Visual testing (VT) — Levels 1, 2 and 3

The visual testing training shall be in accordance with Tables 15 and 16 (ISO/TS 25107:2019(E))

Table 15 — General content

Content	Level 1	Level 2	Level 3
Introduction to terminology and history of visual testing (VT)	3	4	8
Physical principles and associated knowledge	3	12	10
Product knowledge and capabilities of the method and its derived techniques	18	13	8
Equipment	12	8	8
Information prior to testing	3	8	21
Testing	12	12	5
Evaluation and reporting	37	19	10
Assessment	3	4	2
Quality aspects	6	12	22
Developments	3	8	6

Table 16 — Visual testing (VT) — Levels 1, 2 and 3

Content			Level 1	Level 2	Level 3
	History		X	X	X
	Purpose of NDT	What is testing?	X	X	X
		What is the purpose of NDT?	X	X	X
		A	X	X	X
		H	X	X	X
		V	X	X	X
		M	X	X	X
	Purpose of visual testing (VT)	I	X	X	X
		A	X	X	X
		F T	X	X	
		U c n	X	X	
	Terminology		X	X	X
Physical principles and associated knowledge	Fundamentals	C t	X	X	
		C d understanding of the physical principles and physics of light	X	X	X
		Optical performance	X	X	

		— Polarization of light	X	X	
		— Stroboscopic principles	X	X	
		— Dispersion	X	X	
		— Refraction and refractive index	X	X	
		— Reflection	X	X	
		— Fluorescence	X	X	
		— d w (te	X	X	X
	Vision	T	X	X	
		—	X	X	
		—	X	X	
		—	X	X	
		— on	X	X	
		—	X	X	
		—	X	X	X
		—	X	X	X
	Lighting	T	X	X	
		R	X	X	
		A	X	X	
		P	X	X	
		E	X	X	
		V	X	X	
		T	X	X	X
		—	X	X	X
		—	X	X	X
		L a			
		— o			X
		—		X	X
		—	X	X	X
		P	X	X	
		L	X	X	
		L	X	X	
		L	X	X	
		—	X	X	
		—	X	X	
		—	X	X	
	Optical principles	O		X	
		Operation of magnifiers		X	
		Image construction		X	
		Virtual images		X	
		Chromatic aberration		X	
		Geometric distortion		X	
		Magnification principles		X	

	Camera and photo sensor operation and principles	Optical filters			X
		Construction of digital images and problems			X
		Image processing			X
		Image analysis			X
		Image compression and			X
					X
					X
					X
					X
					X
	Principles of operation of fibre bundles and lenses				X
					X
	Photogrammetry				X
	Visual perception			X	
				X	
				X	
				X	
	Material attributes affecting the test		X	X	
			X	X	
			X	X	
			X	X	
			X	X	
			X	X	
			X	X	
			X	X	
			X	X	
			X	X	
	Environmental and physiological factors			X	
				X	
				X	
				X	
				X	
				X	
				X	
				X	
				X	
				X	
				X	
				X	
		Cleanliness		X	
	Direct and remote methods		X	X	
	Vision	Requirements	X	X	
		Employer's responsibility		X	

12 .3 Product knowledge and related capability of the method and derived techniques		Outline of basic flaws detected with visual testing as necessary to work in a specific sector	X		
		Evaluation of surfaces			X
		Test objects and flaws		X	X
		Basic production and		X	X
		T a		X	X
		P		X	X
		B p		X	X
		W		X	X
		C		X	X
		– n		X	X
		–		X	X
		–		X	X
		R			X
		D try o			X
		M		X	X
		–		X	X
		–		X	X
		– re		X	X
		–		X	X
		In		X	X
		–		X	X
		–		X	X
		–		X	X
		–		X	X
		–		X	X
		–		X	X
		–		X	X
	Capability and limitations of visual testing	C	X		
		D		X	
		–		X	
		–		X	
		–		X	
		–		X	
		–		X	
		–		X	
		– Lighting, effects		X	
	Associated techniques	Gauging		X	
		Comparators		X	
		Measurement		X	
		Thermographic imaging		X	
		Replication		X	

Equipment	Introduction and applications	Mirrors	X	X	X
		Magnifiers	X	X	X
		Borescopes	X	X	X
		Fibrescopes	X	X	X
	Photographic and video	I	X	X	
		V	X	X	
		L li	X	X	
		G	X	X	
		T	X	X	
		S	X	X	
		S			X
		A		X	X
		C		X	X
		D	X	X	
		R	X	X	X
		G		X	X
		E			X
		E fil a			X
		D or e			X
		–			X
		– on te			X
	Image recording, transfer and storage equipment	E		X	
		E		X	
		V	X	X	
		P m f e			X
	Sizing of indications	I		X	
		S		X	
		S ts (i re	X	X	
12.5 Information prior to test	Information about the test object	I f m		X	X
		–		X	X
		–		X	X
		–		X	X
		–		X	X
	Test conditions and application of standard	Accessibility		X	X
		Infrastructure		X	X
		Particular test conditions		X	X
		Application standard		X	X
		Stage of manufacture or service life when testing is to be carried out		X	X

		Standard and codes assigned to the test object		X	X
		Requirements of test personnel		X	X
		Acceptance criteria		X	X
	Technique and sequence of performing test	S		X	
		S		X	
		T nd d		X	
		P		X	
		V e u		X	
		D in		X	
		R ges		X	
	Instructions	P re			X
		P ion		X	
		P a in	X		
		D		X	X
		P c			X
12.6 Testing	Test set-up	D	X	X	
		R	X	X	
		A		X	
		V		X	X
		V		X	X
12.7 Evaluation and reporting	Reporting results	R	X	X	
		A	X	X	
		R of in	X	X	
		C	X	X	
		– ria	X	X	
		– n	X	X	
		– lts	X	X	
	Control and monitoring of test results	In		X	X
		E		X	X
		–		X	X
		–		X	X
		R s		X	X
		C ns		X	X
	Developing report forms	Organization of final forms			X
		Storage of final forms			X
		Distribution of final forms			X
		Investigation of suitable codes and product standards for each application			X
		Acting as a reference point for			X

		level 2 advice for interpretation and evaluation			
12.8 Assessment	Classification and assessment of observations	Acceptance criteria		X	X
		— Codes		X	X
		— Standards		X	X
		— Written instructions		X	X
		—		X	X
		—			X
		B		X	X
		B		X	
		A		X	
		R		X	
		R		X	
		A			X
		T s a i o b i			X
		F nce t c nd d			X
		T a			X
12.9 Quality aspects	Personnel qualification	I	X	X	X
		C c			X
	Documentation	F p			X
		C res			X
		A on, p			X
		D		X	
		W i	X		
		T		X	X
		R		X	X
	Knowledge of applicable NDT application and product standards	C		X	X
		U		X	X
		N			X
		J			X
		E	X	X	X
12.10 Developments	Importance of investigating current and developing				X

	technology and method of application				
	Summary of latest developments				X