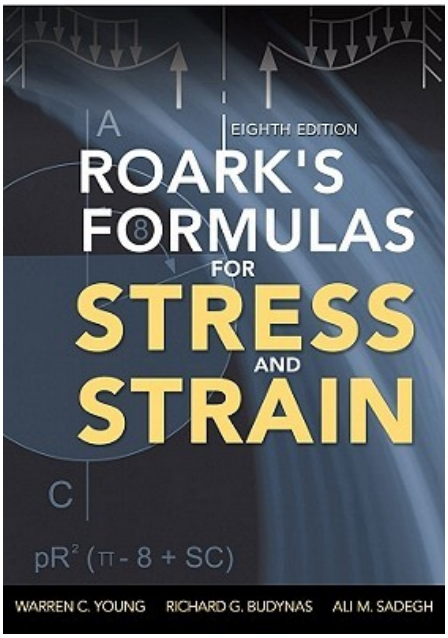

Roark's Formulas for Stress and Strain

Warren C. Young , Richard G. Budynas , Ali Sadegh

Roark's Formulas for Stress and Strain

Warren C. Young , Richard G. Budynas , Ali Sadegh

Roark's Formulas for Stress and Strain Warren C. Young , Richard G. Budynas , Ali Sadegh
THE MOST COMPLETE, UP-TO-DATE GUIDE TO STRESS AND STRAIN FORMULAS Fully revised throughout, *Roark's Formulas for Stress and Strain*, Eighth Edition, provides accurate and thorough tabulated formulations that can be applied to the stress analysis of a comprehensive range of structural components. All equations and diagrams of structural properties are presented in an easy-to-use, thumb, through format.

This extensively updated edition contains new chapters on fatigue and fracture mechanics, stresses in fasteners and joints, composite materials, and biomechanics. Several chapters have been expanded and new topics have been added. Each chapter now concludes with a summary of tables and formulas for ease of reference. This is the definitive resource for designers, engineers, and analysts who need to calculate stress and strain management.

***ROARK'S FORMULAS FOR STRESS AND STRAIN*, EIGHTH EDITION, COVERS:**

Behavior of bodies under stress
Principles and analytical methods
Numerical and experimental methods
Tension, compression, shear, and combined stress
Beams; flexure of straight bars
Bending of curved beams
Torsion
Flat plates
Columns and other compression members
Shells of revolution; pressure vessels; pipes
Bodies in contact undergoing direct bearing and shear stress
Elastic stability
Dynamic and temperature stresses
Stress concentration factors
Fatigue and fracture mechanics
Stresses in fasteners and joints
Composite materials
Biomechanics

Roark's Formulas for Stress and Strain Details

Date	:	Published December 19th 2011 by McGraw-Hill Education (first published 1975)
ISBN	:	9780071742474
Author	:	Warren C. Young , Richard G. Budynas , Ali Sadegh
Format	:	Hardcover 1072 pages
Genre	:	Science, Engineering, Reference, Textbooks, Nonfiction

From Reader Review Roark's Formulas for Stress and Strain for online ebook

Ben Shelef says

The book introduces Hooke, Young, and Poisson and follows their adventures as they push all sorts of matters beyond the yield point, towards the ultimate limit.

The shear stress of reading about fractures and dislocations may be a bit overwhelming, but if you take an isotropic view of the world, you realize that at the end of the day, if you stay inside the elastic limit, everything comes back to where it is supposed to.

If you enjoyed the book, check out the sequel, Atlas of Stress-Strain Curves, 2nd Ed.

Todd Coburn says

Roark's Formulas for Stress & Strain is an engineering classic that is a must-have resource for any engineer specializing in strength & structures. It is especially useful for folks with this specialty in the aerospace, mechanical or civil disciplines.

It provides simple formulas to analyze a wide range of simple structural elements including straight and curved beams, plates, shells, and the like. Usage of these simple formulas allows an analyst to make quick hand-analysis solutions to a wide number of problems by using solid judgement to idealize the structures in a simplifying manner. Practice using these techniques and comparison of the results to all "higher" forms of analysis enables an engineer to hone, refine and develop their judgement.

While the newer versions of this text like the subject one that was edited & updated by Young lend themselves to programmed computing and open the door to a wider range of problems, this "benefit" comes at the cost of increased complexity and convolution of the formulas. Therefore, it can be insightful and sometimes preferable to find an older edition by the original author Roark, which may have narrower scope but which utilizes simpler forms for many of the equations.

Either way, this text is worth the cost for any engineer serious about structural analysis.

Enjoy.

Boothby171 says

A must have reference for all mechanical and structural engineers!

Mark Lessmueller says

This book is the definitive starting point when it comes to analyzing stresses and strains in new applications. It's the first book I turn to for figuring out applications, and it's my go to when remembering even simple plate and beam equations.

Doug says

You can't call yourself a stress analyst until you've worn out a copy of this book.
