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Svejsning – Generelle tolerancer for svejste konstruktioner – Dimensioner for længder, vinkler, form og position

Welding – General tolerances for welded constructions – Dimensions for lengths and angles – Shape and position (ISO 13920:2023)

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EUROPÄISCHE NORM

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English Version

Welding - General tolerances for welded constructions - Dimensions for lengths and angles - Shape and position (ISO 13920:2023)

Soudage - Tolérances générales relatives aux
constructions soudées - Dimensions des longueurs
et angles, formes et positions (ISO 13920:2023)

Schweißen - Allgmeintoleranzen für
Schweißkonstruktionen - Längen- und
Winkelmaße - Form und Lage (ISO 13920:2023)

This European Standard was approved by CEN on 2 June 2023.

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Europæisk forord [\(EN\)](#)

Dette dokument ([EN ISO 13920:2023](#)) er udarbejdet af teknisk komite ISO/TC 44, "Welding and allied processes", i samarbejde med teknisk komite CEN/TC 121, "Welding and allied processes", hvis sekretariat varetages af DIN.

Denne Europæiske Standard skal inden december 2023 have status som national standard enten ved udgivelse af en identisk tekst eller ved formel godkendelse, og modstridende nationale standarder skal være trukket tilbage senest december 2023.

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Dette dokument erstatter [EN ISO 13920:1996](#).

Tilbagemeldinger og spørgsmål vedrørende dette dokument bør rettes til brugerens nationale standardiseringsorganisation/nationale udvalg. En fuldstændig liste over disse organisationer findes på CEN's website.

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Godkendelse

Teksten til [ISO 13920:2023](#) er godkendt af CEN som [EN ISO 13920:2023](#) uden ændringer.

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Second edition
2023-06

Welding — General tolerances for welded constructions — Dimensions for lengths and angles, shape and position

*Soudage — Tolérances générales relatives aux constructions soudées
— Dimensions des longueurs et angles, formes et positions*



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Indholdsfortegnelse [\(EN\)](#)

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Forord (EN)

ISO (International Organization for Standardization) er en verdensomspændende sammenslutning af nationale standardiseringsorganisationer (ISO's medlemsorganisationer). Internationale Standarder udarbejdes normalt af ISO's tekniske komiteer. Medlemsorganisationer, som er interesseret i et emne, inden for hvilket der er oprettet en teknisk komite, har ret til at være repræsenteret i den pågældende komite. Internationale organisationer, både statslige og ikke-statslige, der har en samarbejdsaftale med ISO, deltager ligeledes i arbejdet. ISO samarbejder tæt med IEC (International Electrotechnical Commission) i alle forhold vedrørende elektroteknisk standardisering.

De procedurer, der er anvendt ved udarbejdelsen af dette dokument, og de procedurer, der er beregnet til vedligeholdelse af dokumentet, er beskrevet i ISO/IEC Directives, Part 1. Især bør de forskellige godkendelseskriterier, der er nødvendige for de forskellige typer ISO-dokumenter, bemærkes. Dette dokument er udarbejdet i overensstemmelse med de redaktionelle regler i ISO/IEC Directives, Part 2 (se www.iso.org/directives).

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Dette dokument er udarbejdet af teknisk komite ISO/TC 44, *Welding and allied processes*, underkomite SC 10, *Quality management in the field of welding*, i samarbejde med CEN (European Committee for Standardization), teknisk komite CEN/TC 121, *Welding and allied processes*, i overensstemmelse med aftale om teknisk samarbejde mellem ISO og CEN (Wien-aftalen).

Denne anden udgave ophæver og erstatter første udgave ([ISO 13920:1996](http://www.iso.org/iso/13920)), som den er en let revision af. De væsentligste ændringer er følgende:

- referencerne er ajourført
- præsenteringsformen er opdateret til de nyeste ISO-skrivemåder.

Tilbagemeldinger eller spørgsmål vedrørende dette dokument bør rettes til brugerens nationale standardiseringsorganisation. En fuldstændig liste over disse organisationer findes på www.iso.org/members.html. Hvis der findes officielle fortolkninger af dokumenter fra ISO/TC 44, er disse tilgængelige på <https://committee.iso.org/sites/tc44/home/interpretation.html>.

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Svejsning – Generelle tolerancer for svejste konstruktioner – Dimensioner for længder, vinkler, form og position

1 Anvendelsesområde [\(EN\)](#)

Dette dokument specificerer generelle tolerancer for lineære dimensioner og vinkeldimensioner samt for form og position af svejste konstruktioner opdelt i fire toleranceklasser baseret på sædvanlig værkstedsnøjagtighed. Hovedkriteriet for valg af en bestemt toleranceklasse er baseret på funktionskravene, der skal opfyldes.

De gældende tolerancer er altid dem, der er angivet på tegningen. I stedet for at specificere individuelle tolerancer kan toleranceklasserne i henhold til dette dokument anvendes.

Generelle tolerancer for lineære dimensioner og vinkeldimensioner samt for form og position som specificeret i dette dokument gælder for svejste dele, svejsesamlinger, svejste konstruktioner osv.

Særlige foranstaltninger kan være nødvendige ved komplekse konstruktioner.

Specifikationerne i dette dokument er baseret på uafhængighedsprincippet i [ISO 8015](#), ifølge hvilket dimensionstolerancerne og de geometriske tolerancer gælder uafhængigt af hinanden.

Fremstillingsdokumentation, hvori lineære dimensioner og vinkeldimensioner eller angivelser for form og position er anført uden individuelt angivne tolerancer, skal anses for ufuldstændig, hvis der ikke er referencer til generelle tolerancer, eller disse er utilstrækkelige. Dette gælder ikke for midlertidige dimensioner.

2 Normative referencer [\(EN\)](#)

Der er i teksten henvist til følgende dokumenter på en sådan måde, at noget eller alt indholdet udgør krav i dette dokument. For daterede referencer gælder kun den anførte udgave. For udaterede referencer gælder den nyeste udgave af det pågældende dokument (inklusive eventuelle tillæg).

[ISO 463](#), *Geometrical Product Specifications (GPS) — Dimensional measuring equipment — Design and metrological characteristics of mechanical dial gauges*

[ISO 1101](#), *Geometrical product specifications (GPS) — Geometrical tolerancing — Tolerances of form, orientation, location and run-out*

[ISO 13385-1](#), *Geometrical product specifications (GPS) — Dimensional measuring equipment — Part 1: Design and metrological characteristics of callipers*

[ISO 13385-2](#), *Geometrical product specifications (GPS) — Dimensional measuring equipment — Part 2: Design and metrological characteristics of calliper depth gauges*

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European foreword [\(DA\)](#)

This document ([EN ISO 13920:2023](#)) 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 December 2023, and conflicting national standards shall be withdrawn at the latest by December 2023.

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 13920:1996](#).

Any feedback and questions on this document should be directed to the users' national standards body/national committee. A complete listing of these bodies can be found on the CEN website.

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, 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, Türkiye and the United Kingdom.

Endorsement notice

The text of [ISO 13920:2023](#) has been approved by CEN as [EN ISO 13920:2023](#) without any modification.

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Foreword [\(DA\)](#)

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 second edition cancels and replaces the first edition ([ISO 13920:1996](#)), of which it constitutes a minor revision. The main changes are as follows:

- references have been updated;
- presentation has been updated to the latest ISO styles.

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>.

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Welding — General tolerances for welded constructions — Dimensions for lengths and angles, shape and position

1 Scope [\(DA\)](#)

This document specifies general tolerances for linear and angular dimensions and for shape and position of welded structures in four tolerance classes, based on customary workshop accuracy. The main criterion for selection of a particular tolerance class is based on the functional requirements which are to be met.

The applicable tolerances are always those which are stated in the drawing. Instead of specifying individual tolerances the tolerance classes according to this document can be used.

General tolerances for linear and angular dimensions and for shape and position as specified in this document apply for weldments, welding assemblies, welded structures, etc.

Special provisions can be necessary for complex structures.

The specifications given in this document are based on the independency principle of [ISO 8015](#), according to which the dimensional and geometrical tolerances apply independently of each other.

Manufacturing documentation in which linear and angular dimensions or indications for shape and position are presented without individually indicated tolerances shall be deemed incomplete if there is no, or inadequate, reference to general tolerances. This does not apply to temporary dimensions.

2 Normative references [\(DA\)](#)

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 463](#), *Geometrical Product Specifications (GPS) — Dimensional measuring equipment — Design and metrological characteristics of mechanical dial gauges*

[ISO 1101](#), *Geometrical product specifications (GPS) — Geometrical tolerancing — Tolerances of form, orientation, location and run-out*

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