

Table of contents

- **Inspection Equipment and Techniques** (p. 1)
- **Visual Inspection** (p. 3)
- **Laser Inspection** (p. 12)
- **Coordinate Measuring Machines** (p. 18)
- **Machine Vision and Robotic Evaluation** (p. 29)
- **Methods of Nondestructive Evaluation** (p. 47)
- **Guide to Nondestructive Evaluation Techniques** (p. 49)
- **Replication Microscopy Techniques for NDE** (p. 52)
- **Leak Testing** (p. 57)
- **Liquid Penetrant Inspection** (p. 71)
- **Magnetic Particle Inspection** (p. 89)
- **Magnetic Field Testing** (p. 129)
- **Electric Current Perturbation NDE** (p. 136)
- **Magnabsorption NDE** (p. 143)
- **Electromagnetic Techniques for Residual Stress Measurements** (p. 159)
- **Eddy Current Inspection** (p. 164)
- **Remote-Field Eddy Current Inspection** (p. 195)
- **Microwave Inspection** (p. 202)
- **Ultrasonic Inspection** (p. 231)
- **Acoustic Emission Inspection** (p. 278)
- **Radiographic Inspection** (p. 295)
- **Industrial Computed Tomography** (p. 358)
- **Neutron Radiography** (p. 387)
- **Thermal Inspection** (p. 396)
- **Optical Holography** (p. 405)
- **Speckle Metrology** (p. 432)
- **Acoustical Holography** (p. 438)
- **Strain Measurement for Stress Analysis** (p. 448)
- **Digital Image Enhancement** (p. 454)
- **Acoustic Microscopy** (p. 465)
- **Use of Color for NDE** (p. 483)
- **Nondestructive Inspection of Specific Products** (p. 489)
- **Forgings** (p. 491)
- **Castings** (p. 512)
- **Powder Metallurgy Parts** (p. 536)
- **Steel Bar, Wire, and Billets** (p. 549)
- **Tubular Products** (p. 561)
- **Weldments, Brazed Assemblies, and Soldered Joints** (p. 582)
- **Adhesive-Bonded Joints** (p. 610)
- **Boilers and Pressure Vessels** (p. 641)
- **Quantitative Nondestructive Evaluation** (p. 661)
- **Introduction** (p. 663)
- **Fracture Control Philosophy** (p. 666)
- **Applications of NDE Reliability to Systems** (p. 674)

- **NDE Reliability Data Analysis** (p. 689)
- **Models for Predicting NDE Reliability** (p. 702)
- **Statistical Methods** (p. 717)
- **Statistical Quality Design and Control** (p. 719)
- **Metric Conversion Guide** (p. 755)
- **Abbreviations and Symbols** (p. 758)
- **Index** (p. 761)