

Resistance welding equipment - Electrode taper fits for  
spot welding equipment - Dimensions (ISO 1089:2023)

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 1089:2023 sisaldab Euroopa standardi EN ISO 1089:2023 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 1089:2023 consists of the English text of the European standard EN ISO 1089:2023.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 26.07.2023.	Date of Availability of the European standard is 26.07.2023.
Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

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English Version

Resistance welding equipment - Electrode taper fits for  
spot welding equipment - Dimensions (ISO 1089:2023)

Matériel de soudage par résistance - Emmanchements  
coniques d'électrodes pour machines à souder par  
points - Dimensions (ISO 1089:2023)

Widerstandsschweißeinrichtungen - Elektrodensitze  
für Punktschweißeinrichtungen - Maße (ISO  
1089:2023)

This European Standard was approved by CEN on 23 June 2023.

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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 1089:2023) 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of an identical text or by endorsement, at the latest by January 2024, and conflicting national standards shall be withdrawn at the latest by January 2024.

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 21089:1991.

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 1089:2023 has been approved by CEN as EN ISO 1089:2023 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](http://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](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 44, *Welding and allied processes*, Subcommittee SC 6, *Resistance welding and allied mechanical joining*, 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 1089:1980), which has been technically revised.

The main changes are as follows:

- [Clauses 1, 4, 5](#) and [6](#) have been updated;
- [Clauses 2](#) and [3](#) have been added according to ISO drafting rules;
- former Figure 1 has been split into [Figures 1](#) and [2](#) and updated;
- [Figures 3](#) and [4](#) have been added;
- all tables have been rearranged and updated (see [Tables 1, 2](#) and [4](#));
- [Table 3](#) has been added;
- [Annex A](#) has been added for electrodes of RWMA type;
- a Bibliography has been added.

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](http://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>.

# Resistance welding equipment — Electrode taper fits for spot welding equipment — Dimensions

## 1 Scope

This document specifies the dimensions and tolerances of taper fits between the following:

- straight electrodes and electrode holders;
- electrode adapters connecting electrode caps and electrode holders;
- female electrode caps and electrode adapters;
- male electrode caps and electrode adapters.

NOTE Electrode holders and electrode caps utilizing locking tapers are addressed in ISO 20168.

## 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 17677-1, *Resistance welding — Vocabulary — Part 1: Spot, projection and seam welding*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 17677-1 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/>

## 4 Dimensions

The dimensions shall be in accordance with figures and tables as follows:

- for taper types A and B, [Figure 1](#) and [Tables 1](#) and [2](#);
- for taper Type C, [Figure 2](#) and [Table 3](#), with [Figure 3](#) showing a detail view of  $l_2$ ,  $l_3$  and  $l_4$ ;
- for taper Type D, [Figure 4](#) and [Table 4](#).

Taper dimension tolerances are given in [Table 5](#).

Tapers can be checked using taper plug gauges and taper ring gauges in accordance with ISO 5822.

[Annex A](#) gives information on alternative types of electrode taper fits with 1:9.6 tapers.