

Hitsausstandardien tilannekatsaus

Tässä tilannekatsauksessa esitetään teknisten komiteoiden ISO/TC 44, ISO/TC 44/SC 3, 5-15, IIW sekä CEN/TC 121 julkaisut ja työkohteet.

Jos julkaisusta tai työkohteesta on sekä ISO- että CEN-versio, tilannekatsaukseen on merkitty pelkästään CEN-versio. Komiteoiden CEN/TC 121 ja IIW kohteet on käsitelty aihealueittain kunkin ISO/TC 44/SC:n kohdalla.

Keltaisella on merkitty viime tilannekatsaukseen (22.9.2020) nähden muuttuneet tiedot. FI tarkoittaa, että julkaisusta on suomenkielinen käännös.

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1. Hitsausaineet

ISO/TC 44/SC 3 Welding consumables

Julkaisut:

FI	Tunnus	Otsikko
	EN ISO 1071:2015	Welding consumables -- Covered electrodes, wires, rods and tubular cored electrodes for fusion welding of cast iron -- Classification
	EN ISO 12153:2012	Welding consumables -- Tubular cored electrodes for gas shielded and non-gas shielded metal arc welding of nickel and nickel alloys -- Classification
	EN ISO 14171:2016	Welding consumables -- Solid wire electrodes, tubular cored electrodes and electrode/flux combinations for submerged arc welding of non alloy and fine grain steels -- Classification
FI	EN ISO 14172:2015	Welding consumables -- Covered electrodes for manual metal arc welding of nickel and nickel alloys -- Classification
FI	EN ISO 14174:2019	Welding consumables -- Fluxes for submerged arc welding and electroslag welding -- Classification
FI	EN ISO 14175:2008	Welding consumables -- Gases and gas mixtures for fusion welding and allied processes
	EN ISO 14341:2020	Welding consumables -- Wire electrodes and weld deposits for gas shielded metal arc welding of non alloy and fine grain steels -- Classification
	EN ISO 14343:2017	Welding consumables -- Wire electrodes, strip electrodes, wires and rods for arc welding of stainless and heat resisting steels -- Classification
	EN ISO 14344:2010	Welding consumables -- Procurement of filler materials and fluxes
	EN ISO 14372:2011	Welding consumables -- Determination of moisture resistance of manual metal arc welding electrodes by measurement of diffusible hydrogen
	EN ISO 15792-1:2020	Welding consumables -- Test methods -- Part 1: Test methods for all-weld metal test specimens in steel, nickel and nickel alloys
	EN ISO 15792-2:2020	Welding consumables -- Test methods -- Part 2: Preparation of single-run and two-run technique test specimens in steel
	EN ISO 15792-3:2011	Welding consumables -- Test methods -- Part 3: Classification testing of positional capacity and root penetration of welding consumables in a fillet weld
FI	EN ISO 16834:2012	Welding consumables -- Wire electrodes, wires, rods and deposits for gas shielded arc welding of high strength steels -- Classification
FI	EN ISO 17632:2015	Welding consumables -- Tubular cored electrodes for gas shielded and non-gas shielded metal arc welding of non-alloy and fine grain steels -- Classification
	EN ISO 17633:2018	Welding consumables -- Tubular cored electrodes and rods for gas shielded and non-gas shielded metal arc welding of stainless and heat-resisting steels -- Classification
FI	EN ISO 17634:2015	Welding consumables -- Tubular cored electrodes for gas shielded metal arc welding of creep-resisting steels -- Classification
	EN ISO 17777:2016	Welding consumables -- Covered electrodes for manual metal arc welding of copper and copper alloys -- Classification
FI	EN ISO 18273:2015	Welding consumables -- Wire electrodes, wires and rods for welding of aluminium and aluminium alloys -- Classification
FI	EN ISO 18274:2010	Welding consumables -- Solid wire electrodes, solid strip electrodes, solid wires and solid rods for fusion welding of nickel and nickel alloys -- Classification
FI	EN ISO 18275:2018	Welding consumables -- Covered electrodes for manual metal arc welding of high-strength steels -- Classification
	EN ISO 18276:2017	Welding consumables -- Tubular cored electrodes for gas-shielded and non-gas-shielded metal arc welding of high-strength steels -- Classification
	EN ISO 19288:2016	Welding consumables -- Solid wire electrodes, solid wires and rods for fusion welding of magnesium and magnesium alloys -- Classification
FI	EN ISO 21952:2012	Welding consumables -- Wire electrodes, wires, rods and deposits for gas shielded arc welding of creep-resisting steels -- Classification
	EN ISO 2401:2018	Welding consumables -- Covered electrodes -- Determination of the efficiency, metal recovery and deposition coefficient
FI	EN ISO 24034:2020	Welding consumables -- Solid wire electrodes, solid wires and rods for fusion welding of titanium and titanium alloys -- Classification
	EN ISO 24373:2018	Welding consumables -- Solid wires and rods for fusion welding of copper and copper alloys -- Classification
	EN ISO 24598:2019	Welding consumables -- Solid wire electrodes, tubular cored electrodes and electrode-flux combinations for submerged arc welding of creep-resisting steels -- Classification
FI	EN ISO 2560:2020	Welding consumables -- Covered electrodes for manual metal arc welding of non-alloy and fine grain steels -- Classification

EN ISO 26304:2018	Welding consumables -- Solid wire electrodes, tubular cored electrodes and electrode-flux combinations for submerged arc welding of high strength steels -- Classification
EN ISO 3580:2017	Welding consumables -- Covered electrodes for manual metal arc welding of creep-resisting steels -- Classification
EN ISO 3581:2016	Welding consumables -- Covered electrodes for manual metal arc welding of stainless and heat-resisting steels -- Classification
EN ISO 3690:2018	Welding and allied processes -- Determination of hydrogen content in arc weld metal
FI EN ISO 544:2017	Welding consumables -- Technical delivery conditions for filler materials and fluxes -- Type of product, dimensions, tolerances and markings
EN ISO 636:2017	Welding consumables -- Rods, wires and deposits for tungsten inert gas welding of non-alloy and fine-grain steels -- Classification
EN ISO 6847:2020	Welding consumables -- Deposition of a weld metal pad for chemical analysis
FI EN ISO 6848:2015	Arc welding and cutting -- Nonconsumable tungsten electrodes -- Classification
EN ISO 8249:2018	Welding -- Determination of Ferrite Number (FN) in austenitic and duplex ferritic-austenitic Cr-Ni stainless steel weld metals
ISO 20378:2017	Welding consumables -- Rods for gas welding of non alloy and creep-resisting steels -- Classification
ISO/TR 13393:2009	Welding consumables -- Hardfacing classification -- Microstructures
ISO/TR 22281:2018	Welding consumables -- International Institute of Welding (IIW) position statement on the use of trace element analyses in welding consumable specifications
ISO/TR 22824:2003	Welding consumables -- Predicted and measured FN in specifications -- A position statement of the experts of IIW Commission IX
EN 12074:2000	Welding consumables - Quality requirements for manufacture, supply and distribution of consumables for welding and allied processes
FI EN 13479:2017	Welding consumables - General product standard for filler metals and fluxes for fusion welding of metallic materials
FI EN 14532-1:2004	Welding consumables - Test methods and quality requirements - Part 1: Primary methods and conformity assessment of consumables for steel, nickel and nickel alloys
FI EN 14532-2:2004	Welding consumables - Test methods and quality requirements - Part 2: Supplementary methods and conformity assessment of consumables for steel, nickel and nickel alloys
FI EN 14532-3:2004	Welding consumables - Test methods and quality requirements - Part 3: Conformity assessment of wire electrodes, wires and rods for welding of aluminium alloys
FI EN 14700:2014	Welding consumables - Welding consumables for hard-facing

Tekeillä:

Tunnus	Otsikko	Vaihe
ISO 17633:2017/DAmD 1	Welding consumables — Tubular cored electrodes and rods for gas shielded and non-gas shielded metal arc welding of stainless and heat-resisting steels — Classification — Amendment 1	lausunto
prEN ISO 14172 rev	Welding consumables — Covered electrodes for manual metal arc welding of nickel and nickel alloys — Classification	työryhmä
prEN ISO 14344	Welding consumables — Procurement of filler materials and fluxes	työryhmä
prEN ISO 18274 rev	Welding consumables — Solid wire electrodes, solid strip electrodes, solid wires and solid rods for fusion welding of nickel and nickel alloys — Classification	työryhmä
prEN 14700 rev	Welding consumables - Welding consumables for hard-facing	työryhmä

Alustavat työkohteet:

Tunnus	Otsikko
ISO/PWI 14344	Welding consumables — Procurement of filler materials and fluxes
prEN 14532-1 rev	Welding consumables - Test methods and quality requirements - Part 1: Primary methods and conformity assessment of consumables for steel, nickel and nickel alloys
prEN 14532-2 rev	Welding consumables - Test methods and quality requirements - Part 2: Supplementary methods and conformity assessment of consumables for steel, nickel and nickel alloys
prEN 14532-3 rev	Welding consumables - Test methods and quality requirements - Part 3: Conformity assessment of wire electrodes, wires and rods for welding of aluminium alloys

2. Hitsien testaus ja tarkastus

ISO/TC 44/SC 5 Testing and inspection of welds

Julkaisut:

FI	Tunnus	Otsikko
FI	EN ISO 10675-1:2016	Non-destructive testing of welds -- Acceptance levels for radiographic testing -- Part 1: Steel, nickel, titanium and their alloys
FI	EN ISO 10675-2:2017	Non-destructive testing of welds -- Acceptance levels for radiographic testing -- Part 2: Aluminium and its alloys
	EN ISO 10863:2020	Non-destructive testing of welds -- Ultrasonic testing -- Use of time-of-flight diffraction technique (TOFD)
FI	EN ISO 11666:2018	Non-destructive testing of welds -- Ultrasonic testing -- Acceptance levels
FI	EN ISO 13588:2019	Non-destructive testing of welds -- Ultrasonic testing -- Use of automated phased array technology
	EN ISO 15626:2018	Non-destructive testing of welds -- Time-of-flight diffraction technique (TOFD) -- Acceptance levels
	EN ISO 15653:2018	Metallic materials - Method of test for the determination of quasistatic fracture toughness of welds
FI	EN ISO 17635:2016	Non-destructive testing of welds -- General rules for metallic materials
FI	EN ISO 17636-1:2013	Non-destructive testing of welds -- Radiographic testing -- Part 1: X- and gamma-ray techniques with film
FI	EN ISO 17636-2:2013	Non-destructive testing of welds -- Radiographic testing -- Part 2: X- and gamma-ray techniques with digital detectors
FI	EN ISO 17637:2016	Non-destructive testing of welds -- Visual testing of fusion-welded joints
FI	EN ISO 17638:2016	Non-destructive testing of welds -- Magnetic particle testing
FI	EN ISO 17639:2013	Destructive tests on welds in metallic materials -- Macroscopic and microscopic examination of welds
FI	EN ISO 17640:2018	Non-destructive testing of welds -- Ultrasonic testing -- Techniques, testing levels, and assessment
	EN ISO 17641-1:2004	Destructive tests on welds in metallic materials -- Hot cracking tests for weldments -- Arc welding processes -- Part 1: General
	EN ISO 17641-2:2015	Destructive tests on welds in metallic materials -- Hot cracking tests for weldments -- Arc welding processes -- Part 2: Self-restraint tests
	EN ISO 17642-1:2004	Destructive tests on welds in metallic materials -- Cold cracking tests for weldments -- Arc welding processes -- Part 1: General
	EN ISO 17642-2:2005	Destructive tests on welds in metallic materials -- Cold cracking tests for weldments -- Arc welding processes -- Part 2: Self-restraint tests
	EN ISO 17642-3:2005	Destructive tests on welds in metallic materials -- Cold cracking tests for weldments -- Arc welding processes -- Part 3: Externally loaded tests
FI	EN ISO 17643:2015	Non-destructive testing of welds -- Eddy current testing of welds by complex-plane analysis
FI	EN ISO 19285:2017	Non-destructive testing of welds - Phased array ultrasonic testing (PAUT) - Acceptance levels
	ISO 19675:2017	Non-destructive testing -- Ultrasonic testing -- Specification for a calibration block for phased array testing (PAUT)
	EN ISO 20601:2018	Non-destructive testing of welds -- Ultrasonic testing -- Use of automated phased array technology for thin-walled steel components
FI	EN ISO 22825:2017	Non-destructive testing of welds -- Ultrasonic testing -- Testing of welds in austenitic steels and nickel-based alloys
	EN ISO 22826:2021	Destructive tests on welds in metallic materials -- Hardness testing of narrow joints welded by laser and electron beam (Vickers and Knoop hardness tests) (ISO 22826:2005)
FI	EN ISO 23277:2015	Non-destructive testing of welds -- Penetrant testing -- Acceptance levels
FI	EN ISO 23278:2015	Non-destructive testing of welds -- Magnetic particle testing -- Acceptance levels
FI	EN ISO 23279:2017	Non-destructive testing of welds -- Ultrasonic testing -- Characterization of indications in welds
	ISO 23864:2021	Non-destructive testing of welds — Ultrasonic testing — Use of automated total focusing technique (TFM) and related technologies
	ISO 23865:2021	Non-destructive testing — Ultrasonic testing — General use of full matrix capture/total focusing technique (FMC/TFM) and related technologies
	ISO 24497-1:2020	Non-destructive testing -- Metal magnetic memory -- Part 1: Vocabulary
	ISO 24497-2:2020	Non-destructive testing -- Metal magnetic memory -- Part 2: General requirements
	ISO 24497-3:2007	Non-destructive testing -- Metal magnetic memory -- Part 3: Inspection of welded joints

FI	EN ISO 4136:2012	Destructive tests on welds in metallic materials -- Transverse tensile test
FI	EN ISO 5173:2010	Destructive tests on welds in metallic materials -- Bend tests
	EN ISO 5173:2010/A1	A1:2011
FI	EN ISO 5178:2019	Destructive tests on welds in metallic materials -- Longitudinal tensile test on weld metal in fusion welded joints
FI	EN ISO 9015-1:2011	Destructive tests on welds in metallic materials -- Hardness testing -- Part 1: Hardness test on arc welded joints
FI	EN ISO 9015-2:2016	Destructive tests on welds in metallic materials -- Hardness testing -- Part 2: Microhardness testing of welded joints
FI	EN ISO 9016:2012	Destructive tests on welds in metallic materials -- Impact tests -- Test specimen location, notch orientation and examination
FI	EN ISO 9017:2018	Destructive tests on welds in metallic materials -- Fracture test
FI	EN ISO 9018:2015	Destructive tests on welds in metallic materials -- Tensile test on cruciform and lapped joints
	ISO 18211:2016	Non-destructive testing -- Long range inspection of above ground pipelines and plant piping using guided wave testing with axial propagation
	ISO/TR 14345:2012	Fatigue -- Fatigue testing of welded components -- Guidance
	CEN ISO/TR 16060:2014	Destructive tests on welds in metallic materials -- Etchants for macroscopic and microscopic examination
	CEN ISO/TR 17641-3:2005	Destructive tests on welds in metallic materials -- Hot cracking tests for weldments -- Arc welding processes -- Part 3: Externally loaded tests
	CEN/TR 15135:2005	Welding - Design and non-destructive testing of welds

Tekeillä:

Tunnus	Otsikko	Vaihe
prEN ISO 17639	Destructive tests on welds in metallic materials — Macroscopic and microscopic examination of welds	lausunto
prEN ISO 4136	Destructive tests on welds in metallic materials — Transverse tensile test	lausunto
prEN ISO 5173	Destructive tests on welds in metallic materials — Bend tests	lausunto
prEN ISO 9016	Destructive tests on welds in metallic materials — Impact tests — Test specimen location, notch orientation and examination	lausunto
ISO/DIS 4761	Non-destructive testing of welds — Phased array ultrasonic testing (PAUT) for thin-walled steel components — Acceptance levels	lausunto
prEN ISO 10675-1 rev	Non-destructive testing of welds - Acceptance levels for radiographic testing - Part 1: Steel, nickel, titanium and their alloys	lausunto
prEN ISO 10675-2 rev	Non-destructive testing of welds - Acceptance levels for radiographic testing - Part 2: Aluminium and its alloys	lausunto
prEN ISO 17636-1 rev	Non-destructive testing of welds -- Radiographic testing -- Part 1: X- and gamma-ray techniques with film	lausunto
prEN ISO 17636-2 rev	Non-destructive testing of welds -- Radiographic testing -- Part 2: X- and gamma-ray techniques with digital detectors	lausunto

Alustavat työkohteet:

Tunnus	Otsikko
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3. Vastus- ja kitkahitsaus

ISO/TC 44/SC 6 Resistance welding and allied mechanical joining

Julkaisut:

FI	Tunnus	Otsikko
	EN ISO 10447:2015	Resistance welding -- Testing of welds -- Peel and chisel testing of resistance spot and projection welds
	EN ISO 10656:2021	Resistance welding equipment -- Transformers -- Integrated transformers for welding guns
	ISO 1089:1980	Electrode taper fits for spot welding equipment -- Dimensions

EN ISO 12996:2013	Mechanical joining -- Destructive testing of joints -- Specimen dimensions and test procedure for tensile shear testing of single joints
ISO 13469:2014	Mechanical joining -- Form-fit blind rivets and (lock) bolt joints -- Specifications and qualification of testing procedures
EN ISO 14270:2016	Resistance welding -- Destructive testing of welds -- Specimen dimensions and procedure for mechanized peel testing resistance spot, seam and embossed projection welds
FI EN ISO 14271:2017	Resistance welding -- Vickers hardness testing (low-force and microhardness) of resistance spot, projection, and seam welds
EN ISO 14272:2016	Resistance welding -- Destructive testing of welds -- Specimen dimensions and procedure for cross tension testing of resistance spot and embossed projection welds
EN ISO 14273:2016	Resistance welding -- Destructive testing of welds -- Specimen dimensions and procedure for tensile shear testing resistance spot and embossed projection welds
EN ISO 14323:2015	Resistance welding -- Destructive testing of welds -- Specimen dimensions and procedure for impact tensile shear test and cross-tension testing of resistance spot and embossed projection welds
EN ISO 14324:2003	Resistance spot welding -- Destructive tests of welds -- Method for the fatigue testing of spot welded joints
EN ISO 14327:2004	Resistance welding -- Procedures for determining the weldability lobe for resistance spot, projection and seam welding
FI EN ISO 14329:2003	Resistance welding -- Destructive tests of welds -- Failure types and geometric measurements for resistance spot, seam and projection welds
EN ISO 14373:2015	Resistance welding -- Procedure for spot welding of uncoated and coated low carbon steels
FI EN ISO 14554-1:2013	Quality requirements for welding -- Resistance welding of metallic materials -- Part 1: Comprehensive quality requirements
FI EN ISO 14554-2:2013	Quality requirements for welding -- Resistance welding of metallic materials -- Part 2: Elementary quality requirements
FI EN ISO 15609-5:2011	Specification and qualification of welding procedures for metallic materials -- Welding procedure specification -- Part 5: Resistance welding
EN ISO 15614-12:2014	Specification and qualification of welding procedures for metallic materials -- Welding procedure test -- Part 12: Spot, seam and projection welding
EN ISO 15614-13:2012	Specification and qualification of welding procedures for metallic materials -- Welding procedure test -- Part 13: Upset (resistance butt) and flash welding
ISO 16237:2015	Mechanical joining -- Destructive testing of joints -- Specimen dimensions and test procedure for cross-tension testing of single joints
EN ISO 16432:2007	Resistance welding -- Procedure for projection welding of uncoated and coated low carbon steels using embossed projection(s)
EN ISO 16433:2007	Resistance welding -- Procedure for seam welding of uncoated and coated low carbon steels
FI EN ISO 17653:2012	Resistance welding -- Destructive tests on welds in metallic materials -- Torsion test of resistance spot welds
EN ISO 17654:2011	Resistance welding -- Destructive tests of welds -- Pressure test of resistance seam welds
EN ISO 17657-1:2007	Resistance welding -- Welding current measurement for resistance welding -- Part 1: Guidelines for measurement
EN ISO 17657-2:2007	Resistance welding -- Welding current measurement for resistance welding -- Part 2: Welding current meter with current sensing coil
EN ISO 17657-3:2007	Resistance welding -- Welding current measurement for resistance welding -- Part 3: Current sensing coil
EN ISO 17657-4:2007	Resistance welding -- Welding current measurement for resistance welding -- Part 4: Calibration system
EN ISO 17657-5:2007	Resistance welding -- Welding current measurement for resistance welding -- Part 5: Verification of welding current measuring system
EN ISO 17677-1:2021	Resistance welding -- Vocabulary -- Part 1: Spot, projection and seam welding
EN ISO 18278-1:2015	Resistance welding -- Weldability -- Part 1: General requirements for the evaluation of weldability for resistance spot, seam and projection welding of metallic materials
EN ISO 18278-2:2016	Resistance welding -- Weldability -- Part 2: Evaluation procedures for weldability in spot welding
EN ISO 18278-3:2017	Resistance welding -- Weldability -- Part 3: Evaluation procedures for weldability in spot weld bonding
EN ISO 18592:2019	Resistance welding -- Destructive testing of welds -- Method for the fatigue testing of multi-spot-welded specimens
EN ISO 18594:2007	Resistance spot-, projection- and seam-welding -- Method for determining the transition resistance on aluminium and steel material
EN ISO 18595:2021	Resistance welding — Spot welding of aluminium and aluminium alloys — Weldability, welding and testing
EN ISO 18785-1:2021	Friction stir spot welding -- Aluminium -- Part 1: Vocabulary (ISO 18785-1:2018)

EN	ISO 18785-2:2021	Friction stir spot welding -- Aluminium -- Part 2: Design of weld joints (ISO 18785-2:2018)
EN	ISO 18785-3:2021	Friction stir spot welding -- Aluminium -- Part 3: Qualification of welding operators (ISO 18785-3:2018)
EN	ISO 18785-4:2021	Friction stir spot welding -- Aluminium -- Part 4: Specification and qualification of welding procedures (ISO 18785-4:2018)
EN	ISO 18785-5:2021	Friction stir spot welding -- Aluminium -- Part 5: Quality and inspection requirements (ISO 18785-5:2018)
EN	ISO 20168:2021	Resistance welding -- Locking tapers for electrode holders and electrode caps (ISO 20168:2016)
EN	ISO 22829:2017	Resistance welding equipment -- Transformers -- Integrated transformer-rectifier units for welding guns operating at 1 000 Hz
	ISO 23598:2021	Mechanical joining of sheet materials — Destructive testing of joints — Specimen dimensions and procedure for mechanized peel testing of single joints
	EN ISO 25239-1:2020	Friction stir welding -- Aluminium -- Part 1: Vocabulary
	EN ISO 25239-2:2020	Friction stir welding -- Aluminium -- Part 2: Design of weld joints
	EN ISO 25239-3:2020	Friction stir welding -- Aluminium -- Part 3: Qualification of welding operators
	EN ISO 25239-4:2020	Friction stir welding -- Aluminium -- Part 4: Specification and qualification of welding procedures
	EN ISO 25239-5:2020	Friction stir welding -- Aluminium -- Part 5: Quality and inspection requirements
	EN ISO 5182:2016	Resistance welding -- Materials for electrodes and ancillary equipment
FI	EN ISO 5183-1:2000	Resistance welding equipment -- Electrode adaptors, male taper 1:10 -- Part 1: Conical fixing, taper 1:10
FI	EN ISO 5183-2:2001	Resistance spot welding -- Electrode adaptors, male taper 1:10 -- Part 2: Parallel shank fixing for end-thrust electrodes
	ISO 5184:1979	Straight resistance spot welding electrodes
FI	EN ISO 5821:2009	Resistance welding -- Spot welding electrode caps
	ISO 5822:1988	Spot welding equipment -- Taper plug gauges and taper ring gauges
FI	EN ISO 5826:2014	Resistance welding equipment -- Transformers -- General specifications applicable to all transformers
	ISO 5827:1983	Spot welding -- Electrode back-ups and clamps
	EN ISO 5828:2001	Resistance welding equipment -- Secondary connecting cables with terminals connected to water-cooled lugs -- Dimensions and characteristics
FI	EN ISO 5829:2021	Resistance spot welding -- Electrode adaptors, female taper 1:10 (ISO 5829:1984)
FI	EN ISO 5830:2021	Resistance spot welding -- Male electrode caps (ISO 5830:1984)
	ISO 6210-1:1991	Cylinders for robot resistance welding guns -- Part 1: General requirements
	EN ISO 669:2016	Resistance welding -- Resistance welding equipment -- Mechanical and electrical requirements
	ISO 693:1982	Dimensions of seam welding wheel blanks
EN	ISO 7285:2021	Pneumatic cylinders for mechanized multiple spot welding (ISO 7285:1995)
	ISO 7931:1985	Insulation caps and bushes for resistance welding equipment
	ISO 8167:1989	Projections for resistance welding
	EN ISO 8205-1:2002	Water-cooled secondary connection cables for resistance welding -- Part 1: Dimensions and requirements for double-conductor connection cables
FI	EN ISO 8430-1:2016	Resistance spot welding - Electrode holders - Part 1: Taper fixing 1:10
FI	EN ISO 8430-2:2016	Resistance spot welding - Electrode holders - Part 2: Morse taper fixing
FI	EN ISO 8430-3:2016	Resistance spot welding - Electrode holders - Part 3: Parallel shank fixing for end thrust
	EN 20693:1991	Dimensions of seam welding wheel blanks (ISO 693:1982)
	EN 20865:1991	Slots in plates for projection welding machines (ISO 865:1981)
FI	EN 21089:1991	Electrode taper fits for spot welding equipment - Dimensions (ISO 1089:1980)
FI	EN 25184:1994	Straight resistance spot welding electrodes (ISO 5184:1979)
	EN 25822:1991	Spot welding equipment - Taper plug gauges and taper ring gauges (ISO 5822:1988)
	EN 25827:1992	Spot welding - Electrode back-ups and clamps (ISO 5827:1983)
FI	EN 27931:1992	Insulation caps and bushes for resistance welding equipment (ISO 7931:1985)
	EN 28167:1992	Projections for resistance welding (8167:1989)
FI	EN 29313:1992	Resistance spot welding equipment - Cooling tubes (ISO 9313:1989)
	ISO/TR 12998:2019	Mechanical joining -- Guidelines for fatigue testing of joints
	ISO/TR 23413:2019	Resistance welding -- Overview of standards for resistance welding

Tekeillä:

Tunnus	Otsikko	Vaihe
EN ISO 8205	Resistance welding equipment — Water-cooled secondary connection cables	hyväksytty
FprEN ISO 15614-12	Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 12: Spot, seam and projection welding	äänestys
FprEN ISO 15614-13	Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 13: Upset (resistance butt) and flash welding	äänestys
FprEN ISO 8167	Projections for resistance welding	äänestys
prEN ISO 1089	Electrode taper fits for spot welding equipment — Dimensions	lausunto
prEN ISO 18278-1	Resistance welding — Weldability — Part 1: General requirements for the evaluation of weldability for resistance spot, seam and projection welding of metallic materials	lausunto
ISO/NP 10447	Resistance welding — Testing of welds — Peel and chisel testing of resistance spot and projection welds	työryhmä

Alustavat työkohteet:

Tunnus	Otsikko
ISO/PWI 23295	Mechanical joining — Specimens for testing of joints under different loading conditions
ISO/PWI 23980	Mechanical joining -- Qualification of mechanical joining personnel
ISO/PWI 23981	Mechanical joining -- Quality requirements for mechanical joints
ISO/PWI 23982	Mechanical joining -- Joinability -- Evaluation procedures for joinability of mechanical joints and hybrid joints of mechanical fastener and adhesive bonding
ISO/PWI 5695	Mechanical joining of sheet material – Reference information on mechanical joining processes
ISO/PWI 5821	Resistance welding — Spot welding electrode caps

4. Sanasto

ISO/TC 44/SC 7 Representation and terms

Julkaisut:

FI	Tunnus	Otsikko
	EN ISO 17658:2015	Welding -- Imperfections in oxyfuel flame cuts, laser beam cuts and plasma cuts -- Terminology
FI	EN ISO 17659:2004	Welding -- Multilingual terms for welded joints with illustrations
FI	EN ISO 2553:2019	Welding and allied processes -- Symbolic representation on drawings -- Welded joints
FI	EN ISO 4063:2010	Welding and allied processes -- Nomenclature of processes and reference numbers
FI	EN ISO 6520-1:2007	Welding and allied processes -- Classification of geometric imperfections in metallic materials -- Part 1: Fusion welding
	EN ISO 6520-2:2013	Welding and allied processes -- Classification of geometric imperfections in metallic materials -- Part 2: Welding with pressure
FI	EN ISO 6947:2019	Welding and allied processes -- Welding positions
	ISO 857-1:1998	Welding and allied processes -- Vocabulary -- Part 1: Metal welding processes
	ISO 857-2:2005	Welding and allied processes -- Vocabulary -- Part 2: Soldering and brazing processes and related terms
FI	EN ISO 9692-1:2013	Welding and allied processes -- Types of joint preparation -- Part 1: Manual metal arc welding, gas-shielded metal arc welding, gas welding, TIG welding and beam welding of steels
FI	EN ISO 9692-2:1998	Welding and allied processes -- Joint preparation -- Part 2: Submerged arc welding of steels
FI	EN ISO 9692-3:2016	Welding and allied processes -- Recommendations for joint preparation -- Part 3: Metal inert gas welding and tungsten inert gas welding of aluminium and its alloys
FI	EN ISO 9692-4:2003	Welding and allied processes -- Recommendations for joint preparation -- Part 4: Clad steels

Tekeillä:

Tunnus	Otsikko	Vaihe
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prEN ISO 25901-2	Welding and allied processes — Vocabulary — Part 2: Health and safety	lausunto
prEN ISO 4063 rev	Welding and allied processes — Nomenclature of processes and reference numbers	lausunto

Alustavat työkohteet:

Tunnus	Otsikko
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5. Kaasuhitsausvarusteet

ISO/TC 44/SC 8 Equipment for gas welding, cutting and allied processes

Julkaisut:

FI	Tunnus	Otsikko
	EN ISO 10225:2013	Gas welding equipment -- Marking for equipment used for gas welding, cutting and allied processes
	ISO 12170:1996	Gas welding equipment -- Thermoplastic hoses for welding and allied processes
	ISO 14112:1996	Gas welding equipment -- Small kits for gas brazing and welding
FI	EN ISO 14113:2013	Gas welding equipment -- Rubber and plastics hose and hose assemblies for use with industrial gases up to 450 bar (45 MPa)
	EN ISO 14114:2018	Gas welding equipment -- Acetylene manifold systems for welding, cutting and allied processes - - General requirements
	EN ISO 15296:2017	Gas welding equipment -- Vocabulary
FI	EN ISO 15615:2013	Gas welding equipment -- Acetylene manifold systems for welding, cutting and allied processes - - Safety requirements in high-pressure devices
FI	EN ISO 2503:2009	Gas welding equipment -- Pressure regulators and pressure regulators with flow-metering devices for gas cylinders used in welding, cutting and allied processes up to 300 bar (30 MPa)
	EN ISO 2503:2009/A1	A1:2015
	EN ISO 3821:2019	Gas welding equipment -- Rubber hoses for welding, cutting and allied processes
	EN ISO 5171:2019	Gas welding equipment -- Pressure gauges used in welding, cutting and allied processes
FI	EN ISO 5172:2006	Gas welding equipment -- Blowpipes for gas welding, heating and cutting -- Specifications and tests
FI	EN ISO 5172:2006/A1	A1:2012
	EN ISO 5175-1:2017	Gas welding equipment -- Safety devices -- Part 1: Devices incorporating a flame (flashback) arrestor
	EN ISO 5175-2:2017	Gas welding equipment -- Safety devices -- Part 2: Devices not incorporating a flame (flashback) arrestor
	EN ISO 7287:2002	Graphical symbols for thermal cutting equipment
	ISO 7289:2018	Gas welding equipment -- Quick-action couplings with shut-off valves for welding, cutting and allied processes
FI	EN ISO 7291:2010	Gas welding equipment -- Pressure regulators for manifold systems used in welding, cutting and allied processes up to 30 MPa (300 bar)
FI	EN ISO 7291:2010/A1	A1:2015
	ISO 8206:1991	Acceptance tests for oxygen cutting machines -- Reproducible accuracy -- Operational characteristics
	ISO 8207:1996	Gas welding equipment -- Specification for hose assemblies for equipment for welding, cutting and allied processes
FI	EN ISO 9012:2011	Gas welding equipment -- Air-aspirated hand blowpipes -- Specifications and tests
FI	EN ISO 9013:2017	Thermal cutting -- Classification of thermal cuts -- Geometrical product specification and quality tolerances
	EN ISO 9090:2019	Gas tightness of equipment for gas welding and allied processes
FI	EN ISO 9539:2010	Gas welding equipment -- Materials for equipment used in gas welding, cutting and allied processes
FI	EN ISO 9539:2010/A1	A1:2013
	ISO/TR 28821:2012	Gas welding equipment -- Hose connections for equipment for welding, cutting and allied processes -- Listing of connections which are either standardised or in common use

	CEN/TR 13259:2013	Gas welding equipment - Industrial manual and machine blowpipes for flame heating, flame brazing and allied processes
	CEN/TR 15068:2009	Gas welding equipment - Measurement of noise emitted by blowpipe for welding, cutting, heating, brazing and soldering - Measurement method
FI	EN 1256:2006	Gas welding equipment - Specification for hose assemblies for equipment for welding, cutting and allied processes
FI	EN 1326:1996	Gas welding equipment - Small kits for gas brazing and welding
FI	EN 1327:1996	Gas welding equipment - Thermoplastic hoses for welding and allied processes
FI	EN 28206:1992	Acceptance tests for oxygen cutting machines - Reproducible accuracy - Operational characteristics (ISO 8206:1991)
FI	EN 29090:1992	Gas tightness of equipment for gas welding and allied processes (ISO 9090:1989)
	EN 560:2018	Gas welding equipment - Hose connections for equipment for welding, cutting and allied processes
FI	EN 561:2002	Gas welding equipment - Quick-action coupling with shut-off valves for welding, cutting and allied processes
	ISO 10225:2013	Gas welding equipment -- Marking for equipment used for gas welding, cutting and allied processes
	ISO 12170:1996	Gas welding equipment -- Thermoplastic hoses for welding and allied processes
	ISO 14112:1996	Gas welding equipment -- Small kits for gas brazing and welding
FI	EN ISO 14113:2013	Gas welding equipment -- Rubber and plastics hose and hose assemblies for use with industrial gases up to 450 bar (45 MPa)
	EN ISO 14114:2018	Gas welding equipment -- Acetylene manifold systems for welding, cutting and allied processes - - General requirements
	EN ISO 15296:2017	Gas welding equipment -- Vocabulary
FI	EN ISO 15615:2013	Gas welding equipment -- Acetylene manifold systems for welding, cutting and allied processes - - Safety requirements in high-pressure devices
FI	EN ISO 2503:2009	Gas welding equipment -- Pressure regulators and pressure regulators with flow-metering devices for gas cylinders used in welding, cutting and allied processes up to 300 bar (30 MPa)
	EN ISO 2503:2009/A1	A1:2015
	EN ISO 3821:2019	Gas welding equipment -- Rubber hoses for welding, cutting and allied processes
	EN ISO 5171:2019	Gas welding equipment -- Pressure gauges used in welding, cutting and allied processes
FI	EN ISO 5172:2006	Gas welding equipment -- Blowpipes for gas welding, heating and cutting -- Specifications and tests
FI	EN ISO 5172:2006/A1	A1:2012
	EN ISO 5175-1:2017	Gas welding equipment -- Safety devices -- Part 1: Devices incorporating a flame (flashback) arrestor
	EN ISO 5175-2:2017	Gas welding equipment -- Safety devices -- Part 2: Devices not incorporating a flame (flashback) arrestor
	EN ISO 7287:2002	Graphical symbols for thermal cutting equipment
	ISO 7289:2018	Gas welding equipment -- Quick-action couplings with shut-off valves for welding, cutting and allied processes
FI	EN ISO 7291:2010	Gas welding equipment -- Pressure regulators for manifold systems used in welding, cutting and allied processes up to 30 MPa (300 bar)
FI	EN ISO 7291:2010/A1	A1:2015
	ISO 8206:1991	Acceptance tests for oxygen cutting machines -- Reproducible accuracy -- Operational characteristics
	ISO 8207:1996	Gas welding equipment -- Specification for hose assemblies for equipment for welding, cutting and allied processes
FI	EN ISO 9012:2011	Gas welding equipment -- Air-aspirated hand blowpipes -- Specifications and tests
FI	EN ISO 9013:2017	Thermal cutting -- Classification of thermal cuts -- Geometrical product specification and quality tolerances
	EN ISO 9090:2019	Gas tightness of equipment for gas welding and allied processes
FI	EN ISO 9539:2010	Gas welding equipment -- Materials for equipment used in gas welding, cutting and allied processes
FI	EN ISO 9539:2010/A1	A1:2013
	ISO/TR 28821:2012	Gas welding equipment -- Hose connections for equipment for welding, cutting and allied processes -- Listing of connections which are either standardised or in common use
	CEN/TR 13259:2013	Gas welding equipment - Industrial manual and machine blowpipes for flame heating, flame brazing and allied processes
	CEN/TR 15068:2009	Gas welding equipment - Measurement of noise emitted by blowpipe for welding, cutting, heating, brazing and soldering - Measurement method

FI EN 1256:2006	Gas welding equipment - Specification for hose assemblies for equipment for welding, cutting and allied processes
FI EN 1326:1996	Gas welding equipment - Small kits for gas brazing and welding
FI EN 1327:1996	Gas welding equipment - Thermoplastic hoses for welding and allied processes
FI EN 28206:1992	Acceptance tests for oxygen cutting machines - Reproducible accuracy - Operational characteristics (ISO 8206:1991)
FI EN 29090:1992	Gas tightness of equipment for gas welding and allied processes (ISO 9090:1989)
EN 560:2018	Gas welding equipment - Hose connections for equipment for welding, cutting and allied processes
FI EN 561:2002	Gas welding equipment - Quick-action coupling with shut-off valves for welding, cutting and allied processes
FI EN ISO 9012:2011	Gas welding equipment -- Air-aspirated hand blowpipes -- Specifications and tests
FI EN ISO 9013:2017	Thermal cutting -- Classification of thermal cuts -- Geometrical product specification and quality tolerances
EN ISO 9090:2019	Gas tightness of equipment for gas welding and allied processes
FI EN ISO 9539:2010	Gas welding equipment -- Materials for equipment used in gas welding, cutting and allied processes
FI EN ISO 9539:2010/A1	A1:2013
ISO/TR 28821:2012	Gas welding equipment -- Hose connections for equipment for welding, cutting and allied processes -- Listing of connections which are either standardised or in common use
CEN/TR 13259:2013	Gas welding equipment - Industrial manual and machine blowpipes for flame heating, flame brazing and allied processes
CEN/TR 15068:2009	Gas welding equipment - Measurement of noise emitted by blowpipe for welding, cutting, heating, brazing and soldering - Measurement method
FI EN 1256:2006	Gas welding equipment - Specification for hose assemblies for equipment for welding, cutting and allied processes
FI EN 1326:1996	Gas welding equipment - Small kits for gas brazing and welding
FI EN 1327:1996	Gas welding equipment - Thermoplastic hoses for welding and allied processes
FI EN 28206:1992	Acceptance tests for oxygen cutting machines - Reproducible accuracy - Operational characteristics (ISO 8206:1991)
FI EN 29090:1992	Gas tightness of equipment for gas welding and allied processes (ISO 9090:1989)
EN 560:2018	Gas welding equipment - Hose connections for equipment for welding, cutting and allied processes
FI EN 561:2002	Gas welding equipment - Quick-action coupling with shut-off valves for welding, cutting and allied processes

Tekeillä:

Tunnus	Otsikko	Vaihe
prEN ISO 15615	Gas welding equipment — Acetylene manifold systems for welding, cutting and allied processes — Safety requirements in high-pressure devices	lausunto
WI00121855	Gas welding equipment - Industrial manual and machine blowpipes for flame heating, flame brazing and allied processes	työryhmä
WI00121891	Gas welding equipment — Safety requirements for thermoprocess equipment with open firing oxy-fuel gas welding equipment	työryhmä

Alustavat työkohteet:

Tunnus	Otsikko
ISO/PWI 22073-1	Line pressure regulators and pressure regulators with flow metering devices for gas distribution pipelines up to 60 bar (6 MPa) — Part 1: missing
ISO/PWI 22073-2	Tapping point containing line pressure regulators or line pressure regulators with flow metering devices for gas distribution used in welding, cutting and allied processes up to 60 bar (6 MPa) — Part 2: Missing
ISO/PWI 8207	Gas welding equipment — Specification for hose assemblies for equipment for welding, cutting and allied processes
ISO/PWI 9012	Gas welding equipment — Air-aspirated hand blowpipes — Specifications and tests

6. Työympäristö

ISO/TC 44/SC 9 Health and safety

Julkaisut:

FI	Tunnus	Otsikko
	EN ISO 10882-1:2011	Health and safety in welding and allied processes -- Sampling of airborne particles and gases in the operator's breathing zone -- Part 1: Sampling of airborne particles
	EN ISO 10882-2:2000	Health and safety in welding and allied processes -- Sampling of airborne particles and gases in the operator's breathing zone -- Part 2: Sampling of gases
	EN ISO 15011-1:2009	Health and safety in welding and allied processes -- Laboratory method for sampling fume and gases -- Part 1: Determination of fume emission rate during arc welding and collection of fume for analysis
	EN ISO 15011-2:2009	Health and safety in welding and allied processes -- Laboratory method for sampling fume and gases -- Part 2: Determination of the emission rates of carbon monoxide (CO), carbon dioxide (CO ₂), nitrogen monoxide (NO) and nitrogen dioxide (NO ₂) during arc welding, cutting and gouging
	EN ISO 15011-3:2009	Health and safety in welding and allied processes -- Laboratory method for sampling fume and gases -- Part 3: Determination of ozone emission rate during arc welding
	EN ISO 15011-4:2018	Health and safety in welding and allied processes -- Laboratory method for sampling fume and gases -- Part 4: Fume data sheets
	EN ISO 15011-5:2011	Health and safety in welding and allied processes -- Laboratory method for sampling fume and gases -- Part 5: Identification of thermal-degradation products generated when welding or cutting through products composed wholly or partly of organic materials using pyrolysis-gas chromatography-mass spectrometry
	ISO 17846:2004	Welding and allied processes -- Health and safety -- Wordless precautionary labels for equipment and consumables used in arc welding and cutting
	EN ISO 17916:2016	Safety of thermal cutting machines
	EN ISO 21904-1:2020	Health and safety in welding and allied processes — Equipment for capture and separation of welding fume — Part 1: General requirements
	EN ISO 21904-2:2020	Health and safety in welding and allied processes — Equipment for capture and separation of welding fume — Part 2: Requirements for testing and marking of separation efficiency
	EN ISO 21904-3:2018	Health and safety in welding and allied processes -- Requirements, testing and marking of equipment for air filtration -- Part 3: Determination of the capture efficiency of on-torch welding fume extraction devices
	EN ISO 21904-4:2020	Health and safety in welding and allied processes — Equipment for capture and separation of welding fume — Part 4: Determination of the minimum air volume flow rate of capture devices
	EN ISO 25980:2014	Health and safety in welding and allied processes -- Transparent welding curtains, strips and screens for arc welding processes
	CEN ISO/TS 15011-6:2012	Health and safety in welding and allied processes -- Laboratory method for sampling fume and gases -- Part 6: Procedure for quantitative determination of fume and gases from resistance spot welding
	ISO/TR 13392:2014	Health and safety in welding and allied processes -- Arc welding fume components
	ISO/TR 18786:2014	Health and safety in welding -- Guidelines for risk assessment of welding fabrication activities
	EN 14717:2005	Welding and allied processes - Environmental check list

Tekeillä:

Tunnus	Otsikko	Vaihe
prEN 14717	Welding and allied processes - Environmental check list	työryhmä

Alustavat työkohteet:

Tunnus	Otsikko
ISO/PWI 25980	Health and safety in welding and allied processes — Transparent welding curtains, strips and screens for arc welding processes

7. Hitsauksen laatu

ISO/TC 44/SC 10 Quality management in the field of welding

Julkaisut:

FI	Tunnus	Otsikko
FI	EN ISO 10042:2018	Welding -- Arc-welded joints in aluminium and its alloys -- Quality levels for imperfections
	EN ISO 12932:2013	Welding -- Laser-arc hybrid welding of steels, nickel and nickel alloys -- Quality levels for imperfections
FI	EN ISO 13916:2017	Welding -- Guidance on the measurement of preheating temperature, interpass temperature and preheat maintenance temperature
	EN ISO 13918:2018	Welding -- Studs and ceramic ferrules for arc stud welding
	EN ISO 13919-1:2019	Welding -- Electron and laser-beam welded joints -- Guidance on quality levels for imperfections -- Part 1: Steel
	EN ISO 13919-2:2021	Electron and laser-beam welded joints — Requirements and recommendations on quality levels for imperfections — Part 2: Aluminium, magnesium and their alloys and pure copper
	EN ISO 13919-2:2001/A1	A1:2003
FI	EN ISO 13920:1996	Welding -- General tolerances for welded constructions -- Dimensions for lengths and angles -- Shape and position
	ISO 14346:2013	Static design procedure for welded hollow-section joints -- Recommendations
	ISO 14347:2008	Fatigue -- Design procedure for welded hollow-section joints -- Recommendations
FI	EN ISO 14555:2017	Welding -- Arc stud welding of metallic materials
	EN ISO 14744-1:2008	Welding -- Acceptance inspection of electron beam welding machines -- Part 1: Principles and acceptance conditions
	EN ISO 14744-2:2000	Welding -- Acceptance inspection of electron beam welding machines -- Part 2: Measurement of accelerating voltage characteristics
	EN ISO 14744-3:2000	Welding -- Acceptance inspection of electron beam welding machines -- Part 3: Measurement of beam current characteristics
	EN ISO 14744-4:2000	Welding -- Acceptance inspection of electron beam welding machines -- Part 4: Measurement of welding speed
	EN ISO 14744-5:2000	Welding -- Acceptance inspection of electron beam welding machines -- Part 5: Measurement of run-out accuracy
	EN ISO 14744-6:2000	Welding -- Acceptance inspection of electron beam welding machines -- Part 6: Measurement of stability of spot position
FI	EN ISO 15607:2019	Specification and qualification of welding procedures for metallic materials -- General rules
FI	EN ISO 15609-1:2019	Specification and qualification of welding procedures for metallic materials -- Welding procedure specification -- Part 1: Arc welding
FI	EN ISO 15609-2:2019	Specification and qualification of welding procedures for metallic materials -- Welding procedure specification -- Part 2: Gas welding
	EN ISO 15609-3:2004	Specification and qualification of welding procedures for metallic materials -- Welding procedure specification -- Part 3: Electron beam welding
	EN ISO 15609-4:2009	Specification and qualification of welding procedures for metallic materials -- Welding procedure specification -- Part 4: Laser beam welding
	EN ISO 15609-6:2013	Specification and qualification of welding procedures for metallic materials -- Welding procedure specification -- Part 6: Laser-arc hybrid welding
FI	EN ISO 15610:2003	Specification and qualification of welding procedures for metallic materials -- Qualification based on tested welding consumables
FI	EN ISO 15611:2003	Specification and qualification of welding procedures for metallic materials -- Qualification based on previous welding experience
FI	EN ISO 15612:2018	Specification and qualification of welding procedures for metallic materials -- Qualification by adoption of a standard welding procedure
FI	EN ISO 15613:2004	Specification and qualification of welding procedures for metallic materials -- Qualification based on pre-production welding test
FI	EN ISO 15614-1:2017	Specification and qualification of welding procedures for metallic materials -- Welding procedure test -- Part 1: Arc and gas welding of steels and arc welding of nickel and nickel alloys
FI	EN ISO 15614-1:2017/A1:2019	Specification and qualification of welding procedures for metallic materials -- Welding procedure test -- Part 1: Arc and gas welding of steels and arc welding of nickel and nickel alloys -- Amendment 1 (aaltomuoto-ohjauksen poistaminen)
FI	EN ISO 15614-2:2005	Specification and qualification of welding procedures for metallic materials -- Welding procedure test -- Part 2: Arc welding of aluminium and its alloys

	EN ISO 15614-3:2008	Specification and qualification of welding procedures for metallic materials -- Welding procedure test -- Part 3: Fusion welding of non-alloyed and low-alloyed cast irons
	EN ISO 15614-4:2005	Specification and qualification of welding procedures for metallic materials -- Welding procedure test -- Part 4: Finishing welding of aluminium castings
FI	EN ISO 15614-5:2004	Specification and qualification of welding procedures for metallic materials -- Welding procedure test -- Part 5: Arc welding of titanium, zirconium and their alloys
FI	EN ISO 15614-6:2006	Specification and qualification of welding procedures for metallic materials -- Welding procedure test -- Part 6: Arc and gas welding of copper and its alloys
	EN ISO 15614-7:2019	Specification and qualification of welding procedures for metallic materials -- Welding procedure test -- Part 7: Overlay welding
FI	EN ISO 15614-8:2016	Specification and qualification of welding procedures for metallic materials -- Welding procedure test -- Part 8: Welding of tubes to tube-plate joints
	EN ISO 15614-10:2005	Specification and qualification of welding procedures for metallic materials -- Welding procedure test -- Part 10: Hyperbaric dry welding
	EN ISO 15614-11:2002	Specification and qualification of welding procedures for metallic materials -- Welding procedure test -- Part 11: Electron and laser beam welding
	EN ISO 15614-14:2013	Specification and qualification of welding procedures for metallic materials -- Welding procedure test -- Part 14: Laser-arc hybrid welding of steels, nickel and nickel alloys
	EN ISO 15616-1:2003	Acceptance tests for CO ₂ -laser beam machines for high quality welding and cutting -- Part 1: General principles, acceptance conditions
	EN ISO 15616-2:2003	Acceptance tests for CO ₂ -laser beam machines for high quality welding and cutting -- Part 2: Measurement of static and dynamic accuracy
	EN ISO 15616-3:2003	Acceptance tests for CO ₂ -laser beam machines for high quality welding and cutting -- Part 3: Calibration of instruments for measurement of gas flow and pressure
	EN ISO 15616-4:2021	Acceptance tests for CO ₂ -laser beam machines for high quality welding and cutting -- Part 4: Machines with 2-D moving optics (ISO 15616-4:2008)
	EN ISO 15620:2019	Welding -- Friction welding of metallic materials
	EN ISO 17279-1:2018	Welding -- Micro joining of 2nd generation high temperature superconductors -- Part 1: General requirements for the procedure
	EN ISO 17279-2:2018	Welding -- Micro joining of 2nd generation high temperature superconductors -- Part 2: Qualification for welding and testing personnel
	EN ISO 17279-3:2021	Welding -- Micro joining of second generation high temperature superconductors -- Part 3: Test methods for joints
	EN ISO 17652-1:2003	Welding -- Test for shop primers in relation to welding and allied processes -- Part 1: General requirements
	EN ISO 17652-2:2003	Welding -- Test for shop primers in relation to welding and allied processes -- Part 2: Welding properties of shop primers
	EN ISO 17652-3:2003	Welding -- Test for shop primers in relation to welding and allied processes -- Part 3: Thermal cutting
	EN ISO 17652-4:2003	Welding -- Test for shop primers in relation to welding and allied processes -- Part 4: Emission of fumes and gases
FI	EN ISO 17660-1:2006	Welding -- Welding of reinforcing steel -- Part 1: Load-bearing welded joints
FI	EN ISO 17660-2:2006	Welding -- Welding of reinforcing steel -- Part 2: Non load-bearing welded joints
FI	EN ISO 17662:2016	Welding -- Calibration, verification and validation of equipment used for welding, including ancillary activities
FI	EN ISO 17663:2009	Welding -- Quality requirements for heat treatment in connection with welding and allied processes
	EN ISO 22827-1:2005	Acceptance tests for Nd:YAG laser beam welding machines -- Machines with optical fibre delivery -- Part 1: Laser assembly
	EN ISO 22827-2:2005	Acceptance tests for Nd:YAG laser beam welding machines -- Machines with optical fibre delivery -- Part 2: Moving mechanism
	ISO 23493:2020	Welding and allied processes -- Process specification for laser-arc hybrid welding for metallic materials
FI	EN ISO 3834-1:2005	Quality requirements for fusion welding of metallic materials -- Part 1: Criteria for the selection of the appropriate level of quality requirements
FI	EN ISO 3834-2:2005	Quality requirements for fusion welding of metallic materials -- Part 2: Comprehensive quality requirements
FI	EN ISO 3834-3:2005	Quality requirements for fusion welding of metallic materials -- Part 3: Standard quality requirements
FI	EN ISO 3834-4:2005	Quality requirements for fusion welding of metallic materials -- Part 4: Elementary quality requirements

FI	EN ISO 3834-5:2015	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
FI	EN ISO 5817:2014	Welding -- Fusion-welded joints in steel, nickel, titanium and their alloys (beam welding excluded) -- Quality levels for imperfections
	CEN ISO/TR 14745:2015	Welding -- Post-weld heat treatment parameters for steels
FI	CEN ISO/TR 15608:2017	Welding -- Guidelines for a metallic materials grouping system
	ISO/TR 17671-1:2002	Welding -- Recommendations for welding of metallic materials -- Part 1: General guidance for arc welding
	ISO/TR 17671-2:2002	Welding -- Recommendations for welding of metallic materials -- Part 2: Arc welding of ferritic steels
	ISO/TR 17671-3:2002	Welding -- Recommendations for welding of metallic materials -- Part 3: Arc welding of stainless steels
	ISO/TR 17671-4:2002	Welding -- Recommendations for welding of metallic materials -- Part 4: Arc welding of aluminium and aluminium alloys
	ISO/TR 17671-5:2004	Welding -- Recommendations for welding of metallic materials -- Part 5: Welding of clad steels
	ISO/TR 17671-6:2005	Welding -- Recommendations for welding of metallic materials -- Part 6: Laser beam welding
	ISO/TR 17671-7:2004	Welding -- Recommendations for welding of metallic materials -- Part 7: Electron beam welding
	CEN ISO/TR 17844:2004	Welding -- Comparison of standardised methods for the avoidance of cold cracks
	ISO/TR 18491:2015	Welding and allied processes -- Guidelines for measurement of welding energies
	CEN ISO/TR 20172:2009	Welding -- Grouping systems for materials -- European materials
	CEN ISO/TR 20173:2018	Welding -- Grouping systems for materials -- American materials
	CEN ISO/TR 20174:2020	Welding -- Grouping systems for materials -- Japanese materials
	ISO/TS 18166:2016	Numerical welding simulation -- Execution and documentation
	ISO/TS 20273:2017	Guidelines on weld quality in relationship to fatigue strength
	CEN ISO/TR 3834-6:2007	Quality requirements for fusion welding of metallic materials -- Part 6: Guidelines on implementing ISO 3834
	CEN/TR 15235:2005	Welding - Methods for assessing imperfections in metallic structures
FI	CEN/TR 15481:2006	Welding of reinforcing steel - Tack weldability - Test methods and performance requirements
FI	EN 1011-1:2009	Welding - Recommendations for welding of metallic materials - Part 1: General guidance for arc welding
FI	EN 1011-2:2001	Welding - Recommendations for welding of metallic materials - Part 2: Arc welding of ferritic steels
	EN 1011-2:2001/A1	A1:2003
FI	EN 1011-3:2018	Welding - Recommendations for welding of metallic materials - Part 3: Arc welding of stainless steels
FI	EN 1011-4:2000	Welding - Recommendations for welding of metallic materials - Part 4: Arc welding of aluminium and aluminium alloys
	EN 1011-4:2000/A1	A1:2003
FI	EN 1011-5:2003	Welding - Recommendations for welding of metallic materials - Part 5: Welding of clad steel
	EN 1011-6:2018	Welding - Recommendation for welding of metallic materials - Part 6: Laser beam welding
	EN 1011-7:2004	Welding - Recommendations for welding of metallic materials - Part 7: Electron beam welding
FI	EN 1708-1:2010	Welding - Basic welded joint details in steel - Part 1: Pressurized components
FI	EN 1708-2:2018	Welding - Basic weld joint details in steel - Part 2: Non internal pressurized components
	EN 1708-3:2012	Welding - Basic weld joint details in steel - Part 3: Clad, buttered and lined pressurized components

Tekeillä:

Tunnus	Otsikko	Vaihe
EN ISO 15614-1:2017/FprA2	Specification and qualification of welding procedures for metallic materials -- Welding procedure test -- Part 1: Arc and gas welding of steels and arc welding of nickel and nickel alloys -- Amendment 2 (mekanisointiaste ja monipalkkohitsaus)	äänestys
FprCEN ISO/TR 20172	Welding -- Grouping systems for materials -- European materials	äänestys
FprEN ISO 3834-2	Quality requirements for fusion welding of metallic materials -- Part 2: Comprehensive quality requirements	äänestys

FprEN ISO 3834-3	Quality requirements for fusion welding of metallic materials — Part 3: Standard quality requirements	äänestys
FprEN ISO 3834-4	Quality requirements for fusion welding of metallic materials — Part 4: Elementary quality requirements	äänestys
EN ISO 13918:2018/prA1	Welding -- Studs and ceramic ferrules for arc stud welding	lausunto
prEN ISO 3834-1	Quality requirements for fusion welding of metallic materials — Part 1: Criteria for the selection of the appropriate level of quality requirements	lausunto
prEN ISO 3834-5	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	lausunto
prEN ISO 15610	Specification and qualification of welding procedures for metallic materials — Qualification based on tested welding consumables	työryhmä
prEN ISO 15611	Specification and qualification of welding procedures for metallic materials — Qualification based on previous welding experience	työryhmä
prEN ISO 15613	Specification and qualification of welding procedures for metallic materials — Qualification based on pre-production welding test	työryhmä
prEN ISO 15614-2	Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 2: Arc welding of aluminium and its alloys	työryhmä
prEN ISO 15614-4	Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 4: Finishing welding of aluminium castings	työryhmä
prEN ISO 15614-5	Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 5: Arc welding of titanium, zirconium and their alloys	työryhmä
prEN ISO 15614-6	Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 6: Arc and gas welding of copper and its alloys	työryhmä
prEN ISO 15614-11	Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 11: Electron and laser beam welding	työryhmä
prEN ISO 17660	Welding — Welding of reinforcing steel	työryhmä
prCEN ISO/TR 3834-6 rev	Quality requirements for fusion welding of metallic materials — Part 6: Guidelines on implementing ISO 3834	työryhmä
ISO/NP 4061	Soldering — Quality requirements for soldering of metallic materials	työryhmä
prEN ISO 5817	Welding — Fusion-welded joints in steel, nickel, titanium and their alloys (beam welding excluded) — Quality levels for imperfections	työryhmä

Alustavat työkohteet:

Tunnus	Otsikko
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8. Hitsaushenkilöstön pätevänti

ISO/TC 44/SC 11 Qualification requirements for welding and allied processes personnel

Julkaisut:

FI	Tunnus	Otsikko
FI	EN ISO 14731:2019	Welding coordination -- Tasks and responsibilities
FI	EN ISO 14732:2013	Welding personnel -- Qualification testing of welding operators and weld setters for mechanized and automatic welding of metallic materials
	EN ISO 15618-1:2016	Qualification testing of welders for underwater welding -- Part 1: Hyperbaric wet welding
	EN ISO 15618-2:2001	Qualification testing of welders for underwater welding -- Part 2: Diver-welders and welding operators for hyperbaric dry welding
FI	EN ISO 9606-1:2017	Qualification testing of welders -- Fusion welding -- Part 1: Steels
FI	EN ISO 9606-2:2004	Qualification test of welders -- Fusion welding -- Part 2: Aluminium and aluminium alloys
FI	EN ISO 9606-3:1999	Approval testing of welders -- Fusion welding -- Part 3: Copper and copper alloys
FI	EN ISO 9606-4:1999	Approval testing of welders -- Fusion welding -- Part 4: Nickel and nickel alloys
FI	EN ISO 9606-5:2000	Approval testing of welders -- Fusion welding -- Part 5: Titanium and titanium alloys, zirconium and zirconium alloys
	ISO/TR 24471:2019	Brazing — Grouping systems for materials — American materials

Tekeillä:

Tunnus	Otsikko	Vaihe
FprEN ISO 13585 rev	Brazing -- Qualification test of brazers and brazing operators	äänestys
ISO/DIS 17779	Brazing -- Specification and qualification of welding procedures for metallic material	lausunto
prEN ISO 9606	Qualification test of welders -- Fusion welding	työryhmä

Alustavat työkohteet:

Tunnus	Otsikko
ISO/PWI TR 24470	Brazing -- Grouping systems for materials -- European materials
ISO/PWI TR 24472	Brazing -- Grouping systems for materials -- Japanese materials

9. Juotto

ISO/TC 44/SC 12 Soldering materials
ISO/TC 44/SC 13 Brazing materials and processes
Julkaisut:

FI	Tunnus	Otsikko
	EN ISO 10564:1997	Soldering and brazing materials -- Methods for the sampling of soft solders for analysis
	EN ISO 12224-1:1998	Solder wire, solid and flux cored -- Specification and test methods -- Part 1: Classification and performance requirements
	EN ISO 12224-2:1999	Flux cored solder wire -- Specification and test methods -- Part 2: Determination of flux content
	EN ISO 12224-3:2003	Solder wire, solid and flux cored -- Specifications and test methods -- Part 3: Wetting balance test method for flux cored solder wire efficacy
FI	EN ISO 13585:2012	Brazing -- Qualification test of brazers and brazing operators
	EN ISO 17672:2016	Brazing -- Filler metals
	EN ISO 18279:2003	Brazing -- Imperfections in brazed joints
	EN ISO 3677:2016	Filler metal for soft soldering, brazing and braze welding -- Designation
	ISO 5179:2021	Investigation of brazeability with spreading and gap-filling test
	ISO 5187:1985	Welding and allied processes -- Assemblies made with soft solders and brazing filler metals -- Mechanical test methods
FI	EN ISO 9453:2020	Soft solder alloys -- Chemical compositions and forms
	EN ISO 9454-1:2016	Soft soldering fluxes -- Classification and requirements -- Part 1: Classification, labelling and packaging
	EN ISO 9454-2:2000	Soft soldering fluxes -- Classification and requirements -- Part 2: Performance requirements
	ISO 9455-1:1990	Soft soldering fluxes -- Test methods -- Part 1: Determination of non-volatile matter, gravimetric method
	EN ISO 9455-2:2020	Soft soldering fluxes -- Classification and requirements -- Part 2: Performance requirements
	EN ISO 9455-3:2020	Soft soldering fluxes -- Test methods -- Part 3: Determination of acid value, potentiometric and visual titration methods
	EN ISO 9455-5:2020	Soft soldering fluxes -- Test methods -- Part 5: Copper mirror test
	EN ISO 9455-6:1997	Soft soldering fluxes -- Test methods -- Part 6: Determination and detection of halide (excluding fluoride) content
	ISO 9455-8:1991	Soft soldering fluxes -- Test methods -- Part 8: Determination of zinc content
	EN ISO 9455-9:2020	Soft soldering fluxes -- Test methods -- Part 9: Determination of ammonia content
	EN ISO 9455-10:2012	Soft soldering fluxes -- Test methods -- Part 10: Flux efficacy test, solder spread method
	EN ISO 9455-11:2017	Soft soldering fluxes -- Test methods -- Part 11: Solubility of flux residues
	EN ISO 9455-13:2017	Soft soldering fluxes -- Test methods -- Part 13: Determination of flux spattering
	EN ISO 9455-14:2017	Soft soldering fluxes -- Test methods -- Part 14: Assessment of tackiness of flux residues
	EN ISO 9455-15:2017	Soft soldering fluxes -- Test methods -- Part 15: Copper corrosion test
	EN ISO 9455-16:2019	Soft soldering fluxes -- Test methods -- Part 16: Flux efficacy test, wetting balance method

EN ISO 9455-17:2006	Soft soldering fluxes -- Test methods -- Part 17: Surface insulation resistance comb test and electrochemical migration test of flux residues
ISO 18496:2020	Brazing — Fluxes for brazing — Classification and technical delivery conditions
ISO 22688:2020	Brazing — Quality requirements for brazing of metallic materials

Tekeillä:

Tunnus	Otsikko	Vaihe
prEN 13134 rev	Brazing - Procedure approval	työryhmä

Alustavat työkohteet:

Tunnus	Otsikko
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10. Ilmailusovellutukset

ISO/TC 44/SC 14 Welding and brazing in aerospace

Julkaisut:

FI	Tunnus	Otsikko
	ISO 11745:2010	Brazing for aerospace applications -- Qualification test for brazers and brazing operators -- Brazing of metallic components
	ISO 11745:2010/Amd 1:2015	Brazing for aerospace applications — Qualification test for brazers and brazing operators — Brazing of metallic components — Amendment 1
	ISO 16338:2017	Welding for aerospace applications -- Resistance spot and seam welding
	ISO 17533:2015	Welding for aerospace applications -- Welding information in design documents
	ISO 17927-1:2020	Welding for aerospace applications — Fusion welding of metallic components — Part 1: Process specification
	ISO 17927-2:2020	Welding for aerospace applications — Fusion welding of metallic components — Part 2: Acceptance criteria
	ISO 19828:2017	Welding for aerospace applications -- Visual inspection of welds
	ISO 24394:2018	Welding for aerospace applications -- Qualification test for welders and welding operators -- Fusion welding of metallic components

Tekeillä:

Tunnus	Otsikko	Vaihe
ISO/CD 11745	Brazing for aerospace applications — Qualification test for brazers and brazing operators — Brazing of metallic components	työryhmä
ISO/AWI 22161	Aerospace series — Brazing and high-temperature brazed metallic components — Technical specification	työryhmä

Alustavat työkohteet:

Tunnus	Otsikko
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11. Vedenalainen hitsaus

ISO/TC 44/SC 15 Underwater welding

Julkaisut:

FI	Tunnus	Otsikko
	EN ISO 15614-10:2005	Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 10: Hyperbaric dry welding
	EN ISO 15618-1:2016	Qualification testing of welders for underwater welding — Part 1: Hyperbaric wet welding

Tekeillä:

Tunnus	Otsikko	Vaihe
ISO/NP 15614-9	Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 9: Underwater hyperbaric wet welding	työryhmä

Alustavat työkohteet:

Tunnus	Otsikko
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