

Multimedia Courses on Non Destructive Testing (NDT)



- Browser-style Interface
- Interactive Text , Voice Guide
- Interactive Animations
- Quick View
- Insights from Theory
- Tests and Video Clips

- Self-assesment Tests
- Statistics on Test Results
- Glossary and Text Search
- History and Bookmarking
- User Notes
- Interactive Help

Computer Based Training Courses for the level II Certification (EN ISO 9712 / ASNT)

The MULTIMEDIA COURSES are available on Flash memory or CD / DVD or downloaded

They are used by many and important:

- Training Centres as didactic materials in the Level II Certification Course
- Companies for training of personnel
- University and Institutes.



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Multimedia Courses on Non Destructive Testing (NDT)

TOPICS

ULTRASONIC TESTING

- 1. Metallurgy of Steel**
 - Prod. of Carbon Steels
 - Heat Treatments
 - Mechanical Tests
 - Types of Fracture
 - Steel Products
 - Study of Defects
- 2. Ultrasounds**
 - Introduction
 - Types of Ultrasonic Waves
 - Parameters of Waves
 - Ultrasound Propagation
- 3. Test Instruments**
 - Transducers
 - Ultrasound Equipment
 - Digital Flaw Detectors
- 4. Testing Methods and Techniques**
 - Testing Methods
 - Testing Techniques
- 5. Instrument Calibration**
 - System Calibration
 - Periodical Calibration Check
 - Characterization of Probes
 - Reference Blocks
- 6. Testing Operations**
 - Piece Examination and Equipment Selection
 - Testing Procedure
 - Testing Techniques
 - Evaluation of Reflectors

RADIOGRAPHIC TESTING

- 1. Metallurgy of Steel**
 - Prod. of Carbon Steels
 - Heat Treatments
 - Mechanical Tests
 - Types of Fracture
 - Steel Products
 - Study of Defects
- 2. Principles of Physics**
 - Structure of the Matter
 - Electromagnetic Waves
 - Electricity
- 3. Radioactivity and Radioprotection**
 - Radioactivity
 - Radioprotection
- 4. Equipment and Techniques**
 - Radiation Generators
 - Films
 - Image Quality
 - Exposure Factors
 - Radiographic Techniq.
 - Examples & Exercises
- 5. Radiographic Operations**
 - Preliminary Analysis
 - Radiographic Inspection
 - Developing
- 6. Analysis and Interpretation**
 - Analysis Instruments
 - Radiographic Marks
 - Radiograph Reading

MAGNETIC PARTICLE TESTING

- 1. Metallurgy of Steel**
 - Steel
 - Heat Treatments
 - Prod. of Carbon Steels
 - Study of Defects
- 2. Principles of Electrotechnics**
 - Natural Magnetism
 - Electricity and Magnetism
 - Magnetic Properties of Matter
 - Electric Current
 - Standard Units
- 3. Magnetization Methods**
 - Examination Principle
 - Criteria for the Examin.
 - Current-flow Method Techniques
 - Magnetic-field Method Techniques
 - Magnetizing Currents
- 4. Examination Equipment**
 - Magnetic Particles
 - Characteristic of the Particles
 - Lighting Lamps
 - Examination Equipment
- 5. Examination Procedure**
 - Preliminary Activities
 - Practical Rules for Magnetization
 - Checking the Magnetizing Field
 - Sequence of Operations
 - Evaluation of the Test Results

LIQUID PENETRANT TESTING

- 1. Metallurgy of Steel**
 - Steel
 - Heat Treatments
 - Prod. of Carbon Steels
 - Study of Defects
- 2. Method Principles**
 - Penetrants & Developers
 - Light Sources
- 3. Examination Procedure**
 - Preliminary Activities
 - Selection of Method and Type of Liquid
 - Examination Operations
 - Leakage Test
 - Procedure Qualification

PHASED ARRAY / TOFD

- 1. Phased Array**
 - Phased Array Technology
 - Phased Array Probe
 - Working Principles
 - Electronic Scanning
 - Beam Focusing
 - Signal Presentation
 - Calibrations
 - Characterizations of Defects
 - Application for Weld Inspect.
- 2. ToFD**
 - Introduction to Techniques ToFD
 - Detection of Discontinuities
 - Limits and Additional Scans
 - ToFD System Calibration
 - ToFD Signal Analysis

EDDY CURRENT TESTING

- 1. Metallurgy of Steel**
 - Steel
 - Heat Treatments
 - Prod. of Carbon Steels
 - Study of Defects
- 2. Basic Physical Principles**
 - Electricity
 - Magnetism
 - Electromagnetism
 - Measurement units
- 3. Method Principles**
 - Eddy current method
 - Eddy current properties
 - Factors affecting Eddy Curr.
 - Impedance changes
 - Impedance diagrams
- 4. Examination Equipment**
 - Examination system
 - Probes
 - Instruments
 - Reference standards
- 5. Examination Procedure/ Results**
 - Surface inspections
 - Welding inspection
 - Tube inspections (internal)
 - Tube/bar inspections (external)
 - Measuring thickness
 - Measuring conductivity

VISUAL TESTING

- 1. Metallography / Defects**
 - Manufacturing Defects
 - Welding Defects
 - Service Induced Defects
 - Metallography

- 2. Optical and Photometry**
 - Physiology of Vision
 - Optical Principles
 - Photometry
- 3. Equipment and Tools**
 - Measuring Instruments
 - Temperature Indicators
 - Vision Tools / Endoscopes

- 4. Basic Principles**
 - Examination Procedures
 - Basic Principles of Exam.
 - Safety Aspect
- 5. Visual Inspections**
 - Steel products
 - Welded joints
 - Connection elements
 - Tubes/Valves/Pumps

- 6. Examples of Visual Inspection**
 - Inspection in automotive industry
 - Inspection of oil tanks
 - Visual inspection of steel bridges
 - Automotive industry
 - Power Generation and plant
 - Aerospace
 - Building and Construction

Minimum system requirements

- Microsoft Windows® Operating System
- CD-ROM / DVD Drive
- Audio System