

SUBJECT INDEX TO FATIGUE REFERENCES

First Order Division

- 1. General (no specific material)
- 2. Iron and steel
- 3. Corrosion- and heat-resistant materials
- 4. Aluminum alloys
- 5. Copper alloys
- 6. Magnesium alloys
- 7. Titanium alloys
- 8. Other metallic materials
- 9. Wood and plastics
- 10. Ceramic materials
- 11. Cement, mortar, concrete
- 12. Joints and joining methods
- 13. Other nonmetallic materials

Second, Third, and Fourth Order Divisions

- *X.1 — Basic research, nature of fatigue
 - X.1.1 — Experimental materials
 - X.1.2 — Single and large crystals
 - X.1.3 — Correlations, physical properties
 - X.1.3.1 — Resistivity
 - X.1.3.2 — Thermal expansion
 - X.1.4 — Correlations, mechanical properties
 - X.1.4.1 — Anelasticity
 - X.1.4.2 — Damping
 - X.1.4.3 — Tensile and impact
 - X.1.4.4 — Creep
 - X.1.5 — Deformation and fracture mechanisms
- X.2 — Composition and processing variables
 - X.2.1 — Composition
 - X.2.1.1 — Alloying elements
 - X.2.1.2 — Interstitials
 - X.2.1.3 — Reinforcing, laminating or filler materials
 - X.2.1.4 — Prestressing members or materials
 - X.2.2 — Microstructure
 - X.2.2.1 — Grain size or particle size
 - X.2.2.2 — Grain orientation
 - X.2.2.3 — Anisotropy
 - X.2.3 — Melting, molding, and casting techniques
 - X.2.4 — Primary and secondary fabrication
 - X.2.4.1 — Forging
 - X.2.4.2 — Rolling
 - X.2.4.3 — Forming
 - X.2.5 — Defects
 - X.2.5.1 — Inclusions
 - X.2.5.2 — Porosity
 - X.2.6 — Heat treatment (excluding surface hardening)
 - X.2.7 — Other factors
- X.3 — Geometric Factors
 - X.3.1 — Size
 - X.3.2 — Shape
 - X.3.3 — Stress gradient
 - X.3.4 — Stress concentrations
- X.4 — Surface factors
 - X.4.1 — Machining techniques
 - X.4.2 — Polishing techniques
 - X.4.3 — Surface finish
 - X.4.4 — Scratch direction
 - X.4.5 — Surface hardening, cold work
 - X.4.6 — Surface hardening, heat treatment
 - X.4.6.1 — Carburizing
 - X.4.6.2 — Nitriding

- X.4.7 — Residual stresses
- X.4.8 — Surface coatings
 - X.4.8.1 — Electroplated
 - X.4.8.2 — Other coatings
- X.4.9 — Other surface factors
- X.5 — Other influencing variables
 - X.5.1 — Speed
 - X.5.2 — Mean stress, alternating stress
 - X.5.3 — Combined stress
 - X.5.4 — Type of loading
- X.6 — Environmental factors
 - X.6.1 — Temperature
 - X.6.1.1 — High
 - X.6.1.2 — Low
 - X.6.2 — Corrosion and chemical attack
 - X.6.3 — Fretting
 - X.6.4 — Radiation
 - X.6.5 — Thermal cycling
 - X.6.6 — Humidity
- X.7 — Fatigue damage and measurement
 - X.7.1 — Detection of damage
 - X.7.1.1 — Prior to cracking
 - X.7.1.2 — After cracking
 - X.7.2 — Crack propagation
 - X.7.3 — Cumulative damage
 - X.7.3.1 — Prior stress or strain history
 - X.7.3.2 — Rest periods
 - X.7.3.3 — Understressing, overstressing
 - X.7.3.4 — Coaxing
 - X.7.3.5 — Step, sequential, spectrum tests
- X.8 — Test methods and machines
 - X.8.1 — Fatigue machines
 - X.8.2 — Control apparatus
 - X.8.3 — Statistical approaches
 - X.8.3.1 — Design of experiments
 - X.8.3.2 — Analysis
 - X.8.4 — Programming of tests
- X.9 — Engineering problems and design
 - X.9.1 — Service failures
 - X.9.2 — Empirical reduction of fatigue information to formulas
 - X.9.3 — Application of fatigue data in design
 - X.9.4 — Stress-range diagrams
- X.10 — Fatigue properties of structures and machines
 - X.10.1 — Joints and joining methods
 - X.10.1.1 — Rivets and riveted joints
 - X.10.1.2 — Bolts and bolted joints
 - X.10.1.3 — Spot welds and other fusion welded joints
 - X.10.1.4 — Adhesives and adhesive joints
 - X.10.2 — Other components of machines and structures
 - X.10.2.1 — Gears
 - X.10.2.2 — Bearings
 - X.10.3 — Large scale structural and machine members
- X.11 — Fatigue properties of materials (data-generating studies)
- X.12 — Theoretical discussions, general reviews
 - X.12.1 — Theoretical treatments, fatigue and related effects
 - X.12.2 — Historical summaries
 - X.12.3 — Bibliographies
 - X.12.4 — Books

* X denotes first order division number indicating material classification.