


<b>DOCUMENT NAME</b>	<b>Course Curriculum</b>					
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# ROYAL TECH TRAINING & CONSULTANCY

Method & level	Liquid Penetrant Testing- Multisector & Level 2
Course Duration - Days & Hours	4 DAYS - 40 HOURS
Revision & Updated on	Rev 4- Updated on 7-4-23

## PCN Level 2 Dye Penetrant Inspection

**Duration:** 4 days (40 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. Practical exercise and Daily assessment

### Course Objectives:

1. Understand the basic principles of Dye Penetrant Inspection
2. Selection Pre cleaning techniques
3. Selection of penetration inspection techniques
4. Understanding various equipment's and its applications
5. Carry out penetrant inspection of welds, casting, forgings using water washable, post emulsifiable, solvent removable processes
6. Process control checks
7. Guidelines for written instruction, codes and test reports
8. Meet the syllabus requirements for PCN Level 2 as per PCN GEN Appendix Z1 & E2

### Experience:

4 months experience required in order to gain full qualification.