



MAIRODI MANDIRI SEJAHTERA

TRAINING, CONSULTING & ENGINEERING SERVICES

Alamat: Gedung Dapenpos Lt.2, Jl. PH.H. Mustofa No.35 Bandung 40124

Telp: 022-7215416, Homepage: www.pelatihan-indonesia.id

Training Syllabus

NON DESTRUCTIVE TEST (NDT) LEVEL I

Liquid Penetrant Testing (PT), Magnetic Particle Testing (MT) & Ultrasonic Testing (UT)

TRAINING MATERIAL OUTLINE :

1. An overview of Non Destructive Testing (NDT)

- 1) The NDT approach
- 2) The need for testing
- 3) NDT methods
- 4) Methods and Standards selection
- 5) Detecting discontinuities
- 6) Surface
- 7) Subsurface
- 8) Contrast with Destructive Testing
- 9) An interpretive technology
- 10) Certification of technicians
- 11) Test variables
- 12) Improving test results
- 13) Standards for comparison
- 14) Automation

2. Liquid Penetrant Testing (PT)

- 1) Selecting Liquid Penetrant Testing (PT)
- 2) Advantages
- 3) Disadvantages and limitations
- 4) Basic Technique
- 5) Leak detection
- 6) Types of PT
- 7) Sensitivity
- 8) Sensitivity categories
- 9) Test Panels
- 10) Methods of removal
- 11) Developers
- 12) Equipment
- 13) Portables equipment
- 14) Stationary equipment
- 15) Small parts testing units
- 16) Automated testing systems
- 17) System concepts precaution
- 18) Personal requirements

3. Magnetic Particle Testing (MT)

- 1) Advantages
- 2) Disadvantages
- 3) Basic MT process
- 4) Preparation of parts
- 5) Magnetization
- 6) Application of particles
- 7) Assessment of discontinuities
- 8) Demagnetization
- 9) Cleaning and surface protection
- 10) MT methods
- 11) Continuous



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- 12) Residual
- 13) Properties of MT
- 14) Dry powder
- 15) Wet suspension
- 16) Comparison of wet and dry
- 17) Methods
- 18) Advantages of the dry method
- 19) Advantages of the wet method
- 20) Methods of magnetization
- 21) Longitudinal magnetization
- 22) Induced current magnetization
- 23) Circular magnetization
- 24) Equipment
- 25) Magnetizing equipment
- 26) Coils and insulated conductors
- 27) Yokes
- 28) Prods and clamps
- 29) Bench testing
- 30) Magnetic field indicators
- 31) Interpretation of indications
- 32) Spurious indications
- 33) Discontinuity indications
- 34) Meter readings and current flow
- 35) Personnel requirements
- 36) Other electromagnetic approaches

4. Ultrasonic Testing (UT)

- 1) Advantages
- 2) Disadvantages
- 3) Ultrasonic principles
- 4) Acoustics
- 5) Transducers
- 6) Piezoelectric effect
- 7) Detection of discontinuities
- 8) Pulse-echo technique
- 9) Resonance technique
- 10) Through-transmission technique
- 11) Displays
- 12) A-scan presentation
- 13) B-scan presentation
- 14) C-scan presentation
- 15) Factors affecting UT
- 16) Effects of temperature changes
- 17) Sensitivity
- 18) Resolution
- 19) Dead zone
- 20) Propagation of ultrasonic waves
- 21) Near field and far field
- 22) Sound attenuation in the far field
- 23) Ultrasound and material interfaces
- 24) Acoustic impedance
- 25) Couplant
- 26) Probe designs



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- 27) Normal angle compressional probe
- 28) Shear and surface wave probes
- 29) Paintbrush transducers
- 30) Water Immersion probes Thickness gages
- 31) Gates
- 32) Phased arrays
- 33) Calibration of equipment

PERSYARATAN :

1. Minimum Pendidikan Sarjana Muda Teknik atau SMK Mesin/Listrik/IPA
2. Sehat jasmani & rohani

VENUE : Bandung (Kagum Group Hotel, Asmila Hotel, Tebu Hotel, Panen Hotel, Fox Harris Hotel, Best Western Hotel, Noor Hotel, Amarossa Hotel, dll)

TRAINING DURATION : 10 days

TRAINING TIME:

Januari 2024	Februari 2024	Maret 2024	April 2024
3 - 13 Jan 2024	12 - 22 Feb 2024	12 - 22 Mar 2024	22 Apr – 2 Mei 2024
15 - 25 Jan 2024	26 Feb – 7 Mar 2024	25 Mar – 4 Apr 2024	
29 Jan – 8 Feb 2024			
Mei 2024	Juni 2024	Juli 2024	Agustus 2024
6 - 16 Mei 2024	3 - 13 Juni 2024	1 - 11 Juli 2024	12 - 23 Agus 2024
20 - 30 Mei 2024	19 - 29 Juni 2024	15 - 25 Juli 2024	26 Agus – 5 Sep 2024
		29 Juli – 8 Agus 2024	
September 2024	Oktober 2024	November 2024	Desember 2024
9 - 19 Sep 2024	7 - 17 Okt 2024	4 - 14 Nov 2024	2 - 12 Des 2024
23 Sep – 3 Okt 2024	21 - 31 Okt 2024	18 - 28 Nov 2024	16 - 25 Des 2024

INVESTMENT PRICE/PERSON :

1. Rp. 13.500.000/person (full fare) or
2. Rp. 13.250.000/person (early bird, payment 1 week before training) or
3. Rp. 12.950.000/person (if there are 3 persons or more from the same company)

FACILITIES FOR PARTICIPANTS :

1. Training Module
2. Flash Disk contains training material
3. Certificate ASNT
4. Stationeries: NoteBook and Ballpoint
5. T-Shirt
6. Backpack
7. Training Photo
8. Training room with Full AC facilities and multimedia
9. Lunch and twice coffeekbreak every day of training
10. Qualified Instructor



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CORRESPONDENCE :

Untuk korespondensi atau komunikasi dapat menghubungi :

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