and Process Chains 2.1.5 Benefits of Modeling Process Chains 2.1.6 Available Modeling Tools at Component Scale ; References ; Appendix ; 2.2 Primary Shaping Processes ; 2.2.1 Overview ; 2.2.1.1 Solidification and Crystal Growth ; 2.2.2 Casting ; 2.2.3 Plastics Processing ;

2.2.4 Sintering
2.2.5 Additive Manufacturing
2.2.6 Typical Applications of Simulations in Primary Shaping Processes
; 2.2.6.1 Casting ; 2.2.6.2 Plastics Processing
; 2.2.6.3 Sintering ; 2.2.7 Phenomena to be Modeled
; 2.2.7.1 Casting/Crystal Growth ; 2.2.7.2
Plastics Processing ; 2.2.7.3 Sintering
2.2.8 Basic Equations to be Solved 2.2.8.1
Casting/Plastics Processing ; 2.2.8.2
Sintering ; 2.2.9 Initial and Boundary Conditions
; 2.2.9.1 Casting ; 2.2.9.2 Plastics Processing
; 2.2.9.3 Sintering ; 2.2.10 Required Data and their
Origin ; 2.2.10.1 Casting ;
2.2.10.2 Sintering
2.2.10.3 Plastics Processing
