

VISUAL TESTING LEVEL II COURSE OUTLINE

Visual Testing Level II Course – 24 hours

1.0 Introduction

Introduction to T.E.S.T. NDT, Inc.

Personnel Certification Requirements – ASNT and FAA certification requirements

Introduction to Visual Testing

- Eye
- Perception
- Lighting
- Lighting - Measurement
- Inverse Square Law
- Lambert Cosine Law
- Lighting - Recommended Levels
- Lighting - Techniques

Terminology

2.0 Overview of Manufacturing Processes and Discontinuities & Defects

- Production of Raw Materials
 - iron/steel and aluminum
 - Inherent discontinuities
- Castings – Sand – Permanent mold – die cast – investment
 - Castings discontinuities – porosity, inclusions, cold shuts, hot tears, shrinkage, mis run, coreshift, unfused chills & chaplets
- Wrought products (forging & rolling)
 - Discontinuities associated with Forging & rolling (wrought products) – bursts, laps
- Welding – SMAW, GMAW, GTAW, SAW, ESW, Soldering, brazing – joint types – Weld types – welding symbol
- Machining – Turning, milling, boring, grinding

- Processing Stages
 - Rolling
 - Rolling Discontinuities
 - Forging
 - Forging Discontinuities

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- Casting
- Casting Discontinuities
- Welding
- Welding Discontinuities
- Machining
- Machining Discontinuities
- In-Service Discontinuities

3.0 Inspection Tools and Techniques

- Lighting
- Mirrors
- Magnification
- Surface Finish Measurement
- Metrology (Measurement) Instruments
 - micrometers, vernier calipers, dial calipers, digital calipers, radius gages, thread gages, steel rules, surface roughness
- Optical Comparators
- Borescopes
- Fiberscopes
- C.C.D. Videoscopes
- Weld inspection Gages

4.0 Other Considerations

- Inspection Procedures
- Recording V.T. Results
- Replication
- Sampling Plans

5.0 Advanced Remote Visual Inspection Equipment

6.0 Final Review and End of Course Test

TEST NDT does not have any pre-requisites for attending any of our courses, it is entirely up to the attendee to determine whether the course is suitable for their needs and whether they are capable of achieving the standards. Please study the applicable course outline and decide if the course is suitable for your needs before enrolling, if in doubt, please contact us to discuss. For employer funded attendees, please discuss the suitability of any of the courses with your employers responsible NDT level 3 before enrolling.