## Eddy current testing (ET) — Levels 1, 2 and 3

The eddy current testing training shall be in accordance with Tables 5 and 6. (ISO/TS 25107:2019(E))

Conten	t	Level 1 (% of total duration)	Level 2 (% of total duration)	Level 3 (% of total duration)
7.1 eddy cr	Introduction to terminology and history of urrent testing (ET)	1	1	2
7.2 associa	Physical principles of the method and ted knowledge	15	16	17
7.3 method	Product knowledge and capabilities of the l and its derived techniques	10	10	15
7.4	Equipment	24	17	15
7.5	Information prior to testing	4	19	26
7.6	Testing	37	19	4
7.7	Evaluation and reporting	5	8	8
7.8	Assessment	0.0	4	4
7.9	Quality aspects	4	4	4
7.10	Developments	0.0	2	5

## Table 5 — General content

## Table 6 — Eddy current testing (ET) — Levels 1, ${f 2}$ and 3

Content			Level 1	Level 2	Level 3
7.1	History		Х	Х	Х
Introduction to	Purpose of NDT	What is testing?	Х	Х	Х
terminology		What is the purpose of NDT?	Х	Х	Х
and history of eddy current		A p	Х	Х	Х
testing (E T)		F	Х	Х	Х
		V	Х	Х	Х
		Λ	Х	Х	Х
	Purpose of eddy	I	Х		
	current testing (ET)	Ā	Х		
7.2 Physical	Electricity	I	Х	Х	Х
principles and		-	Х	Х	Х
associated		-	Х	Х	Х
knowledge		-	Х	Х	Х
concepts		-	Х	Х	Х
necessary for		-	Х	Х	Х
understanding		-	Х	Х	Х
the physical		- Conductivity	Х	Х	Х
principles of		Units	Х	Х	Х
eddy current		— Conductivity values for some	Х	Х	Х

(physics,		metals			
mathematics)		Alternating current	Х	Х	Х
may be the		— Sinusoidal current	X X	X X	X X
object of a		— Voltage	Х	Х	Х
preliminary		— Amplitude	X	Х	X X
course		— Frequency	X	X	X
		- Period	X	X	X
		Disease	X	X	X
				X	X
		(			X
	Magnetism	<u>}</u>	X	Х	X X
	Magnetishi			X	X
		7	X	X	X
			X	X	
		-	X	X	X X
		-	X	X	X
			X X	X	X
			X	X	X
				X	X
		1		X	X
		1		X	X
		K		X	X
				X	Х
	Electromagnetism	Г С	X	Х	Х
		1	X	X	Х
			X	X	X
		7		X	
			X	X	X X
		1	X	X	X
		8	X	X	X X
		1	X	X	X
		Î	X	X	X
		1			
				X	Х
		17 ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) (	X		
		- P		Х	Х
		-	Х	Х	Х
		-	Х	Х	Х
		C		Х	X X
		-	Х	Х	Х
		F		Х	Х
		Impedance	X	X	X
		— Complex plane representation		X	X
		— Impedance plane diagrams		X	X
		impedance plane diagrams	_ <b>I</b>	2 <b>1</b>	1

	Alternative	Pulsed eddy current				X
	techniques	Magnetic field sensors				Х
	_	Alternating current field				Х
		measurement				
	Circulation	Remote field eddy currents				Х
	Simulation	Analytical calculation of edd current tests	У			Х
7.3 Product knowledge	Defectology	Manufacturing related			Х	Х
and related		S	es		Х	Х
capability of the method		N	g		Х	Х
and derived		-			Х	X
techniques		-			Х	Х
		P i	ng		Х	Х
		- f:	0		Х	Х
		•			Х	X
		-			X	X
		-			Х	Х
		-			Х	Х
		P	_		Х	
		-	_		X X	
		-			X X	
		-	0			
		r:	<u>,</u>		X	
		-	_		Х	
		a			Х	
		-			Х	
	Applications of eddy current testing	N C n S(				
		c h tl c i	дa	Х	Х	Х
		L c tl		Х	Х	Х
	Capabilities	D		Х	Х	Х
		Conductive materials		X	X	X
		Non-contact		X	X	X
		High speed		X	X X	X X X
		High temperature		Х	X	X

		Multiplexed arrays		Х		
		Mechanized		X	X	X
	Techniques	Single frequency		X	X	X
	reeninques	Multifrequency		X	X	X
		Multiparameter		$\frac{\Lambda}{X}$	X	
		Pulsed current		Λ	X	X X
		Multiployed orrays			X	X X
		Decode links			X	X
		C			Λ	Λ
		i.			Х	Х
			20		Λ	Λ
	Codes and	C.	-3			
	standards				Х	Х
7.4 Equipment	Eddy current	T		Х	X	X
7.4 Equipment	testing system	C		Λ		
	testing system	e			Х	Х
		S			X	X
		-			11	X
						X
		T.				Х
		N			X	X
		P	-	Х	X	X
		1	_	21	X	X
		-	ve		X	X
		-			X	X
		-			X	X X
		-			X	X
		-				
		2			Х	Х
		N		Х	X	X
			-	X	X	X X
		-	-	X	X	X
				11	X	X
	Output and signal			Х	X	X
	display			X	X	X
		-		X	X	X
	Reference blocks	Ν		X	X	X
		Ī		41	X	X
		P			X	X
		S			X	X
	Codes and					
	standards				Х	Х
7.5	Information about	V		Х		
Information	the test object	Identification or designatio				
prior to testing		material		Х	Х	Х
r-tot to tooting		— Object to be tested		Х	X	X
		— Kind of manufacture		X	X	X
		— Catalogue of defects		11	X	X
		Cuturogue of defects			1	11

		— Extent of test coverage			Х	X
	Test conditions	Accessibility			X	X
	and application of	Temperature			Λ	X
	standard					
	stanuaru	Humidity				X
		Availability				X
		Unwanted interfering signals	3			Х
		Blectric and/or magnetic				Х
		C				v
		D			V	X
					X X	X X
		E C			Λ	Λ
		D li	ce			Х
		C				
		S			Х	Х
		R	el		Х	Х
		A			X	X
	Technique and	S			X	
	sequence of	S			X	
	performing test	D			X	
	performing test	1			X	
		I D			X X	
	Tu stars sti s a s	R D			Λ	v
	Instructions	P	ure			Х
		P ir			Х	
		P				
		a		Х		
		i				
		D				Х
		P				Х
7.6 Testing	Probe selection as	P			Х	X
-	a result of 7.5	-			Х	Х
		-			Х	Х
		_			X	X
			ht		X	X
			Silt		X	X X
					X	V
		-			X	X X
	Operating					
	Operating and a				X	X
	conditions as a result of $7.5$	-			X	X
	result of 7.5	-			X	X
					X	X
		— Interiering signals			Х	Х
		— Electric and/or magnetic disturbances			Х	Х
	Parameters	Excitation frequency		Х	Х	Х
		Auxiliary frequencies		Х	Х	Х

		Probe speed		Х	Х	Х
		Probe clearance		Х	Х	X
		Probe vibration		Х	Х	Х
		Probe centering		Х	Х	X
	Adjustment curves			Х	Х	Х
	Settings	Data acquisition		Х	Х	Х
	C C	V			Х	Х
		V		Х	Х	
7.7 Evaluation	Reporting	R			Х	X
and reporting		E		Х	Х	Х
	Evaluation	C i			Х	Х
		-			Х	X X
		-			Х	X
		-			Х	Х
7.8 Assessment	Evaluation and confirmation of	A S	to tes		Х	Х
	test reports	1	ne			Х
7.9 Quality	Factors affecting	P		Х	Х	Х
aspects	quality of testing	-		Х	Х	X
		- C	nd			Х
		Р р				Х
		C				Х
		A il				Х
		12	12		v	
		L V	n		X	
		i		Х		
					X	X
	Veenlederef	K	-		X	X
	Knowledge of	T	-		X	
	applicable NDT application and	L.	8		X	v
	product standards	T		v	X X	X X
	product stationalus	J		X X	X X	X X
7.10	General	Non-inclusion		Λ	Λ	X X
Developments	information	— Magneto-optical imaging				$\Lambda$ V
Developments	mormanon	— Magneto-optical imaging — SQUID				X X
		— Giant magneto-resistance				X
		Imaging Modelling				X X
		Modelling			l	Å