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Titolo	Auxetic Materials and Structures [[electronic resource] /] / by Teik-Cheng Lim
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ISBN	981-287-275-2
Edizione	[1st ed. 2015.]
Descrizione fisica	1 online resource (591 p.)
Collana	Engineering Materials, , 1612-1317
Disciplina	620.11292
Soggetti	Mechanics Mechanics, Applied Structural materials Solid Mechanics Structural Materials Classical Mechanics
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	Introduction -- Micromechanical Models for Auxetic Materials -- Elasticity of Auxetic Solids -- Stress Concentration, Fracture and Damage in Auxetic Materials -- Contact and Indentation Mechanics of Auxetic Materials -- Auxetic Beams -- Auxetic Solids in Polar and Spherical Coordinates -- Thin Auxetic Plates and Shells -- Thermal Stresses in Auxetic Solids -- Elastic Stability of Auxetic Solids -- Vibration of Auxetic Solids -- Wave Propagation in Auxetic Solids -- Wave Transmission and Reflection involving Auxetic Solids -- Longitudinal Waves in Auxetic Solids -- Shear Deformation in Auxetic Solids -- Simple Semi-auxetic Solids -- Semi-auxetic Laminates and Auxetic Composites.
Sommario/riassunto	This book describes the fundamentals of the mechanics and design of auxetic solids and structures, which possess a negative Poisson's ratio. It will benefit two groups of readers: (a) industry practitioners, such as product and structural designers, who need to control mechanical stress distributions using auxetic materials, and (b) academic researchers and students who intend to produce structures

with unique mechanical and other physical properties using auxetic materials.

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