
**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



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.

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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.

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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.

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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.

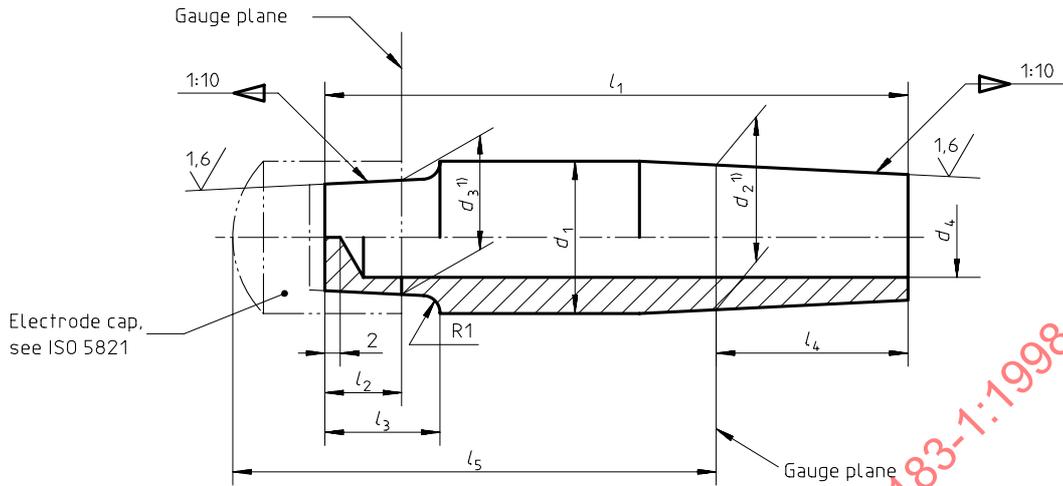
6 Marking

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:

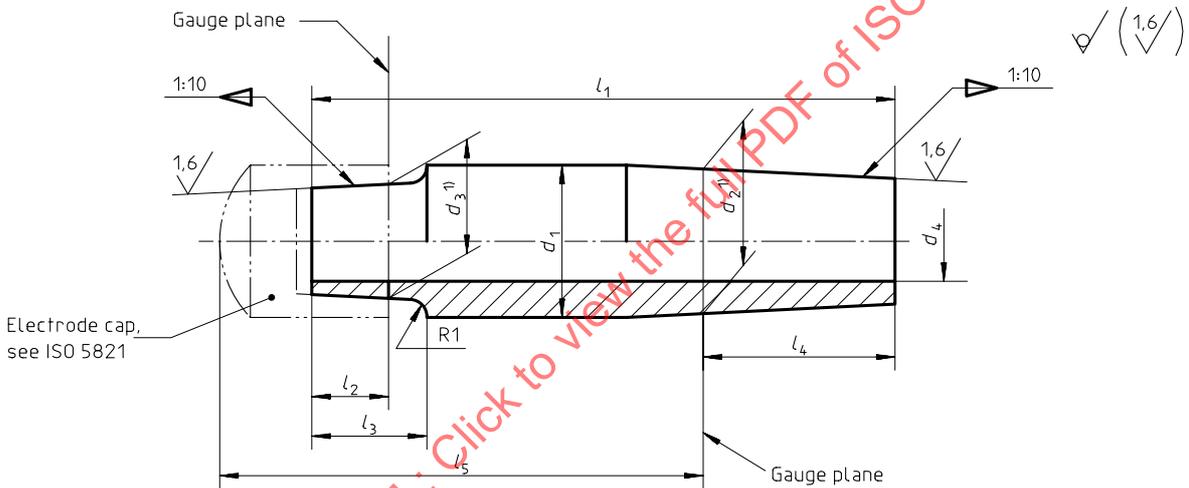
A – 16 × 58 – A 2/1

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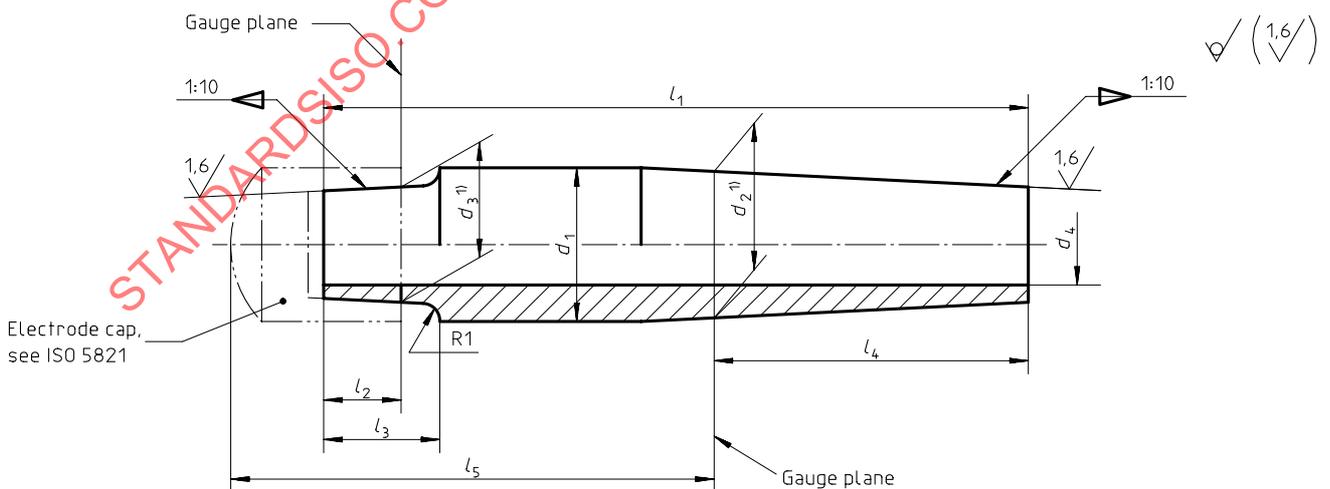
Dimensions in millimetres
Surface roughness values in micrometres



a) Type A - Adaptor with cooling hole open on one side



b) Type B - Adaptor with cooling hole open on both sides



c) Type C - Adaptor for longer taper fits with cooling hole on both sides

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	$d_2^{(1)}$	$d_3^{(1)}$	d_4	l_2	l_3	l_4	l_1										
							for $l_5^{(2)} =$										
h11				$\pm 0,5$			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	$d_2^{(1)}$	$d_3^{(1)}$	d_4	l_2	l_3	l_4	l_1										
							for $l_5^{(2)} =$										
h11				$\pm 0,5$			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.

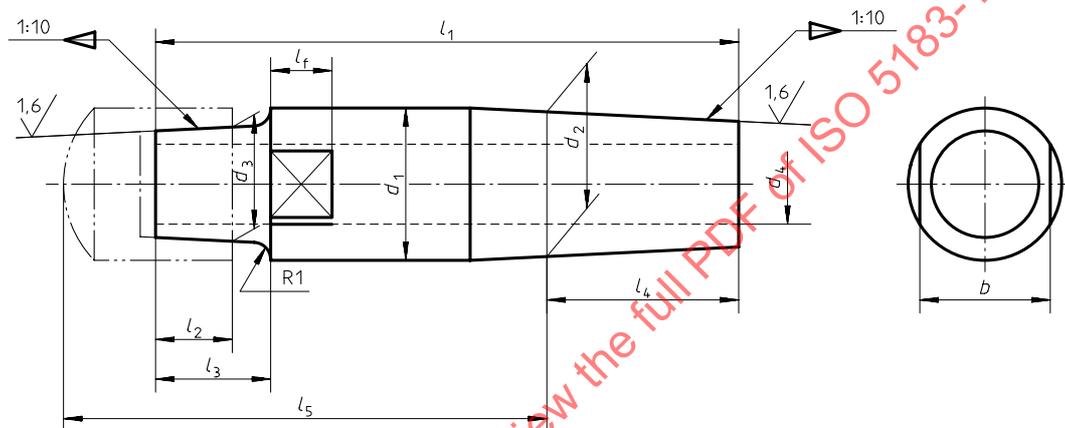


Figure A.1 — Adaptors with flats

Table A.1 — Flat dimensions

Dimensions in millimetres

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