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Nota di contenuto	Cover; Fatigue of Materials and Structures; Title Page; Copyright Page; Table of Contents; Foreword; Chapter 1. Introduction to Fatigue: Fundamentals and Methodology; 1.1. Introduction to the fatigue of materials; 1.1.1. Brief history of fatigue: its technical and scientific importance; 1.1.2. Definitions; 1.1.3. Endurance diagrams; 1.2. Mechanisms of fatigue damage; 1.2.1. Introduction/background; 1.2.2. Initiation of fatigue cracks; 1.2.3. Propagation of fatigue cracks; 1.3. Test systems; 1.4. Structural design and fatigue; 1.5. Fatigue of polymers, elastomers and composite materials 1.6. Conclusion 1.7. Bibliography; Chapter 2. Modeling of Fatigue Strength and Endurance Curve; 2.1. Introduction; 2.2. Nature and aspect of the scatter of fatigue test results; 2.3. Determination of the endurance limit; 2.4. Estimation methods of fatigue resistance and standard deviation with N cycles; 2.4.1. Probit method; 2.4.2. Staircase method; 2.4.3. Iteration method; 2.4.4. Non-failed specimen method; 2.4.5. Choice of test method; 2.5. Mathematical representations and

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2.5.3. Adjustment methods of a Wohler curve to test results
2.6. Estimation of the cycle number N for a given level of stress amplitude;
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3.2. Physical mechanisms of crack initiation
3.2.1. Three stages of fatigue failure: a reminder; 3.2.2. Influence of stress amplitude; 3.3. Methods of evaluating crack initiation; 3.3.1. Smooth specimens; 3.3.2. Notch effect; 3.4. Practical method of structure calculation; 3.4.1. Preliminary; 3.4.2. The problem to be solved; 3.4.3. Initiation parameters; 3.4.4. The master Wohler curve ($k_t = 1$); 3.4.5. Cumulative damage ($k_t = 1$); 3.4.6. Specimens with $k_t > 1$: correspondence curve; 3.4.7. Use of correspondence curves; 3.4.8. Plotting the correspondence curves; 3.4.9. Comments and conclusion
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Sommario/riassunto

Fatigue and fracture result in billions of dollars of damage each year.?
This book examines the various causes of fatigue including crack growth, defects, temperature, environmental, and corrosion.?
