



Metal Failures: Mechanisms, Analysis, Prevention

By Arthur J. McEvily

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Metal Failures: Mechanisms, Analysis, Prevention By Arthur J. McEvily

comprehensive coverage of both the "how" and "why" of metal failures

Metal Failures gives engineers the intellectual tools and practical understanding needed to analyze failures from a structural point of view. Its proven methods of examination and analysis enable investigators to:

- * Reach correct, fact-based conclusions on the causes of metal failures
- * Present and defend these conclusions before highly critical bodies
- * Suggest design improvements that may prevent future failures

Analytical methods presented include stress analysis, fracture mechanics, fatigue analysis, corrosion science, and nondestructive testing. Numerous case studies illustrate the application of basic principles of metallurgy and failure analysis to a wide variety of real-world situations. Readers learn how to investigate and analyze failures that involve:

- * Alloys and coatings
- * Brittle and ductile fractures
- * Thermal and residual stresses
- * Creep and fatigue
- * Corrosion, hydrogen embrittlement, and stress-corrosion cracking

This useful professional reference is also an excellent learning tool for senior-level students in mechanical, materials, and civil engineering.

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Metal Failures: Mechanisms, Analysis, Prevention By Arthur J. McEvily Bibliography

- Sales Rank: #3562412 in Books
- Published on: 2001-10-19
- Original language: English
- Number of items: 1
- Dimensions: 9.17" h x 1.16" w x 6.26" l, 1.33 pounds
- Binding: Hardcover
- 336 pages

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Editorial Review

Review

"...gives engineers the intellectual tools and practical understanding needed to analyze failures..." (*Aluminium Extrusion*, No.2, 2002)

From the Back Cover

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About the Author

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Users Review

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