

NEiNastran *for Windows*

Building Better Products (Complete Review)

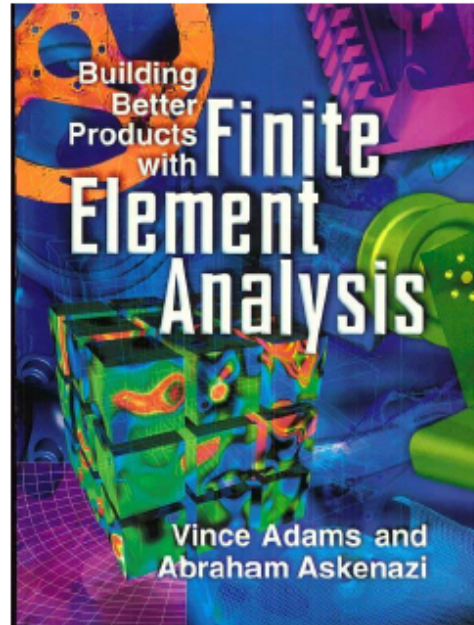
Editorial Reviews

Book Description:

This book offers a practical view of finite element analysis (FEA) by reviewing the basics of design analysis from an engineering perspective. It provides practical guidelines for specific design problems, such as setting boundaries, contact points between parts, sheet metal weldments, plastic components, and other common encounter problems. The book also includes a compilation of data, which is invaluable to the beginning as well as experienced design analyst.

Book Info:

Offers a practical yet comprehensive study of finite element analysis by reviewing the basics of design analysis from an engineering perspective. Provides guidelines for specific design issues, including common encounter problems such as setting boundaries & contact points between parts, sheet metal weldments, & plastic components. Paper. DLC: Finite element method.



Spotlight Reviews

★★★★★ **An excellent resource for both modeling and analysis! October 3, 2001**
Reviewer: Silas Curfman from Yakima, WA, USA. I'm a mechanical engineer and have several other books on FEA, including the Spyrakos book. This is the first one I've seen with information that can help on a day-to-day basis. The fact that the book is not product specific lends a lot to its practicality. It has been an instant hit with my co-workers. An excellent book.

★★★★★ **A must have for any FE analyst, September 20, 2001** **Reviewer: Sean O'Donnell from Columbus, IN, USA.** If you are wanting to do any FEA work, then this is a book that you should have by your computer. Written by engineers for engineers, it takes a straightforward approach to FEA. It starts with a basic review of the theory behind FEA, but then goes into the knowledge necessary to do a good analysis. It discusses all aspects of FEA, from its accuracy and what types of error there are, to advanced modeling techniques. Equally good for the beginning FE user and the expert analyst.

★★★★★ **Must Read for FEA users, July 13, 2000** **Reviewer: Rohit Ramkumar from Carbondale, IL USA.** WOW! I have been using FEA for sometime now and this book has given me more insight into not only using various software on the market today but also the theoretical aspects involved with modeling and analysis. I have had the book for sometime, but never got a chance to read it until recently, but once I started, I read it from cover to cover and the best part is, it's for everyone, beginner, intermediate or expert... Read it! It is time well spent.

★★★★★ **A MUST HAVE BOOK FOR THOSE INVOLVED WITH FEA, January 24, 2000**
Reviewer: Eric Fong, Singapore. I have never come across such a book that puts FEA which is such a complex subject in to simple layman terms and explanations. I am working in a CAD/CAM company for 10 years and with this book, I have laid for myself a very strong foundation in FEA, which I dare not touch. I strongly recommend this book to anyone (beginner or expert) to take a look at this impressive book. To the authors: Well done and keep it coming!

Brief Table of Contents

	List of Figures and Tables	
	Introduction	
Pt. 1	Introduction to FEA and the Analytical Method	1
Ch. 1	Introduction to FEA in the Product Design Process	3
Ch. 2	Fundamentals	27
Ch. 3	FEA Capabilities and Limitations	89
Pt. 2	Finite Element Modeling Basics	113
Ch. 4	Common Model and Element Types	115
Ch. 5	CAD Modeling for FEA	175
Ch. 6	Assigning Properties	219
Ch. 7	Finite Element Model Building	235
Ch. 8	Boundary Conditions	259
Ch. 9	Solving the Model	303
Ch. 10	Convergence	313
Ch. 11	Displaying and Interpreting Results	325
Ch. 12	Optimization: Tying It All Together	355
Pt. 3	Advanced Modeling Techniques and Applications	377
Ch. 13	Modeling Assemblies and Weldments	379
Ch. 14	Thermal Expansion Analysis	411
Ch. 15	Nonlinear Analysis	425
Ch. 16	Buckling Analysis	465
Ch. 17	Modal Analysis	477
Ch. 18	Dynamic Analysis	489
Pt. 4	Integrating Simulation into Product Design Strategy	503
Ch. 19	Overview of Popular Industry Offerings	505
Ch. 20	Key Elements of a Successful FEA Implementation	531
Ch. 21	Trends and Predictions for the Future of FEA	559
	Bibliography	566
	Index	568