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Descrizione fisica	1 online resource (317 pages)
Disciplina	620.1123
Soggetti	Deformations (Mechanics) Materials - Mechanical properties - Mathematical models
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Nota di contenuto	1. Boundary problem statements of Solid Mechanics -- 2. Basic concepts of stress-strain state theory -- 3. Materials and Solids mechanical characteristics and properties -- 4. About construction of mathematical model problems in the framework of deformed solid mechanics models -- 5. Mathematical models of the theory of elasticity -- 6. Mathematical models of solid with rheological properties -- 7. Mathematical models of plasticity theory -- 8. Fundamental solutions -- 9. Dynamic problems of Solid Mechanics -- 10. Mathematical models of special classes of Solid Mechanics problems.
Sommario/riassunto	This textbook contains sections with fundamental, classical knowledge in solid mechanics, as well as original modern mathematical models to describe the state and behavior of solid deformable bodies. It has original sections with the basics of mathematical modeling in the solid mechanics, material on the basic principles, and features of mathematical formulation of model problems of solid mechanics. For successful mastering of the material, it is necessary to have basic knowledge of the relevant sections of the courses of mathematical analysis, linear algebra and tensor analysis, differential equations, and equations of mathematical physics. Each section contains a list of test questions and exercises to check the level of assimilation of the material. The textbook is intended for senior university students,

postgraduates, and research fellows. It can be used in the study of general and special disciplines in various sections of solid mechanics, applied mechanics for students and undergraduates of various specializations and specialties, such as mechanics and mathematical modeling, applied mathematics, solid physics, and engineering mechanics.
