Contents	Level 1	Level 2	Level 3
1.0 Introduction, Terminology, purpose and history of NDT	1.0 History Purpose	1.0 History Purpose	1.0 History Purpose
	1.1 Terminology Product family EN ISO 12706 Penetrant Developer Remover Reference block e.g.	1.1 Terminology Product family EN ISO 12706 Sensitivity level Post emulsifiable Dual purpose penetrant Background	1.1 Terminology Product family EN ISO 12706 Sensitivity level Post emulsifiable Dual purpose penetrant Background
2.0 Physical principles of the method and associated knowledge	2.0 Relevant standards: - EN 571-1: General principles Viscosity Bleed out Flash point Emulsification of penetrant Development Coloured and fluorescent penetrant	2.0 Relevant standards: - EN 571-1: General principles Viscosity Bleed out Capillarity Flash point Emulsification of penetrant	2.0 Relevant standards: - EN 571-1: General principles Physical basics of the method Superficial tension Viscosity Contact angle Vapour pressure

3.0 Product knowledge and capabilities of method and its derivate techniques	3.0 Typical defects according to the production process (forgings, castings, rolling, welding, …)	3.0 Typical defects according to the production process (forgings, castings, rolling, welding, …)	3.0 Typical defects according to the production process (forgings, castings, rolling, welding, …) Welding process, casting process, process of rolled bars
4.0 Equipment	4.0 Design and operation of penetrant installations and units Aerosol spray cans Dip installations, brushing, light sources, measuring units and reference blocks	4.0 Design and operation of penetrant installations and units Electrostatic systems, fluidised bed Aerosol spray cans Dip installations, brushing, light sources, measuring units and reference blocks (EN 3452-3 and EN 3452) Viewing condition (EN ISO 3059)	4.0 Design and operation of penetrant installations and units Semiautomatic and automatic systems Electrostatic systems, fluidised bed Aerosol spray cans Dip installations, brushing, light sources, measure units and reference blocks (EN 3452-3 and EN 3452-4) (According to various standards e.g. EN ISO 3452-4) Viewing condition (EN ISO 3059)

5.0 Information prior to testing	5.0 Verification that the test object is in suitable conditions for testing Written instructions are given	5.0 Information about the test object, prepare written instruction Identification or designation Material, dimensions, field of application Kind of product family, catalogue of defects Test conditions, Applicable standards and codes, assigned to the test object	5.0 Prepare written procedure. Identification or designation Material, dimensions, field of application Kind of product family, catalogue of defects Test conditions Applicable standards and codes assigned to the test object
6.0 Testing	6.0 Performance of the test According to written instruction	6.0 Preparation and performance of the test Preparation of written instructions according to EN 1371-1, EN 10228-2, EN 1289	6.0 Preparation of the test According to EN 571-1
7.0 Evaluation And Reporting	7.0 Test report Welding according to EN 1289 Casting according to EN 1371-1 Forging according to EN 10228-2 Rolled products	7.0 Check test report Welding according to EN 1289 Casting according to EN 1371-1 Forging according to EN 10228-2	7.0 Written procedure with check of test reports: Welding according to EN 571-1 Casting according to EN 1371 Forging according to EN 10228-2 `
	7.1 Basics of evaluation Viewing conditions according to EN ISO 3059 Reference block No 2 (according to EN ISO 3452-3)	7.1 Basics of evaluation Viewing conditions according to EN ISO 3059 Reference block Nos. 1 and 2 (according to EN ISO 3452-3)	7.1 Basics of evaluation Viewing conditions according to EN ISO 3059 Reference block Nos. 1 and 2 (according to EN ISO 3452-3)

	Verification the indication quality Report of simple welding, forging, rolled products and casting imperfections	Other used reference blocks Calibration of test units Batch test report	Other used reference blocks Calibration of test units
		7.2 Evaluation Verification the indication quality Report of discontinuities according to EN 1289, EN 1371-1, EN 10228-2	7.2 Evaluation Verification the indication quality
8.0 Assessment	8.0 Assessment of discontinuities Depth, width, shape, position, orientation	8.0 Assessment of discontinuities Influence of manufacture and material	8.0 Assessment of discontinuities Depth, width, shape, position, orientation
9.0 Quality aspects	9.0 Personnel qualification (according to EN ISO 9712) Equipment verification	9.0 Personnel qualification (according to EN ISO 9712) Equipment verification Written instructions Traceability of documents A review of applicable NDT application and product standards	9.0 Personnel qualification (according to EN ISO 9712) Equipment verification Format of working procedures Traceability of documents Other NDT qualification and certification systems A review of applicable NDT application and product standards

10.0 Environmental and Safety conditions	10.0 Disposing of chemicals Penetrants Developer Emulsifier Material of process excess removal Safety data sheet	10.0 Disposing of chemicals Penetrants Developer Emulsifier Material of process excess removal Safety data sheet Active carbon method, ultrafiltration method UV radiation, electrical hazard Disposal is regulated by national regulations	10.0 Disposing of chemicals Penetrants Soluble remover Developer Safety data sheet UV radiation, electrical hazard A review of applicable NDT application and product standards
11.0 Developments	(Not applicable)	Special installations Automotive installations (examples)	Creative and innovative special Installations Automotive installations (examples) Tube installations