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BSI Standards Publication

Welding and allied processes — Symbolic representation on drawings — Welded joints

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National foreword

This British Standard is the UK implementation of EN ISO 2553:2019. It is identical to ISO 2553:2019. It supersedes BS EN ISO 2553:2013 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee WEE/1, Definitions and symbols for welding.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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Welding and allied processes - Symbolic representation on drawings - Welded joints (ISO 2553:2019, Corrected version 2021-09)

Soudage et techniques connexes - Représentations
symboliques sur les dessins - Assemblages soudés
(ISO 2553:2019, Version corrigée 2021-09)

Schweißen und verwandte Prozesse - Symbolische
Darstellung in Zeichnungen - Schweißverbindungen
(ISO 2553:2019, korrigierte Fassung 2021-09)

This European Standard was approved by CEN on 22 March 2019.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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COMITÉ EUROPÉEN DE NORMALISATION
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CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (EN ISO 2553:2019) 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 DIN.

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 October 2019, and conflicting national standards shall be withdrawn at the latest by October 2019.

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.

This document supersedes EN ISO 2553:2013.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 2553:2019, Corrected version 2021-09 has been approved by CEN as EN ISO 2553:2019 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 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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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 7, *Representation and terms*.

Any feedback, question or request for official interpretation related to any aspect of this document should be directed to the Secretariat of ISO/TC 44/SC 7 via your national standards body. A complete listing of these bodies can be found at www.iso.org/members.html. Official interpretations, where they exist, are available from this page: <https://committee.iso.org/sites/tc44/home/interpretation.html>.

This fifth edition cancels and replaces the fourth edition (ISO 2553:2013), which has been technically revised. The main changes compared to the previous edition are as follows:

- editorial corrections especially to align with other ISO/TC 44 standards and terminology;
- figures updated to more accurately reflect welds illustrated;
- plug welds in circular and elongated holes (slots) — clarification especially as it relates to slot welds;
- old Figure 5 is now shown as [Table 5](#) for clarity;
- [Clause 6](#) has been revised to reflect Pacific Rim practices.

This corrected version of ISO 2553:2019 incorporates the following corrections:

- in [3.1](#) and [3.2](#), a cross reference to tail ([3.5](#)) has been added;
- in [Table 6](#), item 1.2, the placement of the illustration and the symbol has been corrected by moving the respective figures to the appropriate columns;
- in the NOTE to [Figure 7](#), the sentence "For system B, the dashed line is to be omitted." has been deleted;
- in [Table A.2](#), figures have been revised according to ISO 128-40.

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Introduction

The symbols given in this document can be used on technical drawings for welded components. Design-related specifications, such as type, thickness, and length of weld, weld quality, surface treatment, filler material and testing specifications, can be indicated directly at the weld by means of the symbols. The principals of this document can be applied to brazed and soldered joints.

Clarity can be improved by references to collective information in the drawings or references to additional design-related documents.

Preparation for production can require detailed welding-related planning. The type of representation described in this document can be used for this purpose and complemented by additional production-related information (e.g. welding position, welding process, WPS, joint preparation, preheating). This information is often given in production-related documents, such as work schedules or welding procedure specifications (WPS).

Technical drawings are intended to clearly and understandably illustrate design-related specifications. Welding-related drawings are prepared and checked by specially trained personnel (see ISO 14731).

This document recognizes that there are two different approaches in the global market to designate the arrow side and other side on drawings, and allows for either to be used in isolation, to suit a particular market need. Application of either approach identifies a welding symbol in accordance with this document. The approach in accordance with system A is based on ISO 2553:1992¹⁾. The approach in accordance with system B is based upon standards used by Pacific Rim countries.

1) Withdrawn.

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Welding and allied processes — Symbolic representation on drawings — Welded joints

1 Scope

This document defines the rules to be applied for symbolic representation of welded joints on technical drawings. This can include information about the geometry, manufacture, quality and testing of the welds. The principles of this document can also be applied to soldered and brazed joints.

It is recognized that there are two different approaches in the global market to designate the arrow side and other side on drawings. In this document:

- clauses, tables and figures which carry the suffix letter "A" are applicable only to the symbolic representation system based on a dual reference line;
- clauses, tables and figures which carry the suffix letter "B" are applicable only to the symbolic representation system based on a single reference line;
- clauses, tables and figures which do not have the suffix letter "A" or "B" are applicable to both systems.

The symbols shown in this document can be combined with other symbols used on technical drawings, for example to show surface finish requirements.

An alternative designation method is presented which can be used to represent welded joints on drawings by specifying essential design information such as weld dimensions, quality level, etc. The joint preparation and welding process(es) are then determined by the production unit in order to meet the specified requirements.

NOTE Examples given in this document, including dimensions, are illustrative only and are intended to demonstrate the proper application of principles.

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 128 (all parts), *Technical drawings — General principles of presentation*

ISO 129-1, *Technical product documentation (TPD) — Presentation of dimensions and tolerances — Part 1: General principles*

ISO 3098-2, *Technical product documentation — Lettering — Part 2: Latin alphabet, numerals and marks*

ISO 4063, *Welding and allied processes — Nomenclature of processes and reference numbers*

ISO/TR 25901 (all parts), *Welding and related processes — Vocabulary*

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>