


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

Method & Level	Time of Flight Diffraction Ultrasonic Testing – Level 3
Course Duration - Days & Hours	4 Days - 40Hrs * ( duration depends on the gap analysis)
Revision & Updated on	Rev 1- Updated on 17-1-22

### **PCN Level 3- Time of Flight Diffraction Ultrasonic Testing**

**Duration: 4days (40 Hours)**

#### **Course Overview:**

The course is designed to provide guidance for preparing TOFD LEVEL 3 examination as per PCN requirements for welds sector. The aim of this course is to ensure candidates understand the scope of the examination, theory concepts & procedure requirements as per CP 25. On arrival, Mock test on the method is conducted and gap analysis report is prepared based on the outcome of mock test. This will also enable candidates to identify their weak subject areas. Training duration is decided based on the weak areas and candidate requirement.

#### **Course content**

1. Introduction, history of TOFD, advantages, limitation, application
2. TOFD fundamentals, principles, signals, advantages, limitations, TOFD calculations, dead zones
3. Techniques, probes, coverage, its implications
4. Set up, calibration, equipment's, faults, Selection of parameters for TOFD technique on welds
5. Digitisation, electronics of equipment, displays
6. Errors in TOFD, quality assessment and its parameters, data analysis- classifications of defects
7. Creation of scan plan
8. Scan plan, Selection of parameters, Calibration, blocks and Validation blocks
9. Understanding Specifications, procedures, techniques, Analysis of codes, standards, Procedure writing
10. Daily assessment and End of course examinations

#### **Course objective**

1. Understanding the physics of ultrasound, Diffraction techniques, dead zone, time of flight calculations, set up, scan plan, calibration, coverage, digitisations, display views & its applications
2. Duties and Responsibilities of an certified TOFD Level 3
3. Demonstrating the ability and competence to evaluate and interpret results in terms of existing standards, codes, and specifications
4. Understanding the various products and its inspection methodology with ToFD
5. Selection of parameters, techniques and its implementation as per the requirement
6. Establishing the procedure, acceptance criteria when not available and guidance to all levels
7. calibration and validation process
8. Meet the syllabus requirements for PCN Level 3 as per PCN/GEN Appendix C4

#### **Eligibility & Experience:**

1. 36 months experience in TOFD required in order gaining full qualification.
2. PCN UT Level 3 or any BINDT recognised UT Level 3 qualification is mandatory to be eligible for TOFD Level 3 exam
3. PCN TOFD Level 2 or any BINDT recognised TOFD Level 2 qualification is mandatory to be eligible for TOFD Level 3 exam
4. Refer PSL-68\_PCN eligibility for holders of other certification for TOFD Level -2 exams