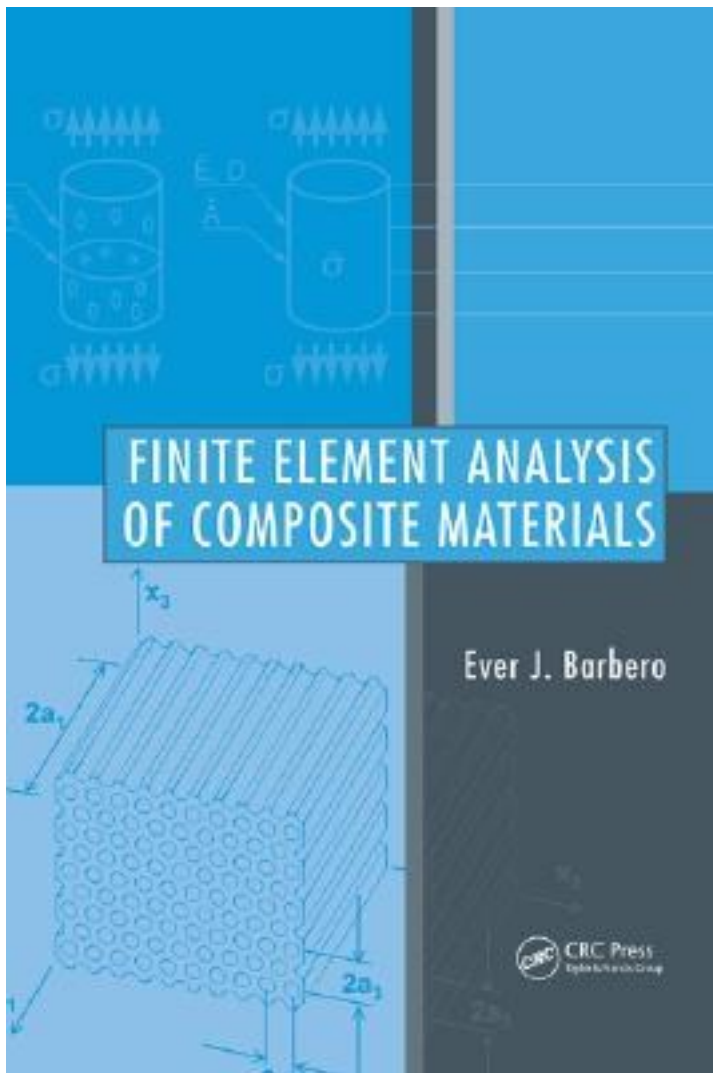


# Finite Element Analysis of Composite Materials



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著者:Nicholson, D. W.

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## Features

- Provides a comprehensive presentation of advanced mechanics of composite materials linked with practical software implementation
- Eliminates the need to teach materials topics separately from finite element analysis techniques
- Uses almost exclusively a single software program to eliminate the need to learn the specifics of different programs
- Includes more than 50 pieces of ANSYS code, more than 50 examples, and more than 75 homework problems
- Offers a companion Web site with code downloads for students and a special area reserved for instructors Solutions Manual available for qualifying course adoptions!

## Summary

Designing structures using composite materials poses unique challenges due especially to the need for concurrent design of both material and structure. Students are faced with two options: textbooks that teach the theory of advanced mechanics of composites, but lack computational examples of advanced analysis; and books on finite element analysis that may or may not demonstrate very limited applications to composites. But now there is third option that makes the other two obsolete: Ever J. Barbero's Finite Element Analysis of Composite Materials.

By layering detailed theoretical and conceptual discussions with fully developed examples, this text supplies the missing link between theory and implementation. In-depth discussions cover all of the major aspects of advanced analysis, including three-dimensional effects, viscoelasticity, edge effects, elastic instability, damage, and delamination. More than 50 complete examples using mainly ANSYS™, but also including some use of MATLAB®, demonstrate how to use the concepts to formulate and execute finite element analyses and how to interpret the results in engineering terms. Additionally, the source code for each example is available for download online.

Cementing applied computational and analytical experience to a firm foundation of basic concepts and theory, Finite Element Analysis of Composite Materials offers a modern, practical, and versatile classroom tool for today's engineering classroom.

## 作者介绍:

Ever Barbero

Professor, West Virginia University

Morgantown, WV, USA

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