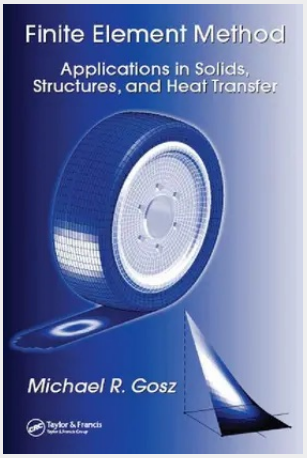
Gosz

Finite Element Method

Applications in Solids, Structures, and Heat Transfer



173,90 €
173,90 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

The finite element method (FEM) is the dominant tool for numerical analysis in engineering, yet many engineers apply it without fully understanding all the principles. Learning the method can be challenging, but Mike Gosz has condensed the basic mathematics, concepts, and applications into a simple and easy-to-understand reference. Finite Element Method: Applications in Solids, Structures, and Heat Transfer navigates through linear, linear dynamic, and nonlinear finite elements with an emphasis on building confidence and familiarity with the method, not just the procedures. This book demystifies the assumptions made, the boundary conditions chosen, and whether or not proper failure criteria are used. It reviews the basic math underlying FEM, including matrix algebra, the Taylor series expansion and divergence theorem, vectors, tensors, and mechanics of continuous media. The author discusses applications to problems in solid mechanics, the steady-state heat equation, continuum and structural finite elements, linear transient analysis, small-strain plasticity, and geometrically nonlinear problems. He illustrates the material with 10 case studies, which define the problem, consider appropriate solution strategies, and warn against common pitfalls. Additionally, 35 interactive virtual reality modeling language files are available for download from the CRC Web site. For anyone first studying FEM or for those who simply wish to deepen their understanding, Finite Element Method: Applications in Solids, Structures, and Heat Transfer is the perfect resource.

Finite Element Method: Applications in Solids, Structures, and Heat Transfer navigates through linear, linear dynamic, and nonlinear finite elements with an emphasis on building confidence and familiarity with the method, not just the procedures. It demystifies the assumptions made, the boundary conditions chosen, and whether or not proper failure criteria are used. It reviews the basic math underlying FEM and explores a wide range of applications. The author illustrates the material with case studies, considers appropriate solution strategies, and warns against common pitfalls. Interactive virtual reality modeling language files are available for download from the Internet.

Artikelnummer: 9780849334078
Medium: Buch
ISBN: 978-0-8493-3407-8
Verlag: CRC Press
Erscheinungstermin: 10.11.2005
Sprache(n): Englisch
Auflage: 1. Auflage 2005
Serie: Mechanical Engineering
Produktform: Gebunden
Gewicht: 842 g
Seiten: 426
Format (B x H): 157 x 235 mm

Kundenservice Verlag Dr. Otto Schmidt KG
Neumannstraße 10, 40235 Düsseldorf | kundenservice@otto-schmidt.de | 0221-93738-997 (Inland)