


DOCUMENT NAME	Course Curriculum					
DOCUMENT NO	RT-FM-T-10	REVISION	0	PAGE NO	Page 1 of 1	
ISSUE DATE	7-2-2017	REVISED DATE	NA			

ROYAL TECH TRAINING & CONSULTANCY

Method & level	Liquid Penetrant Testing- Level 3
Course Duration - Days & Hours	3 Days - 30Hrs * (duration depends on the gap analysis)
Revision & Updated on	Rev 0- Updated on 7-4-23

PCN Level 3 Dye Penetrant Inspection

Duration: 3 days (30 hours) Minimum

Course Overview:

This course provides theory and practical work on test pieces and industrial components, with emphasis on interpretation of defect indications, also comparing sensitivity of the visible and fluorescent methods. Using portable, stationary equipment as required. Dye Penetrant Inspection is a widely applied and method used to locate surface-breaking defects in all non-porous materials (i.e. metals, plastics, or ceramics) using dye. Candidates will gain an enhanced understanding of PT that will enable them to implement this NDT method competently.

Course Content:

1. Basics of NDT, classifications of NDT
2. History and principles of PT- Physical properties of penetrant materials- principles
3. Surface cleaning techniques
4. Penetrant Classification- removal of excess penetrant- Advantages and Limitations of Penetrant Methods
5. Developer- properties -Classification of Developers
6. Inspection Techniques - Penetrant material family classification, Penetrant inspection processing parameters
7. Penetrant Equipment's- Auxiliary equipment's - Viewing conditions -equipment and familiarization,
8. Maintenance of Materials & Quality control check-process control-reference blocks
9. indication –Interpretation & Recording -Origin and nature of discontinuities
10. Product technology- welding, casting, forging, wrought and its associate defects
11. Inspection & reporting of welds, casting, wrought products using Visible , fluorescent penetrant of various types of weld joints using various methods
12. Daily assessment and EOC assessment

Course Objectives:

1. Understand the basic principles of Dye Penetrant Inspection
2. Selection Pre cleaning techniques, parameters and its implementation as per the equipment
3. Understanding various equipment's and its applications
4. understanding calibrations, inspections, technique selection, planning
5. Carry out penetrant inspection of welds, casting, forgings using water washable, post emulsifiable, solvent removable processes if candidate do not hold Level 2
6. Process control checks, calibration and validation process
7. Duties and Responsibilities of an certified PT Level 3
8. Demonstrating the ability and competence to evaluate, interpret results in terms of standards, codes, specifications
9. Understanding the various product forms and its inspection methodology with PT
10. Guidelines for procedure using the codes , Establishing the procedure, acceptance criteria when not available and guidance to all levels
11. Meet the syllabus requirements for PCN Level 3 as per PCN GEN Appendix Z1 and E2

Experience:

24 months experience required in order to gain full qualification.