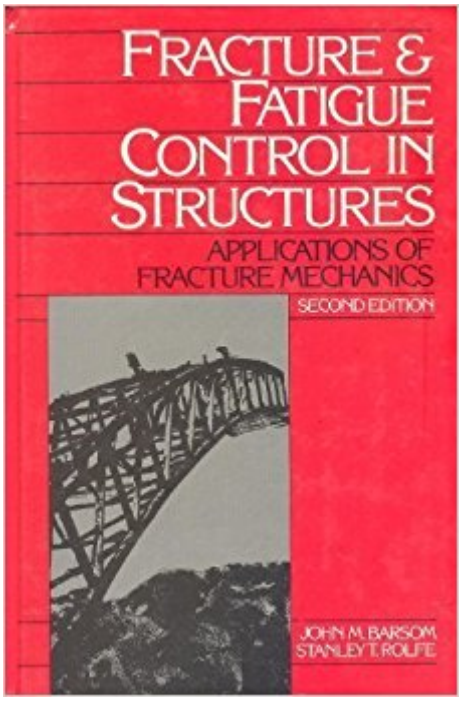
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Fracture And Fatigue Control In Structures: Applications Of Fracture Mechanics (Prentice-Hall International Series In Civil Engineering And Engineering Mechanics)



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Synopsis

The latest edition of this comprehensive publication concentrates on the practical applications of fracture mechanics to fracture and fatigue control in structures, emphasizing the driving force and the resistance force. It also examines fitness for service, or life extension, of existing structures whose design life may have expired but whose actual life can be continued. Finally, it provides case studies for the practicing professional engineer or graduate engineering student, which illustrate the effects of toughness, constraint, loading rate, failure analysis, and other factors that demonstrate the application of fracture mechanics to real-world structures. Five sections cover: Introduction to Fracture Mechanics; Fracture Behavior; Fatigue and Environmental Behavior; Fracture and Fatigue Control; and Applications of Fracture Mechanics - Case Studies. --This text refers to an alternate Hardcover edition.

Book Information

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Customer Reviews

well written...no homework problems included...rare sample problems worked out...figures are fuzzy...summary problems at end of book are great-Wayne Reitz, North Dakota State --This text refers to an alternate Hardcover edition.

This book is very good at showing how basic fracture mechanics can be used to understand real fatigue and fracture problems in construction grade steels. The down side to this book is that the

authors tend to promote their point of view and give little attention to other points of view. For example the authors spend numerous pages on their CVN to fracture toughness prediction method, yet give the master curve method only a few sentences, and ignore most of the other 20 some CVN to fracture toughness prediction methods that can be found in the literature. The reader might want to also keep in mind the most of the information in this book is based on late 1980's technology in the U.S. construction steel industry.Mechanical and aerospace fatigue/fracture engineers will probably not find much useful information in this book.

This is an excellent book for the practicing engineer who wants to use fracture mechanics to solve fracture and fatigue problems used in industry today. The author explains fracture mechanics and fatigue in terms the practicing engineer uses on a daily basis. For example, different material properties used in fracture mechanics are compared to Hook's Law, yield strength, and tensile strength, material properites common to structural engineers.Also, the author gives precise definitions of fracture and fatigue, how it can be used during the design phase, why structures fail structurally, and how to use fracture and fatigue analysis to solve these real-life problems.

The book has great technical development and case studies demonstrating the mechanics of fatigue and fracture failure. It is an essential resource for recognizing fatigue and fracture details and how to mitigate them.

For a subject like Fracture Mechanics, which largely empirical and experimental, it is not easy to write a text book. But this book does that and some more.

This Book is well written, easy to read, and very useful in learning Fracture mechanics.

Excellent for practical engenieers that face fracture mechanics problems and need to solve it very quickly. Tons of experimental data and estimations from simple-->cheaper test to get important proprieties as KIc. Very general book covers a lot of subjects as weldings, inspections routines and many others briefly.

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