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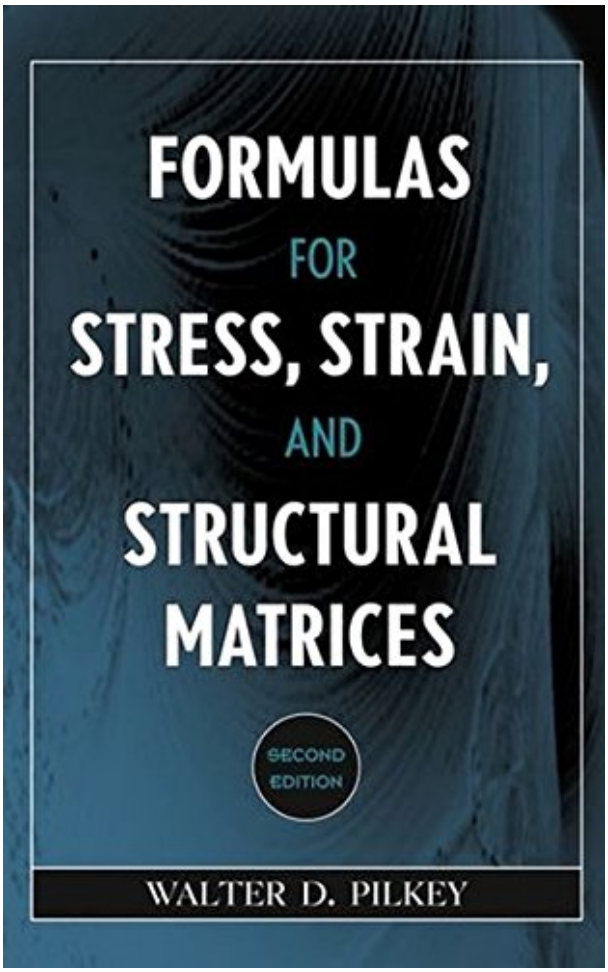

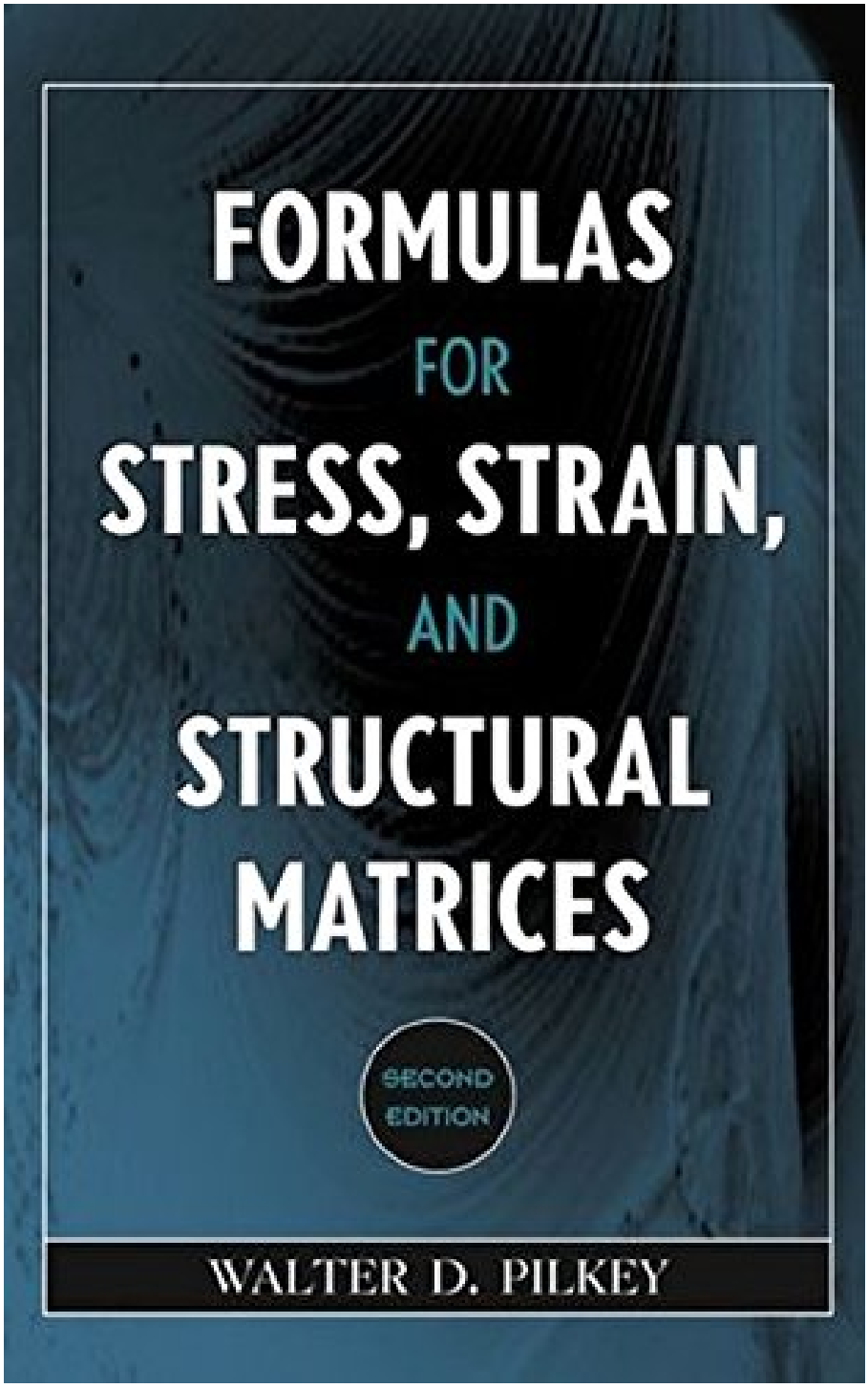

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From the Publisher
This is a reference source for strength of material formulas for the analysis and design of structural members and mechanical elements. Allows efficient static, stability and dynamic analyses of beams, bars, plates and shells with very general mechanical or thermal loading. The range of solutions includes arbitrary geometries and loadings.

From the Back Cover
A single-source reference covering all aspects of formulas for stress and strain

Formulas for Stress, Strain, and Structural Matrices, Second Edition presents and classifies data related to all the applications of stress and strain analysis in a handy and useful single-source reference. Delivering key material not found in other books on the subject, this updated edition enables readers to harness the efficiency and accuracy of today's computers for deformation and stress analysis.

This versatile Second Edition provides the critical information needed to identify the responses of general mechanical elements and structural members, as well as to find simple formulas that are organized by member type to facilitate the solution of more complex members. Formulas are given for stresses, displacements, buckling loads, natural frequencies, transient responses, beams, torsional systems, extension bars, frames, thin-walled beams, curved bars, rotors, plates, thick shells, and thin shells. The tables of structural matrices are powerful tools for developing custom computer programs to solve special problems.

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About the Author

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The most comprehensive book in its field, Formulas for Stress, Strain, and Structural Matrices, Second Edition is a source of formulas for the analysis and design of structural members and mechanical elements.
* Presents simple formulas, organized by type of member, to permit more complex members to be solved.
* Includes formulas for dynamic response as well as nominal vibration formulas.
* Contains background material on stress and strain, mechanical properties of materials, stress analysis, stress concentration, and fracture and fatigue mechanics.

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Best Formula Book for Structural Engineers
By Bryan R. Osborne
This is the most complete compilation of formulas for structural engineering as far as I can tell, (the plates and shells sections are outstanding). However, I would not advise anyone to use this book alone, even for short calculations of simple elements I always look for a second and sometimes a third source of reference to confirm results. Even the best of books have typos, especially in regards to equations.

For some years now I have worked as a project manager, I don't have as much time to do as many structural calculations as I would like to any more. However in occasions I need to verify the results of other engineers or assess existing structures for a preliminary design. This book has up to now not let me down once in any of these calculations. I would definitely recommend it to any engineer versed in structural analysis.

Best regards,

Bryan

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I have no qualms stating that this is THE new reference text for non-material (steel, concrete, etc) structural engineering. Need a generic stiffness matrix for a tapered beam with spring supports? Got it. How about plates on elastic foundations, or do you need 100 pages of tabulated internal forces, deflections and dynamic properties of thin-shells of revolution? Got it.

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This is a first-class reference book, very well organized. As a practising structural engineer, I'm commonly confronted with strength of materials formulas for different kind of structural members and I do extensive FE modeling. It is interesting to have analytical formulas to check these calculations on some occasions.
Roark's formulas for stress and strain hadn't satisfied me: information is not oriented for structural engineers, introductory texts are not enough theoretical and you have US units throughout.
In Pilkey's book, you have the perfect structural engineer's reference: many chapters, with at first a list of notation, explanation of conventions, and then a short introductory course on the subject together with solved examples. After that, there it is: magnificent well-organized "tables", with all kind of data of prime interest to a structural engineer. As an example, I'll mention that you can find plastic section modulus for about 11 section types.
Units are mixed for examples, but for data you have always both US and SI units furnished.
For all entries, Pilkey's book is far more complete than the Roark's one. You'll be surprised by the vastness and depth of formulas furnished. Furthermore, you have structural matrices in each case if you want to do numerical programming.
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