СРАВНИТЕЛЕН АНАЛИЗ

ISO 14732:2013 Welding personnel — Qualification testing of welding operators and weld setters for mechanized and automatic welding of metallic materials	ISO 14732:2025 (Third edition 2025-06) Welding personnel - Qualification testing of welding operators and weld setters for mechanized and automatic welding of metallic materials	ЗАБЕЛЕЖКИ
1 Scope This International Standard specifies requirements for qualification of welding operators and also weld setters for mechanized and automatic welding. This International Standard does not apply to personnel exclusively performing loading or unloading of the automatic welding unit. This International Standard is applicable when qualification testing of welding operators and weld setters is required by the contract or by the application standard. The requirements for testing of stud welding operators and setters are given in ISO 14555. The qualification and revalidation is in accordance with this International Standard (ISO 14732). Annex A dealing with functional knowledge forms an integral part of this International Standard. Annex B dealing with welding technical knowledge, Annex C outlining the qualification test certificate and the Bibliography are informative	**1 Scope** This document specifies requirements for qualification of welding operators and weld setters for mechanized and automatic welding of metallic materials. This document does not apply to personnel who: — do not control or adjust welding parameters; — are not involved in the setup of welding equipment. Qualification of welding operators and weld setters for friction stir welding and friction stir spot welding are covered by ISO 25239-3 and ISO 18785-3, respectively	
2 Normative references The following referenced documents are indispensable for the application of this document. For dated references only the edition cited applies.	**2 Normative references** The following documents are referred to in the text in such a way that some or all of their content constitutes	**Нормативните препратки в точка 2 са актуализирани** **Добавен е нов стандарт като нормативно позоваване: ISO 25901 (all parts), Welding and allied processes — Vocabulary**

For undated references the latest edition of the referenced document (including any amendments) applies. ISO 3834-2, *Quality requirements for fusion welding of metallic materials — Part 2: Comprehensive quality requirements* ISO 3834-3, *Quality requirements for fusion welding of metallic materials — Part 3: Standard quality requirements* ISO 4063, *Welding and allied processes — Nomenclature of processes and reference numbers* ISO 9606-1, *Qualification testing of welders — Fusion welding — Part 1: Steels* ISO 9606-2, *Qualification test of welders — Fusion welding — Part 2: Aluminium and aluminium alloys* ISO 9606-3, *Approval testing of welders — Fusion welding — Part 3: Copper and copper alloys* ISO 9606-4, *Approval testing of welders — Fusion welding — Part 4: Nickel and nickel alloys* ISO 9606-5, *Approval testing of welders — Fusion welding — Part 5: Titanium and titanium alloys, zirconium and zirconium alloys* ISO 14555, *Welding — Arc stud welding of metallic materials* ISO 15609-1, *Specification and qualification of welding procedures for metallic materials — Welding procedure specification — Part 1: Arc welding* ISO 15609-3, *Specification and qualification of welding procedures for metallic materials — Welding procedure specification — Part 3: Electron beam welding* ISO 15609-4, *Specification and qualification of welding procedures for metallic materials — Welding procedure specification — Part 4: Laser beam welding* ISO 15613, *Specification and qualification of welding procedures for metallic materials — Qualification based on pre-production welding test*	requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies. ISO 3834-2, *Quality requirements for fusion welding of metallic materials — Part 2: Comprehensive quality requirements* ISO 3834-3, *Quality requirements for fusion welding of metallic materials — Part 3: Standard quality requirements* ISO 4063:2023, *Welding, brazing, soldering and cutting — Nomenclature of processes and reference numbers* ISO 9606-1, *Qualification testing of welders — Fusion welding — Part 1: Steels* ISO 9606-2, *Qualification test of welders — Fusion welding — Part 2: Aluminium and aluminium alloys* ISO 9606-3, *Approval testing of welders — Fusion welding — Part 3: Copper and copper alloys* ISO 9606-4, *Approval testing of welders — Fusion welding — Part 4: Nickel and nickel alloys* ISO 9606-5, *Approval testing of welders — Fusion welding — Part 5: Titanium and titanium alloys, zirconium and zirconium alloys* ISO 14555, *Welding — Arc stud welding of metallic materials* ISO 15609-1, *Specification and qualification of welding procedures for metallic materials — Welding procedure specification — Part 1: Arc welding* ISO 15609-2, *Specification and qualification of welding procedures for metallic materials — Welding procedure specification — Part 2: Gas welding* ISO 15609-3, *Specification and qualification of welding procedures for metallic materials — Welding procedure specification — Part 3: Electron beam welding* ISO 15609-4, *Specification and qualification of welding procedures for metallic materials — Welding procedure specification — Part 4: Laser beam welding* ISO 15609-5, *Specification and qualification of welding procedures for metallic materials — Welding procedure*	

ISO 15614-1, *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* ISO 15614-2, *Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 2: Arc welding of aluminium and its alloys* 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* 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* ISO 15614-7, *Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 7: Overlay welding* ISO 15614-8, *Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 8: Welding of tubes to tube-plate joints* ISO 15614-11, *Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 11: Electron and laser beam welding* ISO 15614-12, *Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 12: Spot, seam and projection welding* ISO 15614-13, *Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 13: Upset (resistance butt) and flash welding* ISO 15614-14, *Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 14: Laser-arc hybrid welding of steels, nickel and nickel alloys*	*specification — Part 5: Resistance welding* ISO 15609-6, *Specification and qualification of welding procedures for metallic materials — Welding procedure specification — Part 6: Laser-arc hybrid welding* ISO 15613, *Specification and qualification of welding procedures for metallic materials — Qualification based on pre-production welding test* ISO 15614-1, *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* ISO 15614-2, *Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 2: Arc welding of aluminium and its alloys* 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* 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* ISO 15614-7, *Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 7: Overlay welding* ISO 15614-8, *Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 8: Welding of tubes to tube-plate joints* ISO 15614-11, *Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 11: Electron and laser beam welding* ISO 15614-12, *Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 12: Spot, seam and projection welding* ISO 15614-13, *Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 13: Upset (resistance butt) and flash welding* ISO 15614-14, *Specification and qualification of welding procedures for metallic materials — Welding procedure*	

	test — Part 14: Laser-arc hybrid welding of steels, nickel and nickel alloys ISO 25901 (all parts), *Welding and allied processes — Vocabulary*	
3 Terms and definitions For the purposes of this document, the following terms and definitions apply. **3.1** **automatic welding** welding in which all operations are performed without welding operator intervention during the process NOTE Manual adjustment of welding variables by the welding operator during welding is not possible. **3.2** **mechanized welding** welding where the required welding conditions are maintained by mechanical or electronic means but may be manually varied during the process NOTE Adjustment of the welding variables by the welding operator during welding is possible. **3.3** **pre-production welding test** welding test having the same function as a welding procedure test, but based on a non-standard test piece, representative of the production conditions **3.4** **production test** welding test carried out in the production environment with the welding unit, on actual products or on simplified test pieces, before production or during an interruption in normal production **3.5** **production sample testing** testing of actual welded products sampled from a continuous production **3.6**	**3 Terms and definitions** For the purposes of this document, the terms and definitions given in the ISO 25901 series and the following apply. ISO and IEC maintain terminology databases for use in standardization at the following addresses: — ISO Online browsing platform: available at https:// www .iso .org/ obp — IEC Electropedia: available at https:// www .electropedia .org/ **3.1** **mechanized welding** welding where the required welding parameters are maintained by mechanical or electronic means Note 1 to entry: Manual adjustment of welding parameters by the *welding operator* (3.3) during welding is possible. [SOURCE: ISO/TR 25901-1:2016, 2.1.1.10, modified — the alternative preferred term, *fully mechanized welding,* has not been included.] **3.2** **automatic welding** welding in which all operations are performed without welding operator intervention during the process Note 1 to entry: Manual adjustment of welding variables by the *welding operator* (3.3) during welding is not possible. [SOURCE: ISO/TR 25901-1:2016, 2.1.1.11] **3.3** **welding operator** person who controls or adjusts any welding parameter for *mechanized welding* (3.1) or *automatic welding* (3.2) [SOURCE: ISO/TR 25901-1:2016, 2.5.25] **3.4** **weld setter** person who *sets up* (3.6) the *welding unit* (3.7) for *mechanized welding* (3.1) or *automatic welding* (3.2)	***На практика няма съществена разлика. Термините и определенията в точка 3 са актуализирани и пренаредени:*** *m.3.5 production sample testing отпада в новата версия на стандарта* *m.3.11 welding unit operation отпада от новата версия на стандарта* ***В новата версия са дефинирани определенията съгласно ISO/TR 25901-1:2016***

programming incorporation of the approved welding procedure specification and/or the specified movements of the welding unit into a programme **3.7** **setting-up** correct adjustment of the welding unit before welding, if required by entering the robot programme **3.8** **welding operator** person who controls or adjusts any welding parameter for mechanized or automatic welding **3.9** **weld setter** person who sets up welding equipment for mechanized or automatic welding **3.10** **welding unit** welding installation including auxiliary apparatus such as jigs and fixtures, robot manipulators and rotating devices **3.11** **welding unit operation** the starting and, if necessary, the stopping of the production cycle, including loading and unloading the work pieces **3.12** **examiner** person who has been appointed to verify compliance with the applicable standard NOTE In certain cases, an external independent examiner can be required. **3.13** **examining body** organization that has been appointed to verify compliance with the applicable standard NOTE In certain cases, an external independent examining body can be required.	[SOURCE: ISO/TR 25901-1:2016, 2.5.26 modified — changed welding equipment to welding unit.] **3.5** **programming** incorporation of the approved welding procedure specification and/or the specified movements of the *welding unit* (3.7) into a programme **3.6** **setup** correct adjustment of the *welding unit* (3.7) before welding, and if required by entering the robot programme **3.7** **welding unit** welding installation, including auxiliary apparatus Note 1 to entry: Welding installations include *welding equipment* (3.8), sensors, tracking systems, interfaces and control systems. Auxiliary apparatus can include jigs and fixtures, robot(s), manipulators and rotating devices. [SOURCE: ISO/TR 25901-1:2016, 2.3.2, modified — Example changed to note to entry and revised.] **3.8** **welding equipment** individual apparatus used in welding EXAMPLE Power source, wire feeder. [SOURCE: ISO/TR 25901-1:2016, 2.3.1] **3.9** **pre-production welding test** welding test having the same function as a welding procedure test, but based on a non-standard test piece, representative of the production conditions [SOURCE: ISO/TR 25901-1:2016, 2.5.8] **3.10** **production test** welding test carried out in the production environment with the welding unit, on actual products or on simplified test pieces, before or during an interruption in normal production [SOURCE: ISO/TR 25901-1:2016, 2.5.11]	

3.14 **welding equipment** individual apparatus used in welding, such as power source, wire feeder and powder feeder	**3.11** **examiner** person who has been appointed to verify compliance with the applicable standard Note 1 to entry: In certain cases, an external independent examiner can be required. [SOURCE: ISO/TR 25901-1:2016, 2.5.29] **3.12** **examining body** organization that has been appointed to verify compliance with the applicable standard Note 1 to entry: In certain cases, an external independent examining body can be required. [SOURCE: ISO/TR 25901-1:2016, 2.5.30]	
4 Qualification **4.1 Methods of qualification** The qualification test for welding operators and weld setters shall follow a preliminary welding procedure specification (pWPS) or welding procedure specification (WPS) prepared in accordance with the relevant part of ISO 15609. Welding operators or weld setters shall be qualified by one of the following methods: a) qualification based on a welding procedure test in accordance with the relevant part of ISO 15614; b) qualification based on a pre-production welding test in accordance with ISO 15613; c) qualification based on a test piece in accordance with ISO 9606-1; d) qualification based on a production test or production sample test. For arc welding processes when using methods c) or d), the testing and acceptance criteria shall be in accordance with the relevant part of ISO 9606 for butt or fillet welds or the relevant part of ISO 15614 for tube to tube-plate welds, unless otherwise specified by an application standard.	**4 Qualification** **4.1 General** Qualification and revalidation shall be in accordance with this document. Welding operators and weld setters shall follow a work instruction based on or following directly a preliminary welding procedure specification (pWPS) or a welding procedure specification (WPS) in accordance with the documents listed below: — ISO 15609-1 for arc welding; — ISO 15609-2 for gas welding; — ISO 15609-3 for electron beam welding; — ISO 15609-4 for laser beam welding; — ISO 15609-5 for resistance welding; — ISO 15609-6 for laser-arc hybrid welding; — ISO 14555 for arc stud welding. The requirements for the qualification of welding operators and weld setters shall be in accordance with: — 4.2 for fusion welding, including arc welding and beam welding; — 4.3 for resistance welding; — 4.4 for arc stud welding.	***Съществена разлика в двете версии на стандарт ISO 14732. Точка 4 е значително преработена. Методите на квалификация в новата версия се посочват детайлно в*** ***- т.4.2 – заваряване чрез стопяване;*** ***- т.4.3 - съпротивително заваряване и*** ***- т.4.4 - заваряване на шпилки;*** 1. *За заваряване чрез стопяване са дефинирани 4 метода на квалификация, базирани на изпитен образец съгласно:* - *серията стандарти ISO 9606 - Метод 1;* - *ISO 15614-8 – метод 2* - *ISO 15614-7 – метод 3* - *Метод 4 - Произведствен или предпроизводствен образец и критерии за приемане съгласно методи 1, 2 или 3.* 2. *Съществени променливи и обхват на квалификацията /Essential variables and the range of qualification/ са изнесени в отделна точка 5 на новата версия на стандарта*

For arc welding processes using methods a), c) and d) and for method b) which refers to ISO 15614, the qualification test for overlay welding based on ISO 15614-7 shall require visual testing, surface (magnetic particle/liquid penetrant) testing and bend testing only when a qualified WPS is used by the welding operator. For other welding processes when using methods c) or d), the qualification of the weld setter and welding operator shall be in accordance with the relevant standard. Where the relevant standard does not specify testing and acceptance requirements, then as a minimum the test piece shall be visually tested and at least one macro-section shall be taken or, for butt welds, volumetric testing shall be carried out. The acceptance criteria shall be specified as for the relevant international welding procedure specification. Any method of qualification may be supplemented by a test of knowledge related to welding technology. Such a test is not mandatory. Annex B includes a recommendation for such a test. Any method of qualification shall be supplemented by a test of the functional knowledge appropriate to the welding unit, see Annex A. The essential variables and the range of qualification are specified in the appropriate subclauses of 4.2 and the validity in Clause 5. **4.2 Essential variables and the range of qualification** **4.2.1 General**	For other welding processes, the requirements for qualification of the weld setter and welding operator shall be specified. To demonstrate the competence of the welding operator or weld setter, the qualification method used shall be supplemented by a test of the functional knowledge of the welding unit. The requirements given in Annex A shall be met and documented. NOTE A qualification method can be supplemented by a test of knowledge related to welding technology. Annex B includes recommendations for such a test. The variables and range of qualification for welding operators and weld setters are specified in Clause 5. The period of validity is addressed in Clause 6. If a mechanised/automatic welding procedure is qualified in accordance with one of the following standards, the welding operator or weld setter who performed the test is also qualified in accordance with this document and a qualification test certificate shall be issued: — ISO 15613 for qualification based on pre-production welding test; — ISO 15614-1 for arc and gas welding of steels and arc welding of nickel and nickel alloys; — ISO 15614-2 for arc welding of aluminium and its alloys; — ISO 15614-5 for arc welding of titanium, zirconium and their alloys; — ISO 15614-6 for arc and gas welding of copper and its alloys; — ISO 15614-7 for overlay welding; — ISO 15614-8 for welding of tubes to tube-plate joints; — ISO 15614-11 for electron and laser beam welding; — ISO 15614-12 for spot, seam and projection welding; — ISO 15614-13 for upset (resistance butt) and flash welding; — ISO 15614-14 for laser-arc hybrid welding of steels, nickel and nickel alloys.	

Provided that the welding operator or weld setter works according to a qualified WPS, there are no limitations on the range of qualification other than those specified in 4.2.2 and 4.2.3. **4.2.2 Automatic welding** The following changes require re-qualification: — change of the welding process (except variants within welding process 13 as defined in ISO 4063); — welding with or without arc sensor and/or joint sensor; — change from single-run-per-side technique to multi-run-per-side technique (but not *vice versa*); — change of type of welding unit (including change in the robot control system). Welding without joint sensor also covers welding with joint sensor, but not *vice versa*. Welding with multi-run technique also covers single-run technique, but not *vice versa*. **4.2.3 Mechanized welding** The following changes require re-qualification: — change of the welding process (except variants within welding process 13 as defined in ISO 4063); — change from direct visual control to remote visual control and *vice versa*; — deletion of automatic arc length control; — deletion of automatic joint tracking; — addition of welding positions other than those already qualified in accordance with ISO 9606-1; — change from single-run-per-side technique to multi-run-per-side technique (but not *vice versa*); — deletion of backing; — deletion of consumable inserts.	An example of a test certificate is given in Annex C. **4.2 Fusion welding** For welding operators or weld setters, qualification testing and acceptance criteria shall be based on test pieces in accordance with one of the following methods. a) Method 1: For butt or fillet welds, in accordance with the following documents: — ISO 9606-1 for steels; — ISO 9606-2 for aluminium and aluminium alloys; — ISO 9606-3 for copper and copper alloys; — ISO 9606-4 for nickel and nickel alloys; — ISO 9606-5 for titanium and titanium alloys, zirconium and zirconium alloys. b) Method 2: For tube to tube-plate welds, in accordance with ISO 15614-8. Only the following tests are required: — visual testing; — surface (magnetic particle/liquid penetrant) testing; — macroscopic testing. c) Method 3: For overlay welding, in accordance with ISO 15614-7. Only the following tests are required: — visual testing; — surface (magnetic particle/liquid penetrant) testing; — bend testing or macroscopic testing. d) Method 4: For qualification testing based on pre-production or production test pieces, testing and acceptance criteria shall be in accordance with Methods 1, 2 or 3 as applicable. **4.3 Resistance welding** Qualification shall be based on test pieces in accordance with the following documents: — ISO 15614-12 for spot, seam and projection welding; — ISO 15614-13 for upset (resistance butt) and flash welding;	

	— ISO 15613 for qualification based on pre-production resistance welding test. The required tests and acceptance criteria shall be specified. This shall include at least visual testing and one destructive testing method. **4.4 Arc stud welding** The requirements for testing of stud welding operators and weld setters shall be in accordance with ISO 14555.	
	5 Variables and range of qualification **5.1 Mechanized welding** A change in any of the following, when applicable to the welding process, requires requalification: a) A change of the welding process group (two digits), in accordance with ISO 4063:2023. However, changes in the process subgroup (three digits) or process variants within a process group (two digits) do not require requalification. The following exceptions apply: 1) A change from autogenous TIG welding (process 142) to TIG welding with filler material (process 141, 143, 145, 146, or147) requires requalification. 2) A change from SAW with strip electrode (122 or 126) to any SAW using sold wire or tubular cored electrodes (121, 123, 124, 125), or vice versa requires requalification; b) A change from direct visual control to remote visual control and vice versa. c) Deletion of automatic joint tracking. d) Deletion of automatic arc length control. e) A change in the welding unit (see 3.7), only when this affects how the setup (see 3.6) is performed and/ or how parameter settings are entered. f) A change from single-run-per-side technique to multi-run-per-side technique (but not vice versa). g) For orbital welding equipment, a change from welding in a single position to welding in multiple positions (but not vice versa).	***Актуализирани са съществените променливи и обхватът на квалификацията. Съществената разлика в двете версии на стандарта се отнася за следното:*** 1. ***Механизирано и автоматизирано -*** *Промяната на заваръчен процес (две цифри) изисква нова квалификация; Промяната на заваръчен процес от подгрупа три цифри или вариантите на заваръчен процес от група от две цифри не изискват нова квалификация като си прилагат следните изключения:* - *Промяната на автогенно TIG заваряване, процес 142 с TIG заваряване с използване на добавъчен материал, процеси 141, 143, 145, 146 или 147 изисква нова квалификация;* - *Промяната от SAW заваряване с лентов електрод (процеси 122 или 126) към SAW заваряване с плътен или тръбен електроден тел процеси (121, 123, 124, 125) или обратно изисква преквалификация.* **2.** ***Механизирано и автоматизирано -*** *Промяна в заваръчния апарат (виж 3.7), само когато това влияе върху начина на извършване на*

	h) Deletion of backing. i) Deletion of consumable inserts **5.2 Automatic welding** A change in any of the following requires requalification: a) A change of the welding process group (two digits), in accordance with ISO 4063:2023. However, changes in the process subgroup (three digits) or process variants within a process group (two digits) do not require requalification. The following exceptions apply: 1) A change from autogenous TIG welding (process 142) to TIG welding with filler material (process141, 143, 145, 146 or147) requires requalification. 2) A change from SAW with strip electrode (122 or 126) to any SAW using solid wire or tubular cored electrodes (121, 123, 124, 125), or vice versa, requires requalification. b) For weld setters only, using fusion welding, a change from single-run-per-side to multi-run-per-side (but not vice versa). c) A change in the welding unit (see 3.7) only when this affects how the setup (see 3.6) is performed and/ or how parameter settings are entered.	*настройката (виж 3.6) и/или начина на въвеждане на настройките на параметрите. Изискване за нова квалификация в старата версия на стандарта имаше само за автоматизирано заваряване, която се отнасяше за промяна на типа заваръчен апарат (включително промяна в системата за управление на робота).* 3. ***Механизирано заваряване –*** *въведено е ново изискване за орбитално заваряване, което изисква нова квалификация и не съществуваше в старата версия.* 4. ***Автоматизирано заваряване –*** *промяна от еднослойно заваряване на страна с многослойно заваряване на страна (но не обратното) изисква нова квалификация само за заваряване чрез стопяване.*
5 Period of validity **5.1 Initial qualification** The welding operator or weld setter qualification begins from the date of welding of the test piece(s), provided that the required testing has been carried out and the test results obtained were acceptable. Each certificate needs to be confirmed every six months, otherwise it becomes invalid. The validity of a certificate may be extended as specified in 5.3. The method chosen for the extension of qualification, 5.3 a), b) or c), shall be stated on the certificate at the time of issue. **5.2 Confirmation of validity** The qualifications of a welding operator or weld setter for a process shall be confirmed every six	**6 Period of validity** **6.1 Initial qualification** The welding operator or weld setter qualification begins from the date of welding of the test piece(s), provided that the required testing has been carried out and the test results obtained were acceptable. The validity of a welding operator or weld setter qualification test certificate may be extended as specified in 6.3. The method chosen for the extension of qualification, 6.3 a), b) or c), shall be stated on the welding operator or weld setter qualification test certificate at the time of issue. **6.2 Confirmation of validity** The person responsible for welding activities or the examiner or the examining body shall confirm that the welding operator or weld setter has successfully worked	***Т. 6 (преди т. 5) е преработена, но в общи линии се запазват изискванията за валидността на квалификацията***

months by the person responsible for welding activities or examiner/examining body. This confirms that the welding operator or weld setter has worked within the range of qualification and extends the validity of the qualification for a further six-month period. This subclause is applicable to all the options for revalidation given in 5.3. **5.3 Revalidation of qualification** Revalidation shall be carried out by an examiner/examining body. The competence of the welding operator or weld setter shall be periodically verified by one of the following methods: a) The welding operator or weld setter shall be retested every six years. b) Every three years, two welds made during the last six months of the validity period shall be tested by radiographic or ultrasonic testing or destructive testing and the results shall be recorded. The acceptance levels for imperfections shall be as specified in the application standards. The weld tests shall reproduce the original test conditions. These tests revalidate the qualification for an additional three years. c) A qualification for any certificate shall be valid as long as it is confirmed in accordance with 5.2 and provided all the following conditions are fulfilled: — the welding operator or weld setter is working for the same manufacturer for whom he or she qualified and who is responsible for the manufacture of the product; — that the manufacturer's ISO 3834-2 or ISO 3834-3 quality requirements have been proven by verification; — that the manufacturer has documented that the welding operator or weld setter has produced welds of acceptable quality based on application standards.	within their range of qualification during each sixmonth period from the date they were qualified, otherwise the qualification becomes invalid. This subclause is applicable to all the options for revalidation given in 6.3. **6.3 Revalidation of qualification** The welding operator or weld setter qualification shall be periodically revalidated using one of the following methods. a) The welding operator or weld setter shall perform a new qualification test every six years. b) Every three years, two production welds made during the last 6 months of the validity period shall be tested by radiographic testing (RT) or ultrasonic testing (UT) or destructive testing. If RT or UT or destructive testing is not technically possible, revalidation using other volumetric NDT methods or production testing (e.g. leak testing) shall be performed in accordance with the application standard. The results shall be verified by an examiner or examining body as meeting the requirements of this document. The acceptance criteria shall be in accordance with Clause 4. The weld tested shall be within the range of qualification. These tests revalidate the welding operator or weld setter qualification test certificate for an additional three years. c) A welding operator or weld setter qualification test certificate shall be valid as long as it is confirmed in accordance with 6.2 and provided all the following conditions are fulfilled: — the welding operator or weld setter is working for the same manufacturer for whom they qualified and who is responsible for the manufacture of the product; — the manufacturer's ISO 3834-2 or ISO 3834-3 quality requirements shall have been proven by verification; — the manufacturer has documented that the welding operator or weld setter has produced welds of	

5.4 Revocation of qualification When there is a specific reason to question a welding operator's or weld setter's ability to make welds that meet the product standard quality requirements, the qualifications that support the welding he or she is doing shall be revoked. All other qualifications not questioned shall remain valid.	acceptable quality based on application standards. **6.4 Revocation of qualification** When there is a specific reason to question a welding operator's or weld setter's ability to make welds that meet the product standard quality requirements, the qualifications that support the welding they are doing shall be revoked. All other qualifications not questioned shall remain valid.	
6 Certificate If the results of the test are satisfactory, the examiner or examining body shall certify that the welding operator or weld setter has successfully passed the qualification test. All relevant test conditions shall be recorded on the certificate. If the welding operator or weld setter fails any of the prescribed tests, no certificate shall be issued. The certificate shall be issued under the sole responsibility of the examiner or examining body. A suggested certificate format is provided in Annex C. The manufacturer's pWPS or WPS shall be as shown in the relevant part of ISO 15609 and also in ISO 15614-11, ISO 15614-12 or ISO 14555. Any change of the essential variables for the qualification testing beyond the permitted ranges requires a new test and a new certificate.	**7 Welding operator or weld setter qualification test certificate** If the acceptance criteria in accordance with Clause 4 have been met, the examiner or examining body shall confirm that the welding operator or weld setter has successfully passed the qualification test. If the welding operator or weld setter fails any of the prescribed tests, no certificate shall be issued. The identification of the pWPS or WPS followed, the variables used for the qualification test, and the range of qualification shall be recorded on the certificate. The certificate shall be issued under the sole responsibility of the examiner or examining body. An example of a test certificate is given in Annex C. Any change of the essential variables for the qualification testing beyond the permitted ranges requires a new test and a new certificate.	
7 Documentation Certificates and test reports/records of welding tests and prolongations shall be kept on file	**8 Documentation** Certificates and test reports or records of welding tests and revalidations shall be kept on file.	

Обобщение:

Това трето издание отменя и заменя второто издание (ISO 14732:2013), което е технически преработено.

Основните промени са следните:

— въведението е преработено;

— обхватът пояснява, че стандартът не се прилага за персонал, който не контролира или регулира параметрите на заваряване или не участва в настройката на заваръчното оборудване;

— обхватът е ограничен само до метални материали съгласно заглавието;

— препратките към обхвата за заваряване с триене и точково заваряване са посочени съответно в ISO 25239-3 и ISO 18785-3;

— нормативните препратки в точка 2 са актуализирани;

— термините и определенията в точка 3 са актуализирани и пренаредени;

— точка 4 е значително преработена и променливите и обхватът на квалификация вече са в нова точка 5;

— точка 6 (преди точка 5) е преработена;

— приложения A и B са актуализирани.

Този документ е предназначен да осигури основата за взаимно признаване от страна на изпитващите органи на квалификация, свързана с компетентността на заварчиците и настройчиците на заваръчна техника в различните области на приложение. Способностите и познанията за работата на заварчика или настройчика продължават да бъдат валидни само ако заварчиците или настройчиците работят с разумна приемственост по заваръчни работи в рамките на обхвата на квалификацията. Въпреки това, тест за функционални знания е задължителен. Предполага се, че заварчикът или настройчикът е преминал обучение или има производствена практика в рамките на обхвата на квалификацията.

Всички нови квалификации трябва да са в съответствие с този документ от датата на издаване. В края на периода на валидност, съществуващите и валидни квалификационни тестове на заварчиците и настройчиците в съответствие с изискванията на национален стандарт могат да бъдат подновени в съответствие с този документ. Новият обхват на квалификация ще се тълкува в съответствие с изискванията на този документ.

Р-л Орган за сертификация на лица, № ЗОСЛ

Дата: 23.9.2025