

## <<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.

# <<工程材料的选择和使用>>

## 书籍目录

preface to the third edition preface to the second edition preface to the first edition the background to decision 1  
 introduction 2 motivation for selection 2.1 new product development 2.2 improvement of an existing product 2.3  
 problem situations and constraints on choice 3 cost basis for selection 3.1 cost-effectiveness and value analysis 3.2  
 analysis of cost 4 establishment of service requirements and failure analysis 4.1 selection and design in relation to  
 anticipated service 4.2 the causes of failure in service 4.3 the mechanisms of failure 4.4 corrosion 5 specifications  
 and quality control 5.1 the role of standard specifications 5.2 inspection and quality control selection for  
 mechanical properties 6 static strength 6.1 the strength of metals 6.2 the strength of thermoplastics 6.3 the strength  
 of fibre-reinforced composites 6.4 cement and concrete 6.5 the strength of wood 6.6 materials selection criteria for  
 static strength 7 toughness 7.1 the meaning of toughness 7.2 the assessment of toughness 7.3 fracture mechanics 7.4  
 general yielding fracture mechanics 7.5 toughness in polymers and adhesives 7.6 materials selection for toughness 8  
 stiffness 8.1 the importance of stiffness 8.2 the stiffness of materials 8.3 the stiffness of sections 8.4 materials selection  
 criteria for stiffness 8.5 comparison of materials selection criteria 9 fatigue 9.1 micromechanisms of fatigue in metals  
 9.2 the assessment of fatigue resistance 9.3 factors influencing fatigue of metals 9.4 fatigue of non-metallic materials  
 9.5 materials selection for fatigue resistance 10 creep and temperature resistance 10.1 the evaluation of creep 10.2  
 the nature of creep 10.3 the development of creep-resisting alloys 10.4 the service temperatures of engineering  
 materials 10.5 the selection of materials for creep resistance 10.6 deformation mechanism diagrams selection for  
 surface durability .. 11 selection for corrosion resistance 11.1 the nature of the corrosion process 11.2 the problem  
 of hydrogen embrittlement of steel 11.3 the selection of materials for resistance to atmospheric corrosion 11.4 the  
 selection of materials for resistance to oxidation at elevated temperatures 11.5 the selection of materials for  
 resistance to corrosion in the soil 11.6 the selection of materials for resistance to corrosion in water 11.7 the  
 selection of materials for chemical plant 11.8 the degradation of polymeric materials 12 selection of materials for  
 resistance to wear 12.1 the mechanisms of wear 12.2 the effect of environment on wear 12.3 surface treatment to  
 reduce wear 12.4 wear-resistant polymers 12.5 erosive wear 12.6 selection of materials for resistance to erosive wear  
 13 the relationship between materials selection and materials processing 13.1 the purpose of materials processing  
 13.2 the background to process selection 13.3 the casting of metals and alloys 13.4 wrought products 13.5 the  
 processing of polymers 13.6 the processing of composites 13.7 fabrication from powder 13.8 fastening and joining  
 14 the formalization of selection procedures 14.1 materials databases case studies in materials selection 15 materials  
 for airframes 15.1 principal characteristics of aircraft structures 15.2 property requirements of aircraft structures  
 15.3 requirements for high-speed flight 15.4 candidate materials for aircraft structures 16 materials for ship  
 structures 16.1 the ship girder 16.2 factors influencing materials selection for ship hulls 16.3 materials of  
 construction 17 materials for engines and power generation 17.1 internal combustion 17.2 external combustion 18  
 materials for automobile structures 18.1 the use of steel 18.2 the introduction of plastics 18.3 aluminium and its  
 alloys 18.4 corrosion damage to automobiles 18.5 surface treatment of steel for car bodies 18.6 future trends in  
 body construction and materials 18.7 exhaust systems 19 materials for bearings 19.1 rolling bearings 19.2 plain  
 bearings 20 materials for springs 20.1 steels 20.2 non-ferrous springs 20.3 non-metallic springs 21 investigative case  
 studies 21.1 electric chain saw (black & decker ltd.) 21.2 the sturmeier archer gear 21.3 high-power gridded tube  
 (english electric valve co. ltd.) 22 problems useful texts index

## <<工程材料的选择和使用>>

### 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,<sup>2</sup> quoting Holshouser and Mayner,<sup>3</sup> 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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