

SUBJECT INDEX TO FATIGUE REFERENCES

1. GENERAL (NO SPECIFIC MATERIAL)

- 1.1 Basic Research, Nature of Fatigue: B-20, B-39, D-1
 - 1.1.3 Correlations, Physical Properties: C-30, D-16
 - 1.1.3.2 Thermal Expansion: D-10
 - 1.1.4 Correlations, Mechanical Properties: A-9, D-16, D-27
 - 1.1.4.4 Creep: B-18, B-74
 - 1.1.5 Deformation and Fracture Mechanisms: A-155, A-174, B-1, B-9, B-74, C-22, C-60, D-15
- 1.2 Composition and Processing Variables
 - 1.2.2 Microstructure: A-174
 - 1.2.2.1 Grain Size or Particle Size: D-27
 - 1.2.3 Melting, Molding, and Casting Techniques: C-30
 - 1.2.5 Defects: A-1
 - 1.2.5.2 Porosity: A-131
 - 1.2.6 Heat Treatment (excluding surface hardening): D-27
- 1.3 Geometric Factors
 - 1.3.1 Size: D-27
 - 1.3.4 Stress Concentrations: A-80, A-98, A-131, B-38, C-24, C-25, E-18
- 1.4 Surface Factors
 - 1.4.5 Surface Hardening, Cold Work—shot peening, etc.: A-57
 - 1.4.6 Surface Hardening, Heat Treatment
 - 1.4.6.2 Nitriding: A-57
 - 1.4.7 Residual Stresses: A-112, B-19
 - 1.4.8 Surface Coatings: A-57
 - 1.4.8.1 Electroplated: B-102
- 1.5 Other Influencing Variables
 - 1.5.1 Speed: D-2
 - 1.5.2 Mean Stress, Alternating Stress: A-46, B-110
 - 1.5.3 Combined Stress: A-48, A-112, E-18
 - 1.5.4 Type of Loading: C-25
- 1.6 Environmental Factors: A-17
 - 1.6.1 Temperature: A-74, C-14
 - 1.6.1.1 High: A-1, A-51, A-129, A-144, B-18, B-69, C-14
 - 1.6.1.2 Low: A-22, A-36, B-69
 - 1.6.2 Corrosion and Chemical Attack: A-1, A-57
 - 1.6.3 Fretting: A-1, B-18
 - 1.6.5 Thermal Cycling, Strain Cycling, Low Cycle Fatigue: A-48, A-74, A-109, A-110, A-111, A-112, B-27, B-69, D-10, D-12
 - 1.6.7 Acoustic Fatigue: A-26, A-63, A-64, A-86, A-89, A-143, A-159, A-164, B-92
- 1.7 Fatigue Damage and Measurement: B-2, B-15, B-90
 - 1.7.1 Detection of Damage: A-8, A-33, A-50
 - 1.7.1.2 After Cracking: B-9
 - 1.7.2 Crack Propagation: A-79, A-155, B-9, B-18
 - 1.7.3 Cumulative Damage: A-28, A-71, A-74, A-79, A-107, A-116, A-137, A-143
 - 1.7.3.5 Step, Sequential, Spectrum Tests: A-168, B-110
- 1.8 Test Methods and Machines: A-12, A-36, A-164, B-9, B-14
 - 1.8.1 Fatigue Machines: A-44, A-56, A-63, A-64, A-84, A-86, A-89, A-104, A-115, A-138, B-7, B-18, B-21, B-62, B-63, B-75, C-14, C-47, C-67, D-29
 - 1.8.2 Control Apparatus: A-28, A-44, A-63, A-64, A-86, A-89, A-115, C-27

- 1.8.3 Statistical Approaches: A-28, A-71
 - 1.8.3.1 Design of Experiments: A-168
 - 1.8.3.2 Analysis: A-72, A-168
- 1.8.4 Programming of Tests: A-116, C-23
- 1.9 Engineering Problems and Design
 - 1.9.1 Service Failures: A-55, A-130
 - 1.9.3 Application of Fatigue Data in Design: A-26, A-28, A-106, B-86, B-96, B-108
 - 1.9.4 Stress-Range Diagrams: A-46
- 1.10 Fatigue Properties of Structures and Machines: A-126
 - 1.10.1 Joints and Joining Methods
 - 1.10.1.1 Rivets and Riveted Joints: B-18
 - 1.10.1.2 Bolts and Bolted Joints: A-99, B-18
 - 1.10.1.3 Spot Welds and Other Fusion Welded Joints: A-24, A-80, A-129, B-85, B-106
 - 1.10.2 Other Components of Machines and Structures: A-55, B-22
 - 1.10.2.2 Bearings: A-1, B-62
 - 1.10.3 Large Scale Structural Members: A-104, A-106, A-116, A-135, A-138, A-144, B-18, B-86, B-96, B-108
- 1.11 Fatigue Properties of Materials (data-generating studies): A-22, A-51, C-24
- 1.12 Theoretical Discussions, General Reviews: B-8, B-105, B-106, C-24
 - 1.12.1 Theoretical Treatments, Fatigue and Related Effects: A-28, A-71, A-72, A-79, A-98, A-107, B-27, B-39, B-72, B-110, C-60, D-14
 - 1.12.4 Books: A-2, A-3

2. IRON AND STEEL

- 2.1 Basic Research, Nature of Fatigue: A-172
 - 2.1.1 Experimental Materials: A-172, E-23
 - 2.1.3 Correlations, Physical Properties: C-30, D-28
 - 2.1.4 Correlations, Mechanical Properties: A-70, A-175, C-37, D-28, E-23
 - 2.1.4.2 Damping: C-13, C-30, C-46, C-57
 - 2.1.4.3 Tensile and Impact: A-14, A-38, A-125, A-167, B-6, B-9, B-23, B-59, B-78, C-13, C-30, C-31
 - 2.1.4.4 Creep: B-78
 - 2.1.5 Deformation and Fracture Mechanisms: A-59, A-96, A-105, A-167, A-172, B-34, B-49, B-77, C-1, C-12, C-13, C-30, C-37, C-44, C-45, C-46, D-3, D-20, E-10, E-19, E-23, E-24, E-25
- 2.2 Composition and Processing Variables
 - 2.2.1 Composition: A-4, A-11, A-14, A-132, B-34, B-35, B-76, C-20, C-31, C-37, D-30, E-2, E-7, E-13
 - 2.2.1.1 Alloying Elements: A-15, A-68, A-81, A-140, A-173, A-175, B-48, B-65, B-71, B-100, C-29, C-32, D-25, D-28, E-21, E-24
 - 2.2.1.2 Interstitials: C-34
 - 2.2.1.4 Prestressing Members or Materials: B-48
 - 2.2.2 Microstructure: A-70, A-172, B-9, D-36, E-26
 - 2.2.2.1 Grain Size or Particle Size: A-23, B-30
 - 2.2.3 Melting, Molding, and Casting Techniques: A-124, B-63, C-29

- 2.2.4 Primary and Secondary Fabrication: B-48, C-32
 - 2.2.4.1 Forging: B-24
 - 2.2.4.2 Rolling: A-151
 - 2.2.5 Defects: A-1, B-6
 - 2.2.5.1 Inclusions: A-68, A-124, B-23, B-63, C-13, D-31
 - 2.2.6 Heat Treatment (excluding surface hardening): A-11, A-68, A-70, A-81, A-87, A-88, A-173, A-175, B-5, B-77, B-79, C-24, C-32, C-53, C-57, D-13, D-17, D-22, D-26, D-36, E-13, E-24
 - 2.2.7 Other Factors: D-5
 - 2.3 Geometric Factors: C-8
 - 2.3.1 Size: B-53, D-18, D-35, E-2
 - 2.3.2 Shape: B-32, B-61, B-83, C-36, D-35
 - 2.3.3 Stress Gradient: B-30, B-32, B-50, C-69
 - 2.3.4 Stress Concentrations: A-113, A-125, A-167, A-174, B-6, B-11, B-24, B-28, B-47, B-56, B-57, B-59, B-61, B-65, B-79, B-81, B-112, C-24, C-26, C-39, C-69, D-23, D-26, D-30, E-1, E-18
 - 2.4 Surface Factors: C-32, D-18
 - 2.4.1 Machining Techniques: A-147, C-19, C-43
 - 2.4.2 Polishing Techniques: C-43, D-6
 - 2.4.3 Surface Finish: A-147, B-5, B-103
 - 2.4.5 Surface Hardening, Cold Work—Shot Peening, etc.: A-19, B-48, B-57, B-58, B-73, C-16, C-17, C-58, E-14
 - 2.4.6 Surface Hardening, Heat Treatment: A-15, B-58, C-7
 - 2.4.6.1 Carburizing: C-26, D-6
 - 2.4.6.2 Nitriding: A-145, B-58, C-19, C-20, C-26, C-36, C-58, D-6
 - 2.4.7 Residual Stresses: A-19, A-31, A-81, B-57, C-1, C-17, C-44, C-45, C-54, D-5, D-8, D-26
 - 2.4.8 Surface Coatings: A-7, A-29
 - 2.4.8.1 Electroplated: A-37, B-28, B-58, B-66, C-59
 - 2.4.8.2 Other Coatings: A-30, A-69, A-87, A-88, B-11, B-51, B-76, B-97, C-18, C-59, C-64, D-21
 - 2.4.9 Other Surface Factors: A-147, B-73, B-112
 - 2.5 Other Influencing Variables
 - 2.5.1 Speed: A-166, E-3, E-21
 - 2.5.2 Mean Stress, Alternating Stress: A-139, A-147, B-34, B-47, B-71, B-84, D-6, E-7, E-18
 - 2.5.3 Combined Stress: A-29, A-101, A-102, B-65, B-80, B-84, D-19, E-23
 - 2.5.4 Type of Loading: B-50, C-1, C-38, D-30, E-2, E-4
 - 2.6 Environmental Factors: A-6
 - 2.6.1 Temperatures: A-139
 - 2.6.1.1 High: A-4, A-30, A-65, A-81, A-124, A-166, A-173, B-30, B-76, C-13, D-4, D-13, D-22, E-4, E-21, E-22
 - 2.6.1.2 Low: A-81, B-65, C-39, C-46
 - 2.6.2 Corrosion and Chemical Attack: A-133, A-173, B-17, B-51, B-58, B-111, D-4, D-18, D-23, E-4
 - 2.6.3 Fretting: B-17, B-18, B-89, B-103, D-23
 - 2.6.4 Radiation: B-35, B-59
 - 2.6.5 Thermal Cycling, Strain Cycling, Low Cycle Fatigue: A-113, A-128, B-28, B-36, B-88, B-93, D-28
 - 2.7 Fatigue Damage and Measurement:
 - 2.7.1 Detection of Damage: A-96, B-77, C-37, D-3
 - 2.7.1.1 Prior to Cracking: C-31, C-44, C-45, E-19, E-26
 - 2.7.1.2 After Cracking: C-6, E-26
 - 2.7.2 Check Propagation: A-39, A-123, A-150, B-17, B-26, B-47, B-49, B-50, B-58, B-83, D-35, E-1, E-8, E-14
 - 2.7.3 Cumulative Damage: A-139
 - 2.7.3.1 Prior Stress or Strain History: A-113, B-57, C-12, C-38
 - 2.7.3.2 Rest Periods: C-57, E-22
 - 2.7.3.3 Understressing, Overstressing: C-55, E-8
 - 2.7.3.4 Coaxing: C-31, E-8
 - 2.7.3.5 Step, Sequential, Spectrum Tests: B-118, E-7, E-9, E-11
 - 2.8 Test Methods and Machines: A-96
 - 2.8.1 Fatigue Machines: B-3, B-5, B-81, B-93, B-107, C-21
 - 2.8.3 Statistical Approaches: A-23
 - 2.8.3.2 Analysis: B-83, C-11, D-25
 - 2.8.4 Programming of Tests: B-107, B-109
 - 2.9 Engineering Problems and Design:
 - 2.9.1 Service Failures: A-156, A-161, B-33, B-89, C-4, C-15, C-64, D-24
 - 2.9.2 Empirical Reduction of Fatigue Information to Formulas: A-139
 - 2.9.3 Application of Fatigue Data in Design: A-92, A-121, A-142, B-35, B-56, B-68, B-81, B-82, C-11, E-11
 - 2.9.4 Stress Range Diagrams: B-51, C-11
 - 2.10 Fatigue Properties of Structures and Machines: B-80
 - 2.10.1 Joints and Joining Methods:
 - 2.10.1.2 Bolts and Bolted Joints: A-44, B-32, B-61, B-111
 - 2.10.1.3 Spot Welds and Other Fusion Welded Joints: A-92, A-121, A-129, B-6, B-10, B-11, B-12, B-30, B-51, B-56, B-57, B-68, B-71, B-81, B-82, B-83, B-84, B-100, B-107, C-8, C-15, C-16, C-17, C-18, C-34, C-53, C-54, C-56, C-64, D-11, D-17, D-22, D-26, E-14
 - 2.10.2 Other Components of Machines and Structures: A-19, A-132, B-5, B-17, B-24, B-33, B-36, B-55, B-89, C-4, C-8, C-10, C-11, C-52, C-58, C-64, D-19, D-23, D-24
 - 2.10.2.2 Bearings: A-4, A-21, A-23, A-40, A-41, A-140, A-166, A-175, B-63, B-89, E-26
 - 2.10.3 Large Scale Structural Members: B-81, B-107, D-8
 - 2.11 Fatigue Properties of Materials: A-11, A-14, A-38, A-76, A-97, A-121, B-66, C-21, C-24, C-38, C-39, D-13, E-3, E-4
 - 2.12 Theoretical Discussions, General Reviews:
 - 2.12.1 Theoretical Treatments, Fatigue and Related Effects: A-174, B-78, E-8
- ### 3. CORROSION-AND-HEAT RESISTANT MATERIALS
- 3.1 Basic Research, Nature of Fatigue:
 - 3.1.4 Correlations, Mechanical Properties:
 - 3.1.4.2 Damping: A-47
 - 3.1.4.3 Tensile and Impact: A-32
 - 3.1.4.4 Creep: A-42, A-47, A-120, E-20
 - 3.1.5 Deformation and Fracture Mechanisms: B-67
 - 3.2 Composition and Processing Variables:
 - 3.2.1 Composition: A-4, A-41, A-58, A-149, B-4, C-2
 - 3.2.1.1 Alloying Elements: A-146, C-62, E-16
 - 3.2.2 Microstructure:
 - 3.2.2.1 Grain Size or Particle Size: B-53
 - 3.2.3 Melting, Molding, and Casting Techniques: A-43
 - 3.2.6 Heat Treatment (excluding surface hardening): C-24
 - 3.3 Geometric Factors:
 - 3.3.1 Size: B-53
 - 3.3.2 Shape: B-53

- 3.3.4 Stress Concentrations: A-42, A-65, A-103, A-113, A-119, A-127, A-149, A-163, B-26, B-28, E-16
 - 3.4 Surface Factors:
 - 3.4.5 Surface Hardening, Cold Work—Shot Peening, etc.: A-65
 - 3.4.6 Surface Hardening, Heat Treatment: A-15
 - 3.4.6.2 Nitriding: B-80
 - 3.4.8 Surface Coatings:
 - 3.4.8.1 Electroplated: B-28
 - 3.4.8.2 Other Coatings: A-69, A-119
 - 3.5 Other Influencing Variables:
 - 3.5.1 Speed: E-21
 - 3.5.2 Mean Stress, Alternating Stress: A-42, A-65, A-136, A-163
 - 3.5.3 Combined Stress: A-29, A-127, B80
 - 3.5.4 Type of Loading: A-32
 - 3.6 Environmental Factors:
 - 3.6.1 Temperature: A-41, A-42, B-67
 - 3.6.1.1 High: A-4, A-13, A-32, A-47, A-53, A-65, A-119, A-146, A-152, A-162, B-4, B-53, C-14, D-7, E-16, E-20, E-21
 - 3.6.1.2 Low: A-119, B-53
 - 3.6.2 Corrosion and Chemical Attack: B-4, C-2, C-61
 - 3.6.5 Thermal Cycling, Strain Cycling, Low Cycle Fatigue: A-13, A-53, A-83, A-113, A-118, A-120, A-127, A-136, A-146, A-149, A-160, B-28, B-36, B-52, B-53, B-88, B-93, D-9
 - 3.7 Fatigue Damage and Measurement: A-120
 - 3.7.2 Crack Propagation: A-123, A-149, B-26, B-53
 - 3.7.3 Cumulative Damage: B-67
 - 3.7.3.1 Prior Stress or Strain History: A-113, D-9
 - 3.8 Test Methods and Machines:
 - 3.8.1 Fatigue Machines: A-152, B-53, B-93, C-14
 - 3.8.2 Control Apparatus: B-36
 - 3.9 Engineering Problems and Design:
 - 3.9.3 Application of Fatigue Data in Design: A-55
 - 3.10 Fatigue Properties of Structures and Machines: B-80
 - 3.10.1 Joints and Joining Methods:
 - 3.10.1.2 Bolts and Bolted Joints: A-65, A-104
 - 3.10.2 Other Components of Machines and Structures: A-127, A-146, B-36, C-2
 - 3.10.2.2 Bearings: A-4, A-41
 - 3.11 Fatigue Properties of Materials (data-generating studies): A-10, A-43, A-47, A-58, A-97, A-102, B-53, C-24, E-16, E-20
 - 3.12 Theoretical Discussions, General Reviews:
 - 3.12.1 Theoretical Treatments, Fatigue and Related Effects: A-127, A-163
- #### 4. ALUMINUM ALLOYS
- 4.1 Basic Research, Nature of Fatigue:
 - 4.1.2 Single and Large Crystals: A-77, B-94, C-5, C-27, C-33
 - 4.1.3 Correlations, Physical Properties: C-48
 - 4.1.3.2 Thermal Expansion: C-33
 - 4.1.4 Correlations, Mechanical Properties: B-101
 - 4.1.4.3 Tensile and Impact: A-35, B-40, B-41, B-99
 - 4.1.5 Deformation and Fracture Mechanisms: A-34, A-60, A-62, A-66, A-77, A-78, A-105, A-165, B-49, B-94, B-101, C-5, C-27, C-40, C-42, D-33
 - 4.2 Composition and Processing Variables: A-16
 - 4.2.1 Composition: A-35, A-117, A-153, B-54, E-6, E-12
 - 4.2.1.1 Alloying Elements: A-128, A-154, B-29, B-95
 - 4.2.2 Microstructure: B-10, C-48
 - 4.2.2.1 Grain Size or Particle Size: E-12
 - 4.2.2.3 Anisotropy: A-128
 - 4.2.3 Melting, Molding, and Casting Techniques: B-95
 - 4.2.4 Primary and Secondary Fabrication: D-33, E-6
 - 4.2.4.1 Forging: A-128
 - 4.2.5 Defects: B-104
 - 4.2.5.2 Porosity: B-113
 - 4.2.6 Heat Treatment (excluding surface hardening): A-62, B-22, B-41, B-101, C-50, E-6
 - 4.3 Geometric Factors:
 - 4.3.1 Size: A-170, B-98, C-9, C-65
 - 4.3.2 Shape: A-170, C-9
 - 4.3.3 Stress Gradient: B-45, B-49
 - 4.3.4 Stress Concentrations: A-128, A-154, B-11, B-43, B-44, B-45, B-57, B-99, B-104, B-113, C-39, C-42, C-63, E-6, E-12, E-18
 - 4.4 Surface Factors:
 - 4.4.1 Machining Techniques: A-90
 - 4.4.2 Polishing Techniques: A-90
 - 4.4.3 Surface Finish: B-22, B-103
 - 4.4.5 Surface Hardening, Cold Work—Shot Peening, etc.: B-57
 - 4.4.6 Surface Hardening, Heat Treatment:
 - 4.4.6.2 Nitriding: B-80
 - 4.4.7 Residual Stresses: A-148, A-162, B-22, B-57
 - 4.4.8 Surface Coatings:
 - 4.4.8.2 Other Coatings: A-69, A-154, B-11
 - 4.4.9 Other Surface Factors:
 - 4.5 Other Influencing Variables: B-13
 - 4.5.1 Speed: B-98
 - 4.5.2 Mean Stress, Alternating Stress: A-85, A-139, B-42, B-43, B-54, B-98, B-101, D-33, E-15
 - 4.5.3 Combined Stress: A-60, B-80, E-18
 - 4.5.4 Type of Loading: A-85, B-49
 - 4.6 Environmental Factors:
 - 4.6.1 Temperature: A-139
 - 4.6.1.1 High: B-40, C-41
 - 4.6.1.2 Low: A-62, A-91, B-94, C-33, C-39, C-63
 - 4.6.2 Corrosion and Chemical Attack: E-17
 - 4.6.3 Fretting: B-18, B-42, B-103
 - 4.6.5 Thermal Cycling, Strain Cycling, Low Cycle Fatigue: A-52, A-169, B-29, B-88, C-9
 - 4.6.7 Acoustic Fatigue: A-63, A-158, A-164
 - 4.7 Fatigue Damage and Measurement:
 - 4.7.1 Detection of Damage: B-42
 - 4.7.2 Crack Propagation: A-117, A-123, A-170, B-49, B-98, C-27, C-40, C-42, C-65
 - 4.7.3 Cumulative Damage: A-139, B-45, B-46, B-57, B-64, B-70
 - 4.7.3.5 Step, Sequential, Spectrum Tests: A-67, A-73, A-85, B-44, B-109, B-110
 - 4.8 Test Methods and Machines:
 - 4.8.1 Fatigue Machines: A-157, B-95
 - 4.8.2 Control Apparatus: C-41
 - 4.8.3 Statistical Approaches: B-70
 - 4.8.3.1 Design of Experiments: B-54, C-9
 - 4.8.4 Programming of Tests: B-44, B-45, B-109, C-28

- 4.9 Engineering Problems and Design
 - 4.9.1 Service Failures: A-158, A-161, B-25
 - 4.9.2 Empirical Reduction of Fatigue Information to Formulas: A-117, A-139
 - 4.9.3 Application of Fatigue Data in Design: A-16, A-18, A-158, B-28, B-40, B-70, B-99
- 4.10 Fatigue Properties of Structures and Machines: B-80
 - 4.10.1 Joints and Joining Methods: D-32
 - 4.10.1.1 Rivets and Riveted Joints: A-148, B-37, B-46, B-64, B-99
 - 4.10.1.2 Bolts and Bolted Joints: B-99
 - 4.10.1.3 Spot Welds and Other Fusion Welded Joints: A-91, A-153, A-164, B-11, B-13, B-54, B-57, B-104, B-113, C-9, C-63, D-34
 - 4.10.1.4 Adhesives and Adhesive Joints: A-164
 - 4.10.2 Other Components of Machines and Structures: A-148, A-162, A-170, C-9
 - 4.10.3 Large Scale Structural Members: A-18, A-67, A-158, B-25, C-28
- 4.11 Fatigue Properties of Materials (data-generating studies): A-35, A-90, A-97, B-40, B-104, C-39, C-41, C-42, C-50, C-63, D-34, E-6, E-12, E-15
- 4.12 Theoretical Discussions, General Reviews:
 - 4.12.1 Theoretical Treatments, Fatigue, and Related Effects: B-70

5. COPPER ALLOYS

- 5.1 Basic Research, Nature of Fatigue:
 - 5.1.2 Single and Large Crystals: A-94, C-5, C-51
 - 5.1.3 Correlations, Physical Properties: B-91
 - 5.1.4 Correlations, Mechanical Properties: A-94, B-91
 - 5.1.4.3 Tensile and Impact: C-3
 - 5.1.4.4 Creep: B-75
 - 5.1.5 Deformation and Fracture Mechanisms: A-25, A-77 B-87, B-91, C-5, C-51, E-23
- 5.2 Composition and Processing Variables:
 - 5.2.1 Composition:
 - 5.2.1.1 Alloying Elements: C-3, C-49, E-5
- 5.3 Geometric Factors:
 - 5.3.4 Stress Concentration: A-108, C-39, E-18
- 5.4 Surface Factors:
 - 5.4.2 Polishing Techniques: A-75
 - 5.4.3 Surface Finish: A-75
 - 5.4.8 Surface Coatings: A-7
 - 5.4.8.2 Other Coatings: A-69
- 5.5 Other Influencing Variables:
 - 5.5.1 Speed: E-3
 - 5.5.3 Combined Stress: E-18, E-23
- 5.6 Environmental Factors: A-6
 - 5.6.1 Temperature:
 - 5.6.1.2 Low: C-39
 - 5.6.2 Corrosion and Chemical Attack: C-49, E-5
 - 5.6.5 Thermal Cycling, Strain Cycling, Low Cycle Fatigue: A-20, A-94
- 5.7 Fatigue Damage and Measurement:
 - 5.7.1 Detection of Damage:
 - 5.7.1.1 Prior to Cracking: A-25
 - 5.7.2 Crack Propagation: A-25, A-108, A-123, B-87, C-49

- 5.8 Test Methods and Machines: A-108
 - 5.8.1 Fatigue Machines: C-49
 - 5.8.2 Control Apparatus: A-25
 - 5.8.3 Statistical Approaches:
 - 5.8.3.1 Design of Experiments: C-49
- 5.9 Engineering Problems and Design:
 - 5.9.3 Application of Fatigue Data in Design: A-55
- 5.11 Fatigue Properties of Materials (data-generating studies): A-97, C-3, C-39, C-49, E-3, E-23

6. MAGNESIUM ALLOYS

- 6.1 Basic Research, Nature of Fatigue:
 - 6.1.4 Correlations, Mechanical Properties:
 - 6.1.4.4 Creep: B-16, B-31
- 6.2 Composition and Processing Variables:
 - 6.2.2 Microstructure:
 - 6.2.2.1 Grain Size or Particle Size: B-16, B-31
- 6.3 Geometric Factors:
 - 6.3.4 Stress Concentrations: C-39
- 6.4 Surface Factors:
 - 6.4.8 Surface Coatings: A-7
 - 6.4.8.2 Other Coatings: A-69, A-95
- 6.6 Environmental Factors: A-6
 - 6.6.1 Temperature:
 - 6.6.1.1 High: B-16, B-31
 - 6.6.1.2 Low: C-39
 - 6.6.5 Thermal Cycling, Strain Cycling, Low Cycle Fatigue: A-169
- 6.9 Engineering Problems and Design:
 - 6.9.3 Application of Fatigue Data in Design: B-31
- 6.11 Fatigue Properties of Materials (data-generating studies): B-3, C-39

7. TITANIUM ALLOYS

- 7.1 Basic Research, Nature of Fatigue:
 - 7.1.4 Correlations, Mechanical Properties:
 - 7.1.4.4 Creep: A-42
- 7.2 Composition and Processing Variables:
 - 7.2.1 Composition:
 - 7.2.1.2 Interstitials: A-100
 - 7.2.2 Microstructure:
 - 7.2.2.1 Grain Size or Particle Size: A-100
 - 7.2.6 Heat Treatment (excluding surface hardening): A-100
- 7.3 Geometric Factors:
 - 7.3.1 Size: A-100
 - 7.3.4 Stress Concentrations: A-42, A-100, A-141
- 7.4 Surface Factors:
 - 7.4.1 Machining Techniques: A-100, A-134
 - 7.4.3 Surface Finish: A-134, B-103
 - 7.4.6 Surface Hardening, Heat Treatment:
 - 7.4.6.2 Nitriding: B-80
 - 7.4.7 Residual Stresses: A-134
 - 7.4.8 Surface Coatings:
 - 7.4.8.2 Other Coatings: A-69
- 7.5 Other Influencing Variables:
 - 7.5.1 Speed: A-100
 - 7.5.2 Mean Stress, Alternating Stress: A-42, A-100
 - 7.5.3 Combined Stress: B-80

- 7.6 Environmental Factors:
 - 7.6.1 Temperature: A-142, A-100, C-66
 - 7.6.3 Fretting: B-103
 - 7.6.5 Thermal Cycling, Strain Cycling, Low Cycle Fatigue: B-88
- 7.7 Fatigue Damage and Measurement:
 - 7.7.2 Crack Propagation: A-123
- 7.9 Engineering Problems and Design:
 - 7.9.2 Empirical Reduction of Fatigue Information to Formulas: A-134
- 7.10 Fatigue Properties of Structures and Machines: B-80
 - 7.10.1 Joints and Joining Method:
 - 7.10.1.2 Bolts and Bolted Joints: A-44
- 8. OTHER METALLIC MATERIALS
- 8.1 Basic Research, Nature of Fatigue:
 - 8.1.2 Single and Large Crystals: A-93, A-165, B-74
 - 8.1.4 Correlations, Mechanical Properties: A-93
 - 8.1.4.4 Creep: B-74
 - 8.1.5 Deformation and Fracture Mechanisms: B-74, C-51, E-27
- 8.2 Composition and Processing Variables:
 - 8.2.1 Composition:
 - 8.2.1.1 Alloying Elements: A-122
 - 8.2.2 Microstructure: B-74
 - 8.2.4 Primary and Secondary Fabrication: A-122
- 8.3 Geometric Factors:
 - 8.3.4 Stress Concentrations: A-45, B-60
- 8.4 Surface Factors:
 - 8.4.3 Surface Finish: A-122
- 8.5 Other Influencing Variables:
 - 8.5.4 Type of Loading: C-35
- 8.6 Environmental Factors:
 - 8.6.1 Temperature:
 - 8.6.1.1 High: A-53, A-54
 - 8.6.2 Corrosion and Chemical Attack: B-60, C-10
 - 8.6.5 Thermal Cycling, Strain Cycling, Low Cycle Fatigue: A-20, A-27, A-61, A-82, B-88
- 8.7 Fatigue Damage and Measurement:
 - 8.7.1 Detection of Damage:
 - 8.7.2 Crack Propagation: B-26
- 8.8 Test Methods and Machines:
 - 8.8.1 Fatigue Machines: C-35
 - 8.8.2 Control Apparatus: C-35
- 8.9 Engineering Problems and Design:
 - 8.9.3 Application of Fatigue Data in Design: A-55
- 8.10 Fatigue Properties of Structures and Machines:
 - 8.10.1 Joints and Joining Methods:
 - 8.10.1.2 Bolts and Bolted Joints: A-45

- 8.10.1.3 Spot Welds and Other Fusion Welded Joints: A-24
- 8.11 Fatigue Properties of Materials (data-generating studies): A-5, A-53, A-54, C-35
- 8.12 Theoretical Discussions, General Reviews:
 - 8.12.1 Theoretical Treatments, Fatigue and Related Effects: B-74
- 9. WOOL AND PLASTICS
- 9.1 Basic Research, Nature of Fatigue:
 - 9.1.4 Correlations, Mechanical Properties:
 - 9.1.4.2 Damping: C-68
 - 9.1.5 Deformation and Fracture Mechanisms: C-68
- 9.6 Environmental Factors:
 - 9.6.1. Temperature:
 - 9.6.1.1 High: C-68
 - 9.6.1.2 Low: C-68
- 10. CERAMIC MATERIALS
- 10.1 Basic Research, Nature of Fatigue:
 - 10.1.2 Single and Large Crystals: A-49
 - 10.1.5 Deformation and Fracture Mechanisms: A-49
- 10.2 Other Components of Machines and Structures:
 - 10.2.2 Bearings: A-40
- 10.6 Environmental Factors:
 - 10.6.5 Thermal Cycling, Strain Cycling, Low Cycle Fatigue: A-61
- 12. JOINTS AND JOINING METHODS
- 12.1 Basic Research, Nature of Fatigue:
 - 12.1.4 Correlations, Mechanical Properties:
 - 12.1.4.2 Damping: A-171
- 12.2 Composition and Processing Variables:
 - 12.2.1 Composition:
 - 12.2.5 Defects: B-104
- 12.3 Geometric Factors:
 - 12.3.4 Stress Concentrations: B-104
- 12.5 Other Influencing Variables:
 - 12.5.1 Speed: A-171
- 12.10 Fatigue Properties of Structures and Machines:
 - 12.10.1 Joints and Joining Methods:
 - 12.10.1.3 Spot Welds and Other Fusion Welded Joints: B-100, B-104
 - 12.10.1.4 Adhesives and Adhesive Joints: C-67
- 13. OTHER NONMETALLIC MATERIALS
- 13.9 Engineering Problems and Design:
 - 13.9.3 Application of Fatigue Data in Design: A-114
- 13.10 Fatigue Properties of Structures and Machines:
 - 13.10.2 Other Components of Machines and Structures: A-114