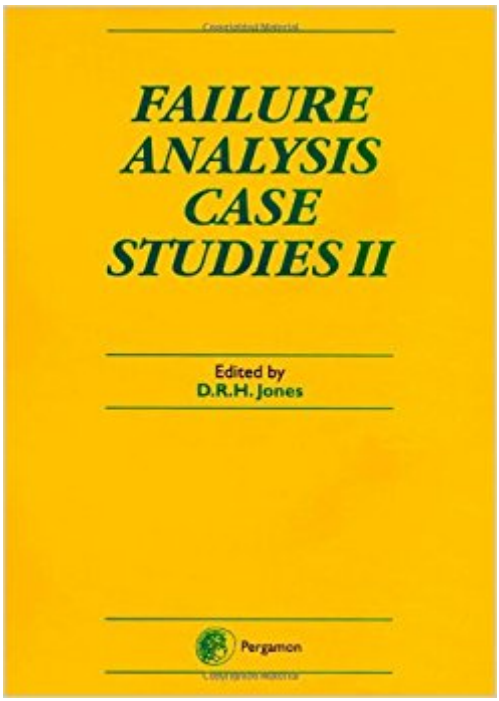
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Failure Analysis Case Studies II



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Synopsis

The first book of Failure Analysis Case Studies selected from volumes 1, 2 and 3 of the journal Engineering Failure Analysis was published by Elsevier Science in September 1998. The book has proved to be a sought-after and widely used source of reference material to help people avoid or analyse engineering failures, design and manufacture for greater safety and economy, and assess operating, maintenance and fitness-for-purpose procedures. In the last three years, Engineering Failure Analysis has continued to build on its early success as an essential medium for the publication of failure analysis cases studies and papers on the structure, properties and behaviour of engineering materials as applied to real problems in structures, components and design. Failure Analysis Case Studies II comprises 40 case studies describing the analysis of real engineering failures which have been selected from volumes 4, 5 and 6 of Engineering Failure Analysis. The case studies have been arranged in sections according to the specific type of failure mechanism involved. The failure mechanisms covered are overload, creep, brittle fracture, fatigue, environmental attack, environmentally assisted cracking and bearing failures. The book constitutes a reference set of real failure investigations which should be useful to professionals and students in most branches of engineering.

Book Information

Hardcover: 456 pages
Publisher: Pergamon; 1 edition (June 15, 2001)
Language: English
ISBN-10: 0080439594
ISBN-13: 978-0080439594
Product Dimensions: 1 x 7.8 x 10.2 inches
Shipping Weight: 2.7 pounds (View shipping rates and policies)
Average Customer Review: 5.0 out of 5 stars 1 customer review
Best Sellers Rank: #1,271,295 in Books (See Top 100 in Books) #110 inÃ Â Books > Engineering & Transportation > Engineering > Materials & Material Science > Strength of Materials #183 inÃ Â Books > Science & Math > Physics > Nanostructures #318 inÃ Â Books > Engineering & Transportation > Engineering > Industrial, Manufacturing & Operational Systems > Quality Control

Customer Reviews

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This is the second compilation of papers dealing with product failures, and taken directly from the journal Engineering Failure Analysis. The pattern was established with the first book, and covers a broad range of both products and failure modes. The widespread dissemination of such original works must only be to the good because it shows that engineers are capable of addressing users and colleagues about their own experience of product failure using investigative tools to their full potential. The book includes such cases as the bursting of a silo, the failure of a firewall in the Piper , Alpha disaster, torsional failure of a steel mooring rope, and the detailed investigation of the MV Kurdistan casualty. This reviewer must confess that he has three papers reprinted in the book, two dealing with the sudden failure of an under-designed plastic storage tank, and another describing the failure of a nylon car radiator tank. A detailed analysis of these and many more failures is discussed in our booksÃ Â Forensic Materials Engineering: Case StudiesÃ Â andÃ Â Forensic Polymer Engineering. There is, as one might expect, a large section dealing with fatigue failures, such as the classic study of the several Comet aircraft failures, and sudden fractures of bolts and even surgical tools. Further sections examine failures caused by environmental attack, especially though corrosion cracking of one kind or another. But isn’t it time for a more generic approach to describe those methods using case studies as exemplars and so help a new generation of engineers? Such books as this and a small handful of others, should be required reading for engineering students at all levels so that product design can be improved to lessen the chances of sudden failure. The only drawback of the book is its extremely high price, a publisher policy which is

to be deplored given the need to spread the messages it presents as far and as wide as possible. Another quibble is that there are no colour plates at all in the book, reflecting the Victorian standards that publishers still adhere to, despite the almost universal use of colour on the world wide web.

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