1. Record Nr. UNINA9910768450603321

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Titolo	Structural Durability: Methods and Concepts : Enabling Cost and Mass Efficient Products / / by Ruediger Heim
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2020
ISBN	3-030-48173-5
Edizione	[1st ed. 2020.]
Descrizione fisica	1 online resource (221 pages)
Collana	Structural Integrity, , 2522-560X ; ; 17
Disciplina	620.1126
Soggetti	Engineering design Quality control Reliability Industrial safety Engineering economics Engineering economy Engineering Design Quality Control, Reliability, Safety and Risk Engineering Economics, Organization, Logistics, Marketing
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Introduction & Motivation | Durability management -- Load time histories and counting methods -- Load and stress spectra S/N curves and their characterization -- Damage accumulation and fatigue life assessment -- Fatigue strength of materials and components -- Improving fatigue strength -- Accelerated life testing and math modeling.
Sommario/riassunto	This book provides methods and concepts which enable engineers to design mass and cost efficient products. Therefore, the book introduces background and motivation related to sustainability and lightweight design by looking into those aspects from a durability and quality point of view. Hence this book gives a "top-down" approach: What does an engineer has to do for providing a mass and cost efficient solution? A central part of that approach is the "stress-strength interference model" and how to deal with "stresses" (caused by

operational loads) as well as with the "strength" of components (provided by material, design and manufacturing process). The basic concepts of material fatigue are introduced, but the focus of the volume is to develop an understanding of the content and sequence of engineering tasks to be performed which help to build reliable products. This book is therefore aimed specifically at students of mechanical engineering and mechatronics and at engineers in professional practice. .