

KEEVITAMINE. METALLMATERJALIDE
TIHVTKAARKEEVITUS

Welding - Arc stud welding of metallic materials (ISO
14555:2025)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>See Eesti standard EVS-EN ISO 14555:2025 sisaldab Euroopa standardi EN ISO 14555:2025 ingliskeelset teksti.</p> <p>Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 06.08.2025.</p> <p>Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.</p>	<p>This Estonian standard EVS-EN ISO 14555:2025 consists of the English text of the European standard EN ISO 14555:2025.</p> <p>This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.</p> <p>Date of Availability of the European standard is 06.08.2025.</p> <p>The standard is available from the Estonian Centre for Standardisation and Accreditation.</p>
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ICS 25.160.10

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EUROPEAN STANDARD

EN ISO 14555

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English Version

Welding - Arc stud welding of metallic materials (ISO 14555:2025)

Soudage - Soudage à l'arc des goujons sur les matériaux métalliques (ISO 14555:2025)

Schweißen - Lichtbogenbolzenschweißen von metallischen Werkstoffen (ISO 14555:2025)

This European Standard was approved by CEN on 3 August 2025.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

This document (EN ISO 14555:2025) has been prepared by Technical Committee ISO/TC 44 "Welding and allied processes" in collaboration with Technical Committee CEN/TC 121 "Welding and allied processes" the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 2026, and conflicting national standards shall be withdrawn at the latest by February 2026.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

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Endorsement notice

The text of ISO 14555:2025 has been approved by CEN as EN ISO 14555:2025 without any modification.

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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 document 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 10, *Quality management in the field of welding*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 121, *Welding and allied processes*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This fifth edition cancels and replaces the fourth edition (ISO 14555:2017), of which has been technical revised.

The main changes are as follows:

- normative references and bibliography have been updated;
- [Clause 3](#) terms and definitions revised;
- reorganization and revision of [Clause 9](#);
- [Tables 1](#) to 3 regarding examination and testing merged in one table;
- [Clause 11](#) revised;
- informative [Annex A](#) deleted;
- informative [Annexes D](#) and [E](#) merged into a single [Annex D](#);
- informative Annexes F and G merged into a single [Annex E](#).

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Introduction

The purpose of arc stud welding is to weld predominantly pin-shaped metal parts to metal workpieces. In this document, arc stud welding is referred to simply as stud welding. Among applications, stud welding is used in bridge building (especially in composite structures), steel structures, shipbuilding, facade-wall fabrication, vehicle manufacture, apparatus engineering, steam-boiler construction, and the manufacture of household appliances.

The quality of a stud weld depends not only on strict conformance with the welding procedure specification but also on the correct function of the actuating mechanism (e.g. welding guns), and on the condition of the components, of the accessories and of the power supply.

This document does not invalidate former specifications, providing the technical requirements are equivalent and satisfied.

Welding — Arc stud welding of metallic materials

1 Scope

This document applies to arc stud welding of metallic materials subject to static and fatigue loading. This document specifies requirements that are particular to stud welding, in relation to welding knowledge, quality requirements, welding procedure specification, welding procedure qualification, qualification testing of operators and testing of production welds.

This document is applicable where it is necessary to demonstrate the capability of a manufacturer to produce welded construction of a specified quality.

NOTE General quality requirements for fusion welding of metallic materials are given in ISO 3834-1, ISO 3834-2, ISO 3834-3, ISO 3834-4 and ISO 3834-5.

This document has been prepared in a comprehensive manner, with a view to it being used as a reference in contracts. The requirements contained within it can be adopted in full, or partially, if certain requirements are not relevant to a particular construction (see [Annex A](#)). For the working range of stud welding, see [Annex B](#).

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 3834-1, *Quality requirements for fusion welding of metallic materials — Part 1: Criteria for the selection of the appropriate level of quality requirements*

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 3834-4, *Quality requirements for fusion welding of metallic materials — Part 4: Elementary quality requirements*

ISO 4063, *Welding, brazing, soldering and cutting — Nomenclature of processes and reference numbers*

ISO 6947, *Welding and allied processes — Welding positions*

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 14175, *Welding consumables — Gases and gas mixtures for fusion welding and allied processes*

ISO 14731, *Welding coordination — Tasks and responsibilities*

ISO 14732, *Welding personnel — Qualification testing of welding operators and weld setters for mechanized and automatic welding of metallic materials*

ISO 15607, *Specification and qualification of welding procedures for metallic materials — General rules*

ISO/TR 15608, *Welding — Guidelines for a metallic materials grouping system*

ISO 15611, *Specification and qualification of welding procedures for metallic materials — Qualification based on previous welding experience*

ISO 15613, *Specification and qualification of welding procedures for metallic materials — Qualification based on pre-production welding test*

ISO 17636 (all parts), *Non-destructive testing of welds — Radiographic testing*

ISO/TR 25901-3, *Welding and allied processes — Vocabulary — Part 3: Welding processes*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 3834-1, ISO 4063, ISO 14731, ISO 14732, ISO 15607 and ISO/TR 25901-3 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

stud

fastener to be attached by stud welding

3.2

auxiliary material

ceramic ferrules and shielding gases

3.3

stud-welding operator

operating personnel for stud-welding equipment

Note 1 to entry: In special cases (e.g. mass production at the manufacturer's factory), the welding can be carried out by suitable auxiliary personnel, appropriately trained and supervised.

3.4

stud diameter

d

stud (3.1) nominal diameter

Note 1 to entry: See ISO 13918.

Note 2 to entry: For non-round studs, the cross-section can be converted to an equivalent diameter.

3.5

welding diameter

d_w

diameter of the stud at the base before welding

Note 1 to entry: For non-round studs, the cross-section can be converted to an equivalent diameter.

3.6

weld zone

joining zone in the area of the nominal stud cross-section

3.7

current intensity

I

root-mean-square (RMS) value of the welding current in the steady state during the burning time of the arc

Note 1 to entry: Current intensity is not applicable to capacitor discharge.