

CU_CUPG-01_PTD Technical Specification - Annex No. 9 - List of used technical standards

The technical standards are listed in this order: 1/ DIN, 2/ ISO, 3/ EN and 4/ EN ISO, followed by alphabetical order of the technical standard number.

No.	Acronym	Brief description / meaning
1	DIN 17744	Wrought nickel alloys with molybdenum and chromium - Chemical composition.
2	DIN 17750	Strips and sheets of wrought nickel and nickel alloys – Properties.
3	ISO 15510	Stainless steels, chemical composition.
4	ISO 16143-1	Stainless steels for general purposes.
5	ISO 17577	Steel – Ultrasonic testing for steel flat products of thickness equal to or greater than 6 mm.
6	EN 764-5	Pressure equipment - Part 5: Inspection documentation of metallic materials and compliance with the material specification
7	EN 1011-(1-8)	Welding – Recommendations for welding of metallic materials.
8	EN 1518	Non-destructive testing - Leak testing - Characterization of mass spectrometer leak detectors.
9	EN 10204	Metallic products - Types of inspection documents
10	EN 10228-(3, 4)	Non-destructive testing of steel forgings.
11	EN 10296	Steels and nickel alloys for fasteners with specified elevated and/or low temperature properties.
12	EN 13018	Non-destructive testing – Visual testing – General principles
13	EN 13445	Unfired pressure vessels
14	EN 13479	Welding consumables, general product standard for filler metals and fluxes for fusion welding of metallic materials.
15	EN ISO 128	Technical product documentation (TPD) — General principles of representation
16	EN ISO 129	Technical product documentation (TPD) — Presentation of dimensions and tolerances
17	EN ISO 148-1	Metallic materials – Charpy pendulum impact test – Part 1: Test method.
18	EN ISO 1101	Geometrical product specifications (GPS) — Geometrical tolerancing — Tolerances of form, orientation, location and run-out
19	EN ISO 1779	Non-destructive testing - Leak testing - Criteria for method and technique selection.
20	EN ISO 2768-mK	General tolerances - Part 1: Tolerances for linear and angular dimensions without individual tolerance indications.
21	EN ISO 3274	Geometrical product specifications (GPS) - Surface texture: Profile method - Nominal characteristics of contact (stylus) instruments.
22	EN ISO 3452-(1-6)	Non-destructive testing – Penetrant testing.
23	EN ISO 3506-(1-2)	Mechanical properties of corrosion resistant stainless-steel fasteners.
24	EN ISO 3669	Vacuum technology — Dimensions of knife-edge flanges

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No.	Acronym	Brief description / meaning
25	EN ISO 3834-(1, 2, 5, 6)	<p>Quality requirements for fusion welding of metallic materials - Part 1: Criteria for the selection of the appropriate level of quality requirements.</p> <p>Quality requirements for fusion welding of metallic materials - Part 2: Comprehensive quality requirements.</p> <p>Quality requirements for fusion welding of metallic materials — Part 5: Documents with which it is necessary to conform to claim conformity to the quality requirements of ISO 3834-2, ISO 3834-3 or ISO 3834-4</p> <p>Quality requirements for fusion welding of metallic materials — Part 6: Guidelines on implementing ISO 3834</p>
26	EN ISO 4063	Welding and allied processes – Nomenclature of processes and reference numbers.
27	EN ISO 4136	Destructive tests on welds in metallic materials - Transverse tensile test.
28	EN ISO 4287	Geometrical product specifications (GPS) - Surface texture: Profile method - Terms, definitions and surface texture parameters.
29	EN ISO 4288	Geometrical product specifications (GPS) - Surface texture: Profile method - Rules and procedures for the assessment of surface texture.
30	EN ISO 4762	Hexagon socket head cap screws
31	EN ISO 5173	Destructive tests on welds in metallic materials - Bend tests.
32	EN ISO 5178	Destructive tests on welds in metallic materials - Longitudinal tensile test on weld metal in fusion welded joints.
33	EN ISO 5817	Welding, Fusion welded joints in steel, nickel, titanium and their alloys - Quality levels for imperfections.
34	EN ISO 6520-1	Welding and allied processes - Classification of geometric imperfections in metallic materials - Part 1: Fusion welding.
35	EN ISO 6892-(1, 2)	<p>Metallic materials - Tensile testing - Part 1: Method of test at room temperature.</p> <p>Metallic materials - Tensile testing - Part 2: Method of test at elevated temperature.</p>
36	EN ISO 6947	Welding and allied processes – Welding positions.
37	EN ISO 8015	Geometrical product specifications (GPS) - Fundamentals - Concepts, principles and rules.
38	EN ISO 9016	Destructive tests on welds in metallic materials - Impact tests - Test specimen location, notch orientation and examination.
39	EN ISO 9606-(1, 4)	<p>Qualification testing of welders - Fusion welding - Part 1: Steels.</p> <p>Qualification testing of welders - Fusion welding - Part 4: Nickel and nickel alloys.</p>
40	EN ISO 9712	Non-destructive testing – Qualification and certification of NDT personnel
41	EN ISO 10012	Measurement management systems - Requirements for measurement processes and measuring equipment
42	EN ISO 10160	Ultrasonic testing of steel flat product of thickness equal or greater than 6 mm.

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43	EN ISO 10307	Non-destructive testing - Ultrasonic testing of austenitic and austenitic-ferritic stainless steels flat products of thickness equal to or greater than 6 mm.
44	EN ISO 10675-1	Non-destructive testing of welds – Acceptance levels for radiographic testing – Part 1: Steel, nickel, titanium and their alloys.
45	EN ISO 11666	Non-destructive testing of welds – Ultrasonic testing – Acceptance levels.
46	EN ISO 13588	Non-destructive testing of welds - Ultrasonic testing - Use of automated phased array technology.
47	EN ISO 13715	Technical product documentation - Edges of undefined shape - Indication and dimensioning.
48	EN ISO 13916	Welding - Measurement of preheating temperature, interpass temperature and preheat maintenance temperature.
49	EN ISO 13918	Welding – Studs and ceramic ferrules for arc stud welding.
50	EN ISO 13919-1	Electron and laser-beam welded joints – Requirements and recommendations on quality levels for imperfections – Part 1: Steel, nickel, titanium and their alloys – required quality grade B. <i>(This standard is required by the Buyer only if the Seller decides to use electron beam welding for manufacturing of the extend of delivery.)</i>
51	EN ISO 13920	General tolerances for welded constructions – Dimensions for lengths and angles – Shape and position – required tolerance class A for dimensions and angles; tolerance class E for straightness, flatness and parallelism.
52	EN ISO 13925-(1-3)	Non-destructive testing - X-ray diffraction from polycrystalline and amorphous material.
53	EN ISO 14172	Welding consumables – Covered electrodes for manual metal arc welding of nickel and nickel alloys – Classification.
54	EN ISO 14175	Welding consumables – Gases and gas mixtures for fusion welding and allied processes.
55	EN ISO 14555	Welding – Arc stud welding of metallic materials.
56	EN ISO 14556	Metallic materials – Charpy V-notch pendulum impact test – Instrumented test method.
57	EN ISO 14732	Welding personnel – Qualification testing of welding operators and weld setters for mechanized and automatic welding of metallic materials.
58	EN ISO 15305	Non-destructive testing – Test method for residual stress analysis by X-ray diffraction.
59	EN ISO 15607	Specification and qualification of welding procedures for metallic materials – General rules.
60	EN ISO 15609-(1, 3)	Specification and qualification of welding procedures for metallic materials – Welding procedure specification – Part 1: Arc welding. Specification and qualification of welding procedures for metallic materials – Welding procedure specification – Part 3: Electron beam welding.

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No.	Acronym	Brief description / meaning
61	EN ISO 15611	Specification and qualification of welding procedures for metallic materials – Qualification based on previous welding experience.
62	EN ISO 15613	Specification and qualification of welding procedures for metallic materials – Qualification based on pre-production welding test.
63	EN ISO 15614	Specification and qualification of welding procedures for metallic materials – Welding procedure test
64	EN ISO 16810	Non-destructive testing - Ultrasonic testing - General principles.
65	EN ISO 16827	Non-destructive testing - Ultrasonic testing - Characterization and sizing of discontinuities.
66	EN ISO 17635	Non-destructive testing of welds – General rules for metallic materials
67	EN ISO 17636-(1, 2)	Non-destructive testing of welds - Radiographic testing - Part 1: X- and gamma-ray techniques with film. Non-destructive testing of welds - Radiographic testing - Part 2: X- and gamma-ray techniques with digital detectors.
68	EN ISO 17637	Non-destructive testing of welds - Visual testing of fusion-welded joints.
69	EN ISO 17639	Destructive tests on welds in metallic materials - Macroscopic and microscopic examination of welds.
70	EN ISO 17640	Non-destructive testing of welds – Ultrasonic testing, techniques, testing levels and assessment.
71	EN ISO 17663	Welding - Quality requirements for heat treatment in connection with welding and allied processes.
72	EN ISO 18274	Welding consumables – Solid wire electrodes, solid strip, solid wires and solid rods for fusion welding of nickel and nickel alloys – Classification.
73	EN ISO 18563-(1-3)	Non-destructive testing - Characterization and verification of ultrasonic phased array equipment.
74	EN ISO 19285	Non-destructive testing of welds - Phased array ultrasonic testing (PAUT) - Acceptance levels.
75	EN ISO 20484	Non-destructive testing – Leak testing – Vocabulary
76	EN ISO 20485	Non-destructive testing – Leak testing – Tracer gas method.
77	EN ISO 20486	Non-destructive testing – Leak testing – Calibration of reference leaks for gases
78	EN ISO 21920-(1-3)	Geometrical product specifications (GPS) - Surface texture: Profile.
79	EN ISO 22825	Non-destructive testing of welds - Ultrasonic testing - Testing of welds in austenitic steels and nickel-based alloys.
80	EN ISO 23277	Non-destructive testing of welds – Penetrant testing – Acceptance levels.
81	EN ISO 23279	Non-destructive testing of welds – Ultrasonic testing – Characterization of indications in welds.
82	PED 2014/68/EU	Directive of the European parliament and of the council on the harmonisation of the laws of the Member States relating to the making available on the market of pressure equipment.

... complementary

... highlighted for the Seller's attention