

	KIT for Engineering Innovation Training Programs	Address: 8 Riyad Shams - 8th area - Nasr city Website: www.ki.tegy.com Phone: 01012000780 – 01012000760 Email: info@kit-eg.com
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Course Title	Ultrasonic test- thickness measurment (UT-TM) level 2
Product Sector	C: Castings, T: Tubes, incl. fl at products for the manufacture of welded tubes and tubes, W: Welded Products , F: Forgings, WP: Rolled Products
Category	DIN EN ISO 9712 Non-Destructive Testing (NDT)
Course Number	KIT-ISO 260
Duration	4 Days
Certificate	Expert for Personnel of non-destructive testing according to DIN EN ISO 9712:2022-09 with TUV Rheinland Certified Qualification
Exams Elements	1- General Exam: 40 Questions (MCQ) 2- Specific Exam 2.1-Multi sectors 30 Questions (MCQ) 2.2-One Sector 20 Questions (MCQ) 3- Practical Exam: Shall passed for at least 2 specimens & reporting 4- Procedure Exam

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Day 1	Day 2	Day 3	Day 4
Welcome, organization, instruction, qualification and certification according to DIN EN ISO 9712	Knowledge test 1 followed by Discussion , (discussion) Repetition of the previous day	Knowledge test 2 followed by a knowledge test Discussion (discussion), Repetition of the previous day	Knowledge test 3 followed by a knowledge test Discussion (discussion), Repetition of the previous day
Principles/Theory General	Equipment/Materials Equipment	Basic instrument calibration Calibration blocks Digital thickness instrumentation Transducer operation and theory	Materials Couplant Purpose and principles
Nature of sound waves Modes of sound wave generation	Pulse-echo instrumentation Controls and circuits Pulse generation Resonance testing equipment Thickness testing	Piezoelectric effect Types of crystals Frequency (crystal-thickness relationships) Types (straight, angle, single, dual, etc.)	Material and their efficiency Calibration blocks
Principles of acoustics Acoustic impedance Reflections	Signal detection Display and recording methods, A-scan, B-can, C-scan and digital Sensitivity and resolution Gates, alarms and attenuators Types (straight, angle, single, dual, etc.)	Resonance testing equipment Thickness testin	Cables/connectors Test specimen Miscellaneous materials
Presentation of test equipment and execution of the test	Presentation of test equipment and execution of the test	Presentation of test equipment and execution of the test	Presentation of test equipment and execution of the test