



SLOVENSKI STANDARD
oSIST prEN ISO 14732:2023
01-maj-2023

Varilno osebje - Preskušanje za kvalifikacijo varilcev za popolnoma mehanizirano talilno in uporovno varjenje kovinskih materialov (ISO/DIS 14732:2023)

Welding personnel - Qualification testing of welding operators and weld setters for mechanized and automatic welding of metallic materials (ISO/DIS 14732:2023)

Schweißpersonal - Prüfung von Bedienern und Einrichtern zum mechanischen und automatischen Schweißen von metallischen Werkstoffen (ISO/DIS 14732:2023)

Personnel en soudage - Épreuve de qualification des opérateurs soudeurs et des régleurs en soudage pour le soudage mécanisé et le soudage automatique des matériaux métalliques (ISO/DIS 14732:2023)

Ta slovenski standard je istoveten z: prEN ISO 14732

ICS:

03.100.30	Vodenje ljudi	Management of human resources
25.160.01	Varjenje, trdo in mehko spajkanje na splošno	Welding, brazing and soldering in general

oSIST prEN ISO 14732:2023

en,fr,de

DRAFT INTERNATIONAL STANDARD

ISO/DIS 14732

ISO/TC 44/SC 11

Secretariat: ANSI

Voting begins on:
2023-03-27Voting terminates on:
2023-06-19

Welding personnel — Qualification testing of welding operators and weld setters for mechanized and automatic welding of metallic materials

Personnel en soudage — Épreuve de qualification des opérateurs soudeurs et des régleurs en soudage pour le soudage mécanisé et le soudage automatique des matériaux métalliques

ICS: 25.160.01

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ISO/CEN PARALLEL PROCESSING



Reference number
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Published in Switzerland

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 44, *Welding and allied processes*, Subcommittee SC 11, *Qualification requirements for welding and allied processes personnel*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Official interpretations of ISO/TC 44 documents, where they exist, are available from this page: <https://committee.iso.org/sites/tc44/home/interpretation.html>.

This third edition cancels and replaces the second edition (ISO 14732:2013), which has been technically revised.

The main changes compared to the previous edition are as follows:

- to be added after DIS ballot

Introduction

This document is intended to provide the basis for the mutual recognition by examining bodies of qualification related to the competence of welding operators and weld setters in the various fields of application. Tests shall be carried out in accordance with this document unless more severe tests are specified by the relevant application standard, when these shall be applied.

The welding operator's or weld setter's ability and job knowledge continue to be approved only if the welding operators or weld setters are working with reasonable continuity on welding work within the extent of qualification. However, a functional knowledge test is mandatory.

It is presumed that the welding operator or weld setter has received training or has industrial practice within the range of qualification.

All new qualifications are to be in accordance with this document from the date of issue.

At the end of its period of validity, the existing and valid qualification testing of welding operators and weld setters in accordance with the requirements of a national standard may be revalidated in accordance with this document. The new range of qualification will be interpreted in accordance with the requirements of this document.

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Welding personnel — Qualification testing of welding operators and weld setters for mechanized and automatic welding of metallic materials

1 Scope

This document specifies requirements for qualification of welding operators and weld setters.

This document does not apply to personnel:

- who do not control or adjust welding parameters, or
- who do not set up welding equipment.

[Annex A](#) gives requirements for the functional knowledge of the welding unit. [Annex B](#) gives guidance on necessary knowledge of welding technology.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes 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 9606 (all parts), *Qualification testing of welders — Fusion welding*

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 15609-5, *Specification and qualification of welding procedures for metallic materials — Welding procedure specification — Part 5: Resistance 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*

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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 15614-13, *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*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/TR 25901 (all parts) and the following apply.

ISO and IEC maintain terminological 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 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 during welding is not possible.

[SOURCE: ISO/TR 25901:2016, 2.1.1.11]

3.2 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 (3.8) during welding is possible.

[SOURCE: ISO/TR 25901:2016, 2.1.1.10]

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

[SOURCE: ISO/TR 25901:2016, 2.5.8]

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 or during an interruption in normal production

[SOURCE: ISO/TR 25901:2016, 2.5.11]

3.5 production sample testing

testing of actual welded products sampled from a continuous production

[SOURCE: ISO/TR 25901:2016, 2.5.10]

3.6**programming**

incorporation of the approved welding procedure specification and/or the specified movements of the welding unit (3.10) into a programme

3.7**setting-up**

correct adjustment of the welding unit (3.10) before welding, if required by entering the robot programme

3.8**welding operator**

person who controls or adjusts any welding parameter for mechanized welding (3.2) or automatic welding (3.1)

[SOURCE: ISO/TR 25901:2016, 2.5.25]

3.9**weld setter**

person who sets up welding equipment for mechanized welding (3.2) or automatic welding (3.1)

[SOURCE: ISO/TR 25901:2016, 2.5.25]

3.10**welding unit**

welding installation including auxiliary apparatus

Note 1 to entry: welding installations include power sources and can include wire feeders, sensors, tracking systems, interfaces and control systems etc. Auxiliary apparatus can include jigs and fixtures, robot(s), manipulators and rotating devices etc.

[SOURCE: ISO/TR 25901-1:2016, 2.3.2, modified – Note 1 to entry modified]

3.11**welding unit operation**

starting and, if necessary, 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 1 to entry: In certain cases, an external independent examiner can be required.

[SOURCE: ISO/TR 25901:2016, 2.5.29]

3.13**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 25901:2016, 2.5.30]

3.14**welding equipment**

individual apparatus used in welding

EXAMPLE Power source, wire feeder etc.

[SOURCE: ISO/TR 25901:2016, 2.3.1]