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| 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. |

