

	KIT for Engineering Innovation Training Programs	Address: 8 Riyad Shams - 8th area - Nasr city Website: www.kit.egy.com Phone: 01012000780 – 01012000760 Email: info@kit-egy.com
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Course Title	Ultrasonic Testing Level 1
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 255
Duration	8 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	Day 5
Welcome, introduction, organization, instruction, qualification, certification	Knowledge test 1 followed by Discussion (discussion), Repeat of the previous day	Knowledge test 2 followed by a knowledge test Meeting (discussion), repetition of the previous day	Knowledge test 3 followed by Discussion (discussion), Repeat of the previous day	Knowledge test 4 followed by Meeting (discussion), repetition of the previous day
Basics / terms of ultrasonic testing	Structure of vertical transducers, associated sound fields	Sheet metal testing and half-value method	Reflection and refraction	Error triangle, arithmetic exercises for oblique beam
Simple arithmetic exercises	Calculating and recording sound fields	Sensitivity adjustment for vertical radiation	Construction of angle probes, sound fields	Distance adjustment with angle probes on calibration specimens 1 and 2
Introduction to device technology, distance adjustment	Wall thickness measurement with vertical transducers and SE transducers	Sheet metal inspection, detection of hidden irregularities	Basics of oblique beam	Locating reflectors with oblique beam
Device control – horizontal / vertical deflection according to DIN EN ISO 22232-3	Measurement of the speed of sound	Sheet metal inspection, sizing of concealed irregularities using the half-value method (HWM)	Exercises for reflection and refraction	Locating reflectors with oblique beam

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Day 6	Day 7	Day 8		
Knowledge test 5 followed by Discussion (discussion), Repeat of the previous week	Knowledge test 6 followed by Discussion (discussion), Repeat of the previous day	Final test followed by a final test. Meeting (discussion)		
Object science and testing technology for forgings	Object Science and Testing Technology for Welded Joints	Object science and testing technology for castings, Diving technique		
Secondary and additional echoes in perpendicular radiation	Comparison Lines – Method (DAC), Transfer Correction	Resolving power in casting inspection		
Secondary Echoes in Axial Perpendicular Radiation	Recording a comparison line	Measurement of the speed of sound on casting materials		
Additional echoes in radial perpendicular radiation	Weld seam inspection with comparison line	Casting testing / forging testing according to test instructions		

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Course Title	Ultrasonic Testing 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 256
Duration	10 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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1 Day	2 Day	3 Day	4 Day	5 Day
Welcome, introduction, organization, instruction, qualification, certification	Knowledge test 1 followed by Discussion (discussion), Repeat of the previous day	Knowledge test 2 followed by a knowledge test Meeting (discussion), repetition of the previous day	Knowledge test 3 followed by Discussion (discussion), Repetition of the previous day	Knowledge test 4 followed by Meeting (discussion), repetition of the previous day
Physical Basics of Ultrasonic Testing	Expansion of reflectors, reference body method	Presentation of the AVG method	Sound attenuation, transfer correction	Test reports, documentation
Device and test system control according to DIN EN ISO 22232-1 / -2 / -3	Calibration bodies 1 and 2 according to DIN EN ISO 2400 and 7963, DIN EN ISO 16810, DIN EN ISO 16811	Working with the AVG Method	Limits of the AVG Method	Selection of test parameters
Distance and Size Laws for Cross Holes	Perpendicular Radiation – Half-Value Expansion, Reference Line (DAC)	Perpendicular Radiation - Reference Line	Evaluation with SE Transducer - Flat Bottom Drilling	Sound attenuation measurement with angle probes Sound attenuation correction according to the AVG method
Distance and Size Laws for Circular Discs	Oblique Radiation - Comparison Line	Oblique Radiation - Reference Line	Transfer Correction - Sound Attenuation Measurement with Perpendicular Transducers	Echo Pitch Rating with the General AVG Diagram

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6 Day	7 Day	8 Day	9 Day	10 Day
Knowledge test 5 followed by Discussion (discussion), Repeat of the previous week	Knowledge test 6 followed by Discussion (discussion), Repeat of the previous day	Knowledge test 7 followed by Meeting (discussion), repetition of previous day	Knowledge test 8 followed by Meeting (discussion), repetition of previous day	Knowledge test 9 followed by Meeting (discussion), repetition of previous day
Object science and testing technology for forgings, DIN EN 10228-3	Object science and testing technology for welded joints, DIN EN ISO 17635, DIN EN ISO 17640, DIN EN ISO 11666	Object Science and Testing Technology for Welded Joints	Object science and testing technology for castings	Repetition prakt. Exercises on welds
Testing of a forging with the DAC method (oblique beam)	Inspection of flat surfaces	Inspection of curved surfaces	Introduction to DIN EN 12680-1 / -3	Repetition prakt. Exercises on forgings
Testing of a forging with the AVG method (vertical beam)	Inspecting a Flat Weld with the AVG Method	Weld seam inspection with the AVG method (various geometries)	Testing and evaluating a casting	Repetition prakt. Exercises on castings
Testing of a forging with the AVG method (oblique beam)	Inspecting a Flat Weld with the DAC Method	Weld seam inspection with the DAC method (various geometries)	Testing and evaluating a casting	Final test followed by a final test. Meeting (discussion)