Fatigue Failure Resulting from Variable Loading

Chapter Outline

6-1	Introduction to Fatigue in Metals 266
6-2	Approach to Fatigue Failure in Analysis and Design 272
6-3	Fatigue-Life Methods 273
6-4	The Stress-Life Method 273
6-5	The Strain-Life Method 276
6-6	The Linear-Elastic Fracture Mechanics Method 278
6-7	The Endurance Limit 282
6-8	Fatigue Strength 283
6-9	Endurance Limit Modifying Factors 286
6-10	Stress Concentration and Notch Sensitivity 295
6-11	Characterizing Fluctuating Stresses 300
6-12	Fatigue Failure Criteria for Fluctuating Stress 303
6-13	Torsional Fatigue Strength under Fluctuating Stresses 317
6-14	Combinations of Loading Modes 317
6-15	Varying, Fluctuating Stresses; Cumulative Fatigue Damage 321
6-16	Surface Fatigue Strength 327
6-17	Stochastic Analysis 330
6-18	Road Maps and Important Design Equations for the Stress-Life Method 344

265