1. Record Nr. UNINA9910144236503321

Titolo	Oriented polymer materials [[electronic resource] /] / edited by Stoyko Fakirov
Pubbl/distr/stampa	Weinheim, : Wiley-VCH, 2002
ISBN	1-281-84269-9 9786611842697 3-527-61505-9 3-527-61504-0
Descrizione fisica	1 online resource (536 p.)
Altri autori (Persone)	FakirovStoyko
Disciplina	547.84 620.192
Soggetti	Polymers 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 and indexes.
Nota di contenuto	Oriented Polymer Materials; CONTENTS; Chapter 1. Problems of the physics of the oriented state of polymers; 1 . Introductory considerations; 1.1. Interplay of fundamental and applied problems . Molecular cybernetics; 1.2. Principal routes to the formation of uniaxially oriented structures in polymers; 2 . Configurational information and orientation phenomena in synthetic polymers; 2.1. Direct generation of orientational order from solutions and melts . Orientational hardening, orientational crystallization, and orientational catastrophes; 2.2. Assemblage; liquid crystalline polymers 2.3. Reconstruction3. Failure under load; 4. Some specific properties of superoriented polymers; 5. Technological implications; 6. General conclusions and summary; 6.1. What is clear?; 6.2. What is incomprehensible?; 6.3. What needs better understanding?; References; Chapter 2. Structural basis of high-strength high-modulus polymers; 1. Introduction; 2. Structural transformation in semicrystalline polymers on stretching; 2.1. Deformation mechanisms at small strain; 2.2. Folded-extended chain solid phase transition in the neck region 2.3. Micro- and macrofibrillar structure in oriented polymers and its