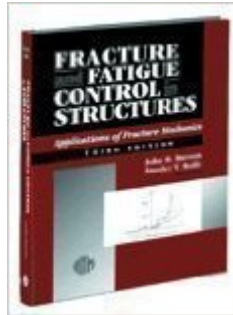


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# Fracture And Fatigue Control In Structures: Applications Of Fracture Mechanics (Astm Manual Series)



## 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.

## Book Information

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## Customer Reviews

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.

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.

Excellent for practical engineers 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 properties as  $K_{Ic}$ . Very general book covers a lot of subjects as weldings, inspections routines and many others briefly.

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