DESCRIPTION

Peterson’s Stress Concentration Factors establishes and maintains a system of data classification for all of the applications of stress and strain analysis and expedites their synthesis into CAD applications. Substantially revised and completely updated, this book presents stress concentration factors both graphically and with formulas. It also employs computer-generated art in its portrayal of the various relationships between the stress factors affecting machines or structures. These charts provide a visual representation of the machine or structure under consideration as well as graphs of the various stress concentration factors at work. They can be easily accessed via an illustrated table of contents that permits identification based on the geometry and loading of the location of a factor.

For the new third edition, new material will be added covering finite element analyses of stress concentrations, as well as effective computational design. The book explains how to optimize shape to circumvent stress concentration problems and how to achieve a well-balanced design of structures and machines that will result in reduced costs, lighter products, and improved performance.

ABOUT THE AUTHOR

Walter D. Pilkey is the Frederick Morse Professor in the Department of Mechanical and Aerospace Engineering at the University of Virginia and a leading authority in the areas of stress and strain in mechanical and civil engineering. He is the author of Formulas for Stress, Strain, and Structural Matrices, Second Edition and Analysis and Design of Elastic Beams, also available from Wiley.
Deborah F. Pilkey is an Engineer/Scientist in the Loads & Environments Department at ATK Launch Systems in Utah. She has been involved with structures technology, loads, dynamics, and production stress analysis of the Space Shuttle's main engines and their solid rocket motors.

**NEW TO EDITION**

1. Completely updated and revised to include the most recent stress concentration factors including geometric discontinuities in tubes and countersunk holes in plates.

2. Includes new guidelines for the likely stress decay away from the point of the stress concentration for various holes and notches.

3. New finite element methods for analyzing and calculating the stress concentration factors of the length of elements and of the location of loading on components.

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