

SLOVENSKI STANDARD oSIST prEN ISO 1089:2022

01-december-2022

Oprema za uporovno varjenje - Nasedi elektrod pri napravah za uporovno
točkovno varjenje - Mere (ISO/DIS 1089:2022)

Resistance welding equipment - Electrode taper fits for spot welding equipment - Dimensions (ISO/DIS 1089:2022)

Widerstandsschweißeinrichtungen - Elektrodensitze für Punktschweißeinrichtungen - Maße (ISO/DIS 1089:2022)

Matériel de soudage par résistance - Emmanchements coniques d'électrodes pour machines à souder par points - Dimensions (ISO/DIS 1089:2022)

3fb88aaa293/osist-pren-iso-1089-2022

Ta slovenski standard je istoveten z: prEN ISO 1089

ICS: 25.160.30 Varilna oprema

Welding equipment

oSIST prEN ISO 1089:2022

en,fr,de

oSIST prEN ISO 1089:2022

iTeh STANDARD PREVIEW (standards.iteh.ai)

oSIST prEN ISO 1089:2022 https://standards.iteh.ai/catalog/standards/sist/b8f23a6e-08a4-48ab-b640-03fb88aaa293/osist-pren-iso-1089-2022

DRAFT INTERNATIONAL STANDARD ISO/DIS 1089

ISO/TC 44/SC 6

Voting begins on: **2022-09-27**

Secretariat: **DIN**

Voting terminates on: 2022-12-20

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

ICS: 25.160.30

iTeh STANDARD PREVIEW (standards.iteh.ai)

oSIST prEN ISO 1089:2022 https://standards.iteh.ai/catalog/standards/sist/b8f23a6e-08a4-48ab-b640-03fb88aaa293/osist-pren-iso-1089-2022

This document is circulated as received from the committee secretariat.

THIS DOCUMENT IS A DRAFT CIRCULATED FOR COMMENT AND APPROVAL. IT IS THEREFORE SUBJECT TO CHANGE AND MAY NOT BE REFERRED TO AS AN INTERNATIONAL STANDARD UNTIL PUBLISHED AS SUCH.

IN ADDITION TO THEIR EVALUATION AS BEING ACCEPTABLE FOR INDUSTRIAL, TECHNOLOGICAL, COMMERCIAL AND USER PURPOSES, DRAFT INTERNATIONAL STANDARDS MAY ON OCCASION HAVE TO BE CONSIDERED IN THE LIGHT OF THEIR POTENTIAL TO BECOME STANDARDS TO WHICH REFERENCE MAY BE MADE IN NATIONAL REGULATIONS.

RECIPIENTS OF THIS DRAFT ARE INVITED TO SUBMIT, WITH THEIR COMMENTS, NOTIFICATION OF ANY RELEVANT PATENT RIGHTS OF WHICH THEY ARE AWARE AND TO PROVIDE SUPPORTING DOCUMENTATION.

ISO/CEN PARALLEL PROCESSING



Reference number ISO/DIS 1089:2022(E)

iTeh STANDARD PREVIEW (standards.iteh.ai)

oSIST prEN ISO 1089:2022

https://standards.iteh.ai/catalog/standards/sist/b8f23a6e-08a4-48ab-b640-03fb88aaa293/osist-pren-iso-1089-2022



COPYRIGHT PROTECTED DOCUMENT

© ISO 2022

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office CP 401 • Ch. de Blandonnet 8 CH-1214 Vernier, Geneva Phone: +41 22 749 01 11 Email: copyright@iso.org Website: www.iso.org

Published in Switzerland

Page

Contents

Forew	ord	iv
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Dimensions	1
5	Designation	6
6	Marking	6
Annex	A (informative) Alternative types and dimensions of female and male electrode taper fits	7
Bibliog	graphy	8

iTeh STANDARD PREVIEW (standards.iteh.ai)

oSIST prEN ISO 1089:2022 https://standards.iteh.ai/catalog/standards/sist/b8f23a6e-08a4-48ab-b640-03fb88aaa293/osist-pren-iso-1089-2022

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 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 compared to the previous edition are as follows:

- this document has been updated to the latest ISO/IEC Directives, Part 2;
- to complete closer to publication.

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 <u>www.iso.org/members.html</u>.

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

DRAFT INTERNATIONAL STANDARD

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 OSIST prEN ISO 1089:2022

https://standards.iteh.ai/catalog/standards/sist/b8f23a6e-08a4-48ab-b640-

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <u>https://www.iso.org/obp</u>
- 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, <u>Figure 1</u> and <u>Table 1</u> and <u>Table 2</u>;
- 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 <u>Table 5</u>.

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

<u>Annex A</u> gives information for alternative types of electrode taper fits with 1:9.6 tapers.



Key

- 1 male component (straight electrode or electrode d_3 adapter)
- 2 electrode holder
- *d*₁ outside diameter male component
- *d*₂ outside diameter electrode holder
- 1:X taper

gauge diameter at datum line of taper – male component/electrode holder

- cooling hole diameter male component
- cooling hole diameter electrode holder
- taper length male component
- l_2 effective taper length male component

Figure 1 — Taper-details – Male component (straight electrode or electrode adaptor, either for straight thrust or eccentric loading) and electrode holder - Taper types A and B

 d_4

 d_5

 l_1

fb88aaa293/osist-pren-iso-1089-202

Table 1 — Male components (straight electrodes or electrode adaptors) and electrode holders – Dimensions for straight thrust - Taper type A

Dimensions in millimetres

Electrode taper fit	Taper	<i>d</i> ₁	<i>d</i> ₂	<i>d</i> ₃	<i>d</i> ₄	<i>d</i> ₅	I ₂	Electrode force ^a
	1 : X					Straigh	t thrust	F _{max} kN
A 10	1:10 (2°51'45")	10	16 20 25	9,8	5,5	8,5	13	2,5
A 13		13	20 25 31,5 40	12,7	7,5	11	16	4
A 16		16	25 31,5 40	15,5	8,5	13,5	20	6,3
A 20		20	31,5 40	19	10,5	16,5	25	10
A 25		25	40	24,5	13,5	21,5	31,5	16
^a For information only.								

Electrode taper fit	Taper 1 : X	<i>d</i> ₁	<i>d</i> ₂	<i>d</i> ₃	<i>d</i> ₄	<i>d</i> ₅	<i>l</i> ₂	Electrode force ^a
						Straigh	t thrust	F _{max}
								kN
A 32	1:5	32	50	31	14	23	40	25
A 40	(5°42'30")	40	63	39	16	29	50	40
^a For information only.								

Table 1 (continued)

Table 2 — Male components (offset electrodes or offset electrode adaptors) and electrode holders – Dimensions for eccentric loading - Taper type B

Dimensions in millimetres

Electrode	Taper	<i>d</i> ₁	<i>d</i> ₂	<i>d</i> ₃	<i>d</i> ₄	<i>d</i> ₅	<i>l</i> ₂	Electrode
taper in	1:X							101 Ce.
						Eccentri	c loading	F _{max}
								kN
B 10		10	16 20 25	9,8	5,5	8	20	2,5
B 13	1 : 10 (2°51'45") ttps://stand	h Sist	25 31,5 40	R 12,7	R 7,5	10	25	4
B 16		16	25 31,5 40	15,5	8,5 8,5	12,5	31,5	6,3
B 20		0 ards.11eh.ai/	31,5 cata 40 sta	ISO 1089: ndards/sist/	2022 0812340e-0	8a4-48ab- b	640 -⁴⁰	10
B 25		25fb88	aaa2 40 /osis	t-p:24,5iso-	10813,5 22	19,5	50	16
B 32	1:5	32	50	31	14	_	-	25
B 40	(5°42'30")	40	63	39	16	_	_	40
^a For infor	For information only.							



Key

3	female electrode cap	d_7	cooling hole diameter – electrode adaptor
4	electrode adaptor	<i>d</i> ₈	gauge diameter at datum line of taper – female electrode cap/ electrode adaptor
d_{1C}	outside diameter - electrode cap	<i>l</i> ₂	effective taper length/depth – electrode adaptor/female electrode cap
d_6	outside diameter - electrode adaptor	l_3	length of reduced diameter -electrode adaptor
1:X	taper	l_4	total hole depth – female electrode cap
NOTE	A round head type F female elect	trode c	ap is shown as an example.

Figure 2 — Taper details - Female electrode cap and male electrode adaptor - Taper type C



Figure 3 — Detail view of l_2 , l_3 and l_4 – Example of female electrode cap and male electrode adaptor – Taper type C