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ISBN	3-03813-239-X
Descrizione fisica	1 online resource (167 p.)
Collana	Materials science foundations, , 1422-3597 ; ; volume 45
Disciplina	620.1/1292
Soggetti	Solids - Mechanical properties Glass Electronic books.
Lingua di pubblicazione	Inglese
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Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Migration processes induced in solids -- Stress relaxation in glasses -- Density relaxations in glasses -- The background of internal friction -- Creep of steel and the static fatigue of glass -- The activation energy of the static fatigue and creep -- Fatigue due to an oscillating load of steel and aluminum -- Statistical checks of Stromeier's fatigue formula -- Models for defect growth -- Generalized laws of strength degradation -- A compressive stress resulting from Tamm's electronic surface states -- The activation energy of creep and the surface energy of solids -- Open questions -- Nonlinear regression -- Solutions for the damped oscillations 1 -- Solutions for the damped oscillations 2 -- Harmonics by stress relaxation -- The approximate linearity of equation (7.9) -- A tube-like specimen for fatigue tests.
Sommario/riassunto	This treatment of "Time-Dependent Mechanical Properties of Solids" begins with a phenomenological description of the transport of some unspecified entity. It is assumed that the transport is caused by mechanical stresses or temperature fields. This hypothesis is based upon just a few well-established methods such as, for instance, the Zener theory of diffusion and the Inglis equation for stress enhancementof. Using these assumptions, it is possible to deduce formulae for a theoretically based description of several phenomena

without referring to any specific process or entity. These theorems
