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Nota di contenuto	Design of Mechanical Springs -- Principles of Spring Design -- Stress Distributions over Wire Cross-Section -- “Equivalent Columns” for Helical Spring -- Disk Springs -- Radially constrained Disk Springs -- Disk springs with variable thickness -- Thin-Walled Rods with Semi-open Profiles -- Manufacturing of Springs -- Coiling of Helical Springs -- Presetting and Residual Stresses in Springs -- Service Life and Durability of Springs -- Creep and Relaxation of Springs -- Fatigue of Spring Materials -- Factors Affecting the Fatigue Life of Springs -- Failure Analysis Based on Weakest Link Concepts -- Statistical Effects on Fatigue of Spring Materials.
Sommario/riassunto	This book highlights the mechanics of the elastic elements made of steel alloys with a focus on the metal springs for automotive industry. The industry and scientific organizations study intensively the foundations of design of spring elements and permanently improve the mechanical properties of spring materials. The development responsibilities of spring manufacturing company involve the optimal

application of the existing material types. Thus, the task entails the target-oriented evaluation of the mechanical properties and the subsequent design of the springs, which makes full use of the attainable material characteristics. The themes about the new design of disk springs and the hereditary mechanics—namely creep and relaxation resistance—were extended. The fatigue life diagrams were reconsidered, and the relations between the traditional diagrams revealed. The book stands as a valuable reference for professionals in practice as well as an advanced learning resource for students of structural and automotive engineering. The former editions were known as "Durability of Springs”. Reflecting the substantial enlargement of the discussed themes, starting with this 3rd Edition the book entitled as "Fundamentals of Springs Mechanics”.