

《工程材料的选择和使用》

图书基本信息

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内容概要

《工程材料的选择和使用(英文版)(第3版)》内容简介：The continuing success of this book has required reprints of the second edition, and now a third edition. In its preparation great attention has been paid to the invaluable comments made by reviewers and users of the earlier editions. The continuing development of design engineering, the growing importance of plastics, ceramics and composite materials, has required additional text and rewriting in many chapters. Also, since the second edition, there has been a marked growth in the availability of materials databases and in computerized materials selectors. Thus Chapter 14, on the formalization of selection procedures, has been substantially modified to take account of this. Other new features are the explanation of the Weibull modulus in describing the variability of strength to be expected in a material, materials for springs and the influence of hydrogen on the performance of steels and the relevance to sour gas service in the petroleum industry.

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章节摘录

版权页：插图：A major factor in this area will be the quality of maintenance during use, for example, lubrication or the renewal of corrosion protection where this has been specified or the adherence to instructions concerning component replacement. Anderson,² quoting Holshouser and Mayner,³ instances the analysis of 230 laboratory reports on failed aircraft components where, in spite of the high standard set by airline companies, 102 could be attributed to improper maintenance (mostly taking the form of undesirable changes in geometry such as nicks and gouges), 52 of these occurring as a result of a fatigue mechanism. In the identification of a cause of failure, so that information can be fed back to design or manufacturing control stages, it is, of course, first necessary to recognize the failure mechanism and any relationship with the structure, compositional characteristics or design of the material component which may be revealed.

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