

1. Record Nr.	UNINA9911019384003321
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Titolo	Rheology, Physical and Mechanical Behavior of Materials 3 : Rigidity and Resistance of Materials, Sizings, Pieces and Structures
Pubbl/distr/stampa	Newark : , : John Wiley & Sons, Incorporated, , 2025 ©2024
ISBN	9781394340675 1394340672 9781394340682 1394340680 9781394340668 1394340664
Edizione	[3rd ed.]
Descrizione fisica	1 online resource (393 pages)
Collana	ISTE Invoiced Series
Disciplina	620.112
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Sommario/riassunto	This book studies metallic and composite materials and their mechanical properties in terms of stiffness and strength, illustrated through several case studies and exercises. Rheology, Physical and Mechanical Behavior of Materials 3 introduces the concepts of stiffness, strength, elastic energy, generalized stress and strain, as well as the main criteria for dimensioning isotropic and anisotropic materials. It covers the elastic mechanics of pieces and structures using various techniques such as the force method, Maxwell's influence coefficients, Castigliano and Menabrea's work, Mohr's integrals and the displacement method, as well as the design and use of stiffness matrices. It also compares the behavior of static and dynamic impact actions and studies the elastic limits of plastic hinges, their influences and shear forces. This book is aimed at those studying technical or technological training courses, researchers involved in the mechanics of deformation, and industrial design and manufacturing departments.

