BRITISH STANDARD

BS EN ISO
5183-1:2001

Resistance welding equipment — Electrode adaptors, male taper 1:10 —

Part 1: Conical fixing, taper 1:10

The European Standard EN ISO 5183-1:2000 has the status of a British Standard

ICS 25.160.20

National foreword

This British Standard is the official English language version of EN ISO 5183-1:2000. It is identical with ISO 5183-1:1998. It supersedes BS EN 25183-1:1992 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee WEE/26, Resistance welding equipment, which has the responsibility to:

— aid enquirers to understand the text;

— present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;

— monitor related international and European developments and promulgate them in the UK.

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

Cross-references

Attention is drawn to the fact that CEN and CENELEC Standards normally include an annex which lists normative references to international publications with their corresponding European publications. The British Standards which implement these international or European publications may be found in the BSI Standards Catalogue under the section entitled “International Standards Correspondence Index”, or by using the “Find” facility of the BSI Standards Electronic Catalogue.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

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Summary of pages

This document comprises a front cover, an inside front cover, the EN ISO title page, the EN ISO foreword page, the ISO title page, pages ii and iii, a blank page, pages 1 to 6, the annex ZA page and a back cover.

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This British Standard, having been prepared under the direction of the Engineering Sector Committee, was published under the authority of the Standards Committee and comes into effect on 15 April 2001

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Amendments issued since publication

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 5183-1

April 2000

ICS 25.160.30

Supersedes EN 25183-1:1991

English version

Resistance welding equipment - Electrode adaptors, male taper 1:10 - Part 1: Conical fixing, taper 1:10 (ISO 5183-1:1998)

Equipement de soudage par résistance - Allonges d'électrode à embout amovible, cône mâle 1:10 - Partie 1: Emmanchement conique 1:10 (ISO 5183-1:1998)

Widerstandsschweißeinrichtungen - Elektrodenschäfte mit Außenkegel 1:10 - Teil 1: Kegelige Befestigung, Kegel 1:10 (ISO 5183-1:1998)

This European Standard was approved by CEN on 10 March 2000.

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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 Central Secretariat has the same status as the official versions.

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

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

Foreword

The text of the International Standard from Technical Committee ISO/TC 44 "Welding and allied processes" of the International Organization for Standardization (ISO) has been taken over as an European Standard by Technical Committee CEN/TC 121 "Welding", the secretariat of which is held by DS.

This European Standard replaces EN 25183-1:1991.

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 2000, and conflicting national standards shall be withdrawn at the latest by October 2000.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 5183-1:1998 has been approved by CEN as a European Standard without any modification.

NOTE: Normative references to International Standards are listed in annex ZA (normative).

INTERNATIONAL STANDARD

ISO 5183-1

Second edition
1998-09-01

Resistance welding equipment — Electrode adaptors, male taper 1:10 —

Part 1:
Conical fixing, taper 1:10

Équipement de soudage par résistance — Allonges d'électrode à embout amovible, cône mâle 1:10 —

Partie 1: Emmanchement conique 1:10

Reference number
ISO 5183-1:1998(E)

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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

International Standard ISO 5183-1 was prepared by Technical Committee ISO/TC 44, *Welding and allied processes*, Subcommittee SC 6, *Resistance welding.*

ISO 5183 consists of the following parts, under the general title *Resistance welding equipment — Electrode adaptors, male taper 1:10*:

— *Part 1: Conical fixing, taper 1:10*

— *Part 2: Parallel shank fixing for end-thrust electrodes*

This second edition is a revision of the first edition (ISO 5183-1:1988), which has been technically revised.

Annexes A and B of this part of ISO 5183 are for information only.

Introduction

This part of ISO 5183 is an updated edition of ISO 5183-1:1988 and is largely based on the former version.

It is extended to adaptors with longer taper fits (type C) conforming to ISO 1089:1980, type B.

These electrode adaptors are designed to be used when electrodes are mounted at an angle.

Resistance welding equipment — Electrode adaptors, male taper 1:10 —

Part 1:
Conical fixing, taper 1:10

1 Scope

This part of ISO 5183 specifies the dimensions and tolerances of resistance spot welding electrode adaptors where the fixing element for the cap (see ISO 5821) is a male taper of 1:10 and for which the electrode taper fits in conformance with ISO 1089.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 5183. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 5183 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 5182:1991, *Welding – Materials for resistance welding electrodes and ancillary equipment*.

ISO 5821:1979, *Resistance spot welding electrode caps.*

3 Dimensions

The dimensions shall be those given in figure 1, table 1 and table 2.

4 Designation

The designation of electrode adaptors which comply with this part of ISO 5183 shall include the following

a) the description block (i. e. "spot welding electrode adaptor");

b) reference to this part of ISO 5183, i. e. ISO 5183-1;

c) the type of electrode adaptor, according to figure 1;

d) the diameter, d_1, in millimetres;

e) the length, l_1, in millimetres;

f) the material of which the electrode adaptor is made, in accordance with ISO 5182.

EXAMPLE
A type A spot welding electrode adaptor, of diameter d_1 = 16 mm, length l_1 = 58 mm and material type A 2/1, shall be designated as follows:

Spot welding electrode adaptor ISO 5183-1 – A - 16 × 58 – A 2/1

5 Materials

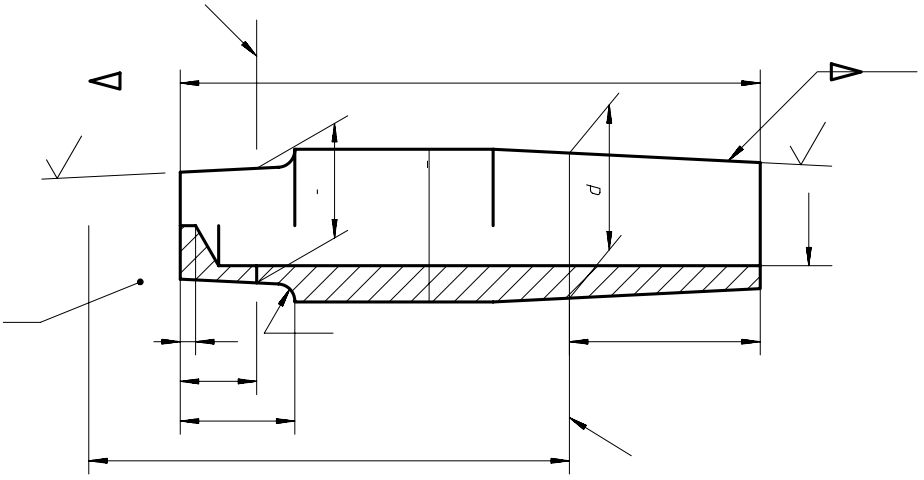
The material of which the electrode adaptor is made shall be in accordance with ISO 5182:1991, preferably group A, type 2.

6 Marking

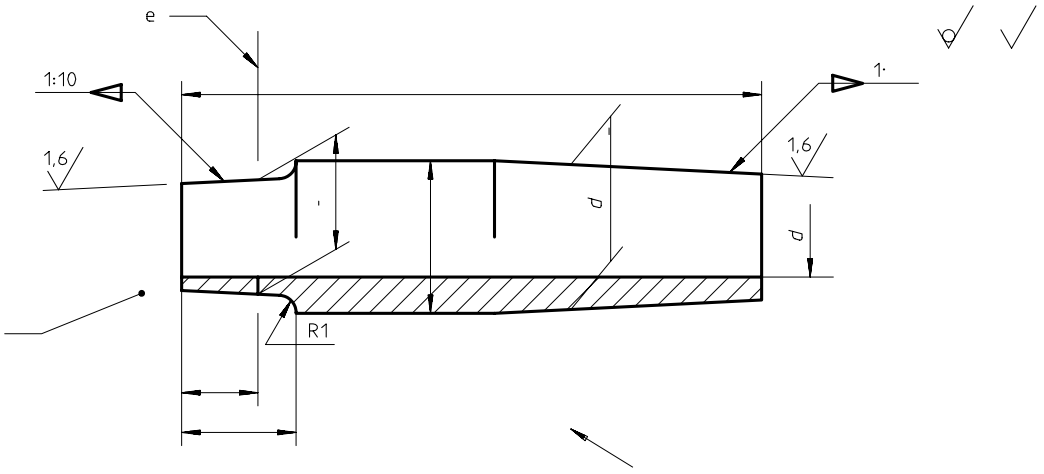
Electrode adaptors complying with this part of ISO 5183 shall be marked with the designation laid down in clause 4, but excluding the description block and the reference number of this part of ISO 5183, for example:

A – 16 × 58 – A 2/1

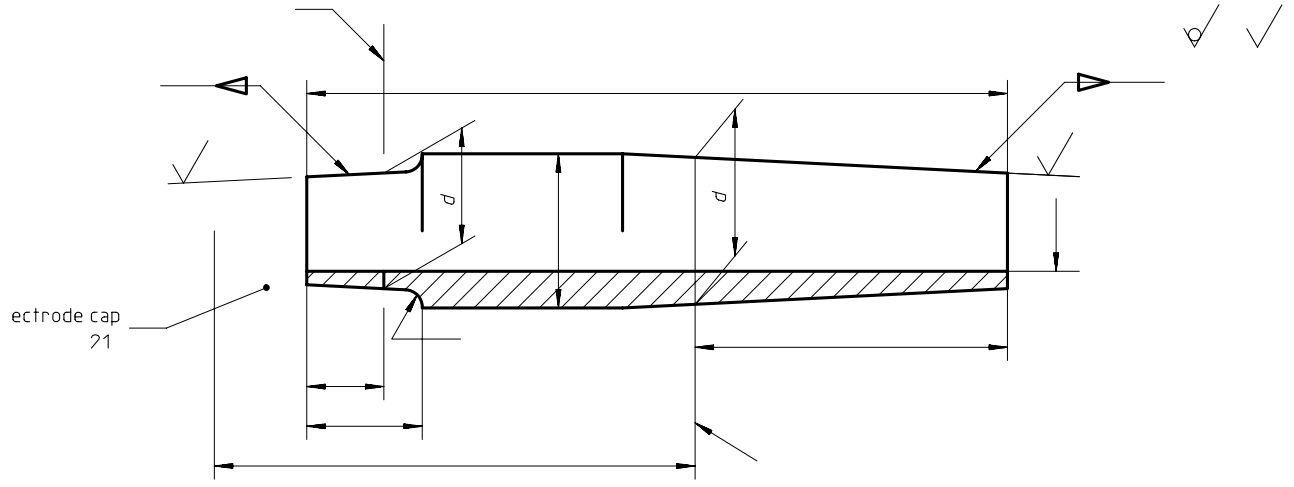
Dimensions in millimetres
Surface roughness values in micrometres



a) Type A – Adapto



b) Type B – Adap



c) Type C – Adap-

1) Cone diameter at the gauge plane.

NOTE – The adaptors of type A and B are designed to be held by electrode holders which conform to ISO 8430-1 and ISO 8430-2. The adaptors of type C are designed to fit in tapers according to ISO 1089.

Figure 1 — Electrode adaptors

Table 1 — Dimensions for adaptors type A and B

Dimensions in millimetres

d_1 h11	d_2 [1]	d_3 [1]	d_4	l_2 ± 0,5	l_3	l_4	l_1 for l_5 [2] =										
							31,5	40	50	63	80	100	125	(140)	160	(180)	200
13	12,7	10	6,5	6,5	10	16	36	44,5	54,5	67,5	84,5	104,5	129,5	–	–	–	–
16	15,5	12	8	8	13	20	–	48	58	71	88	108	133	148	168	–	–
20	19	15	10,5	10	15	25	–	–	63	76	93	113	138	153	173	193	213

1) Cone diameter at the gauge plane.

2) Values shown in parentheses are non-preferred sizes.

Table 2 — Dimensions for adaptors type C

Dimensions in millimetres

d_1 h11	d_2 [1]	d_3 [1]	d_4	l_2 ± 0,5	l_3	l_4	l_1 for l_5 [2] =										
							31,5	40	50	63	80	100	125	(140)	160	(180)	200
13	12,7	10	6,5	6,5	10	25	45	53,5	63,5	76,5	93,5	113,5	138,5	–	–	–	–
16	15,5	12	8	8	13	31,5	–	59,5	69,5	82,5	99,5	119,5	144,5	159,5	179,5	–	–
20	19	15	10,5	10	15	40	–	–	78	91	108	128	153	168	188	208	228

1) Cone diameter at the gauge plane.

2) Values shown in parentheses are non-preferred sizes.

Annex A
(informative)

Flat dimensions

If electrode adaptors are designed with flats for a wrench to thus enable easier release of the adaptor from a holder, the flat dimensions *b* and l_f (see figure A.1) according to Table A.1 can be used.

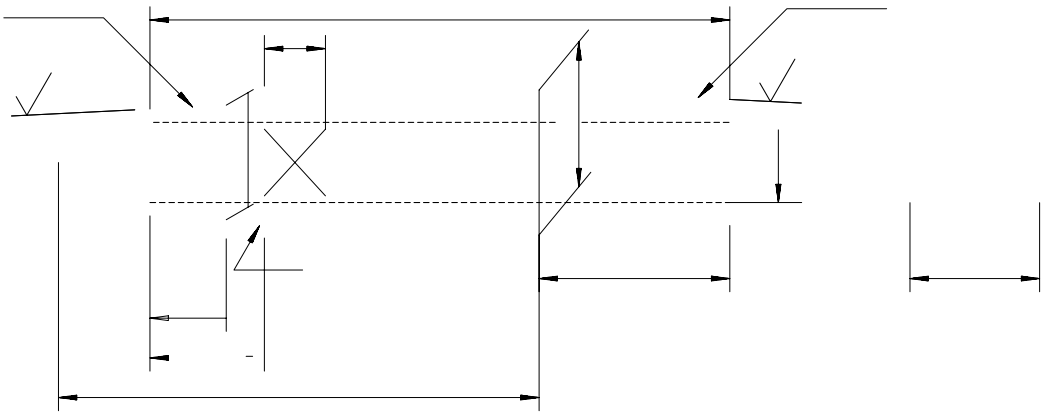


Figure A.1 — Adaptors with flats

Table A.1 — Flat dimensions

Dimensions in millimetres

d_1 h11	*b*	l_f
13	11	7
16	13	8
20	17	8

Annex B
(informative)

Bibliography

[1] ISO 1089:1980, *Electrode taper fits for spot welding equipment – Dimensions.*

[2] ISO 5183-2:1988, *Resistance spot welding – Electrode adaptors, male taper 1:10 – Part 2: Parallel shank fixing for end-thrust electrodes.*

[3] ISO 8430-1:1988, *Resistance spot welding – Electrode holders – Part 1: Taper fixing 1:10.*

[4] ISO 8430-2:1988, *Resistance spot welding – Electrode holders – Part 2: Morse taper fixing.*

Annex ZA (normative)
Normative references to international publications with their relevant European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

Publication	Year	Title	EN	Year
ISO 5821	1979	Resistance spot welding electrode caps	EN 25821	1991

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