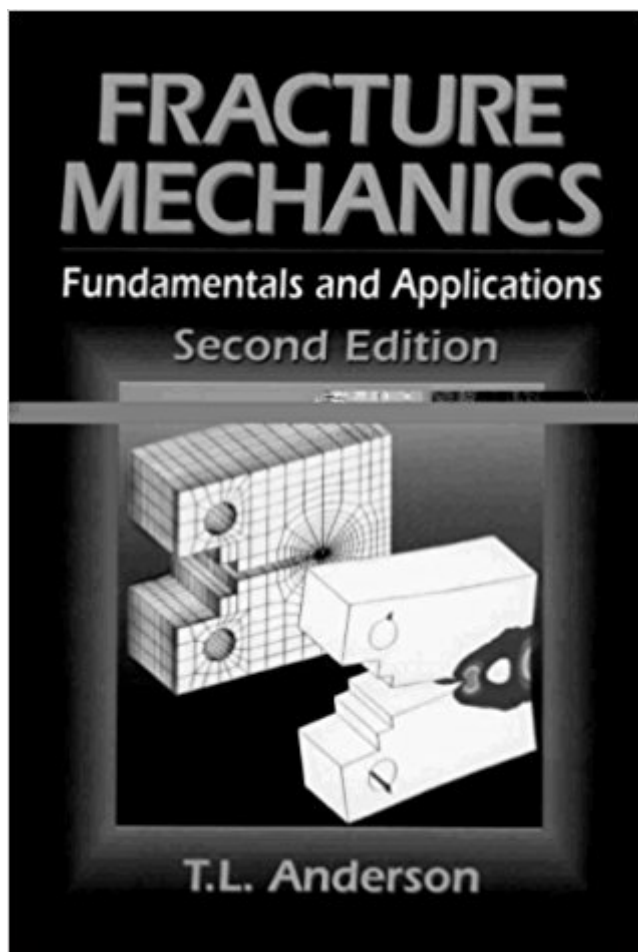


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# Fracture Mechanics: Fundamentals And Applications, Second Edition



## Synopsis

This bestselling text/reference provides a comprehensive treatment of the fundamentals of fracture mechanics. It presents theoretical background as well as practical applications, and it integrates materials science with solid mechanics. In the Second Edition, about 30% of the material has been updated and expanded; new technology is discussed, and feedback from users of the first edition has been incorporated.

## Book Information

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## Customer Reviews

An audience of engineers, researchers, and students will appreciate this publication as a reference tool with theoretical background and practical applications. MCEER, 2005 --This text refers to an alternate Hardcover edition.

Two specific things about this book keep me from rating it higher: 1- The book has a lot of errors. For instance, the polynomial equations for the stress concentration factors ( $K_I$ ) in chapter 2 are labeled incorrectly. The diagrams for Center Cracked Tension and Double Edge Notched Tension are reversed. There are also other errors, but to list them all here would be pointless. 2- The problem set is close to worthless. Of the 600 page book, there are 18 pages of problems, or less than 100 total problems. The problems are not even that difficult. The "derivations" in the problem sets hardly require more than 2-3 lines of work, and very little deep thought. In other words, the problems are superficial. Because of the lack of good problems and the errors (in fact, one of the problems seems

to have an error in the difference between compliance and stiffness), I wouldn't feel comfortable using this book as a reference. No doubt, it does provide an excellent introduction or overview of fracture mechanics in general, but I would not feel comfortable with this book as my main source of information. There are also few examples with solutions to motivate learning. A good teacher is necessary to go beyond the basics of this text.

I think that this book is a must have for anyone in the field of fracture and fatigue. I own all three editions and I am mostly happy with all of them. That being said there are some major drawbacks that should be recognized.1. As others have pointed out there are many typos in the equations. I learned of some of these typos the hard way. I had to go back to the original journal papers in some cases to find the correct form of the equations...after much wasted time and confusion.2. Each edition seems to drop information on certain topics.3. This book is not a stand alone book, which is ok, but the author should do a better job of pointing the reader to the most useful references and noting where he is skipping steps. This point is especially important to recognize when working through the derivations of K, J and CTOD.

The book is wonderful introduction to Fracture Mechanics. There are couple of glaring errors in the book, which hopefully will be corrected in the next editions. Apart from that I would recommend it to all those who are trying to get their basics right in fracture mechanics.

If I recall correctly, there are a few mistakes in the derivations of some equations. That said, it's a great reference book for those already familiar with the subject.

That's a must for every engineer who wants to design something with the latest criteria available. Many levels of knowledge of the subject available.

Good

I'm really enjoying this interesting book that presents the subject in a very didactic form and has an excellent luxury finish.

Too much dispersive. Not consequential. the arguments seem to fall one after the other without following a logical path.

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