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МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ



## Resistance spot welding — Electrode adaptors, male taper 1 : 10 —

## Part 2 :
Parallel shank fixing for end-thrust electrodes

*Soudage par points par résistance — Allonges d'électrode à embout amovible (cône mâle 1 : 10) —*

*Partie 2 : Emmanchement cylindrique pour poussée en bout*

Reference number
ISO 5183-2 : 1988 (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 approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 5183-2 was prepared by Technical Committee ISO/TC 44, *Welding and allied processes*.

Together with ISO 5183-1, ISO 5183-2 cancels and replaces ISO 5183 : 1979, of which it constitutes a technical revision.

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

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

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





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# Resistance spot welding — Electrode adaptors, male taper 1 : 10 —

# Part 2 :
# Parallel shank fixing for end-thrust electrodes



## 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 and a parallel shaft is used to fix the adaptor to the electrode holder. The taper fits for fixing the electrode cap conform to 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 listed below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 1089 : 1980, *Electrode taper fits for spot welding equipment — Dimensions.*

ISO 5182 : 1978, *Materials for resistance welding electrodes and ancillary equipment.*

ISO 5183-1 : 1988, *Resistance spot welding — Electrode adaptors, male taper 1 : 10 — Part 1: Conical fixing, taper 1 : 10.*

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

ISO 8430-3 : 1988, *Resistance spot welding — Electrode holders — Part 3: Parallel shank fixing for end thrust.*

## 3 Dimensions

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

## 4 Designation

The designations of electrode adaptors which comply with this part of ISO 5183 shall comprise the following information in the order given:

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

b) a reference to this part of ISO 5183;

c) the type of electrode adaptor;

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 C spot welding electrode adaptor (parallel shank fixing), of diameter $d_1$ = 16 mm, length $l_1$ = 68 mm and material type A 2/1, shall be designated as follows:

**Spot welding electrode adaptor**
**ISO 5183-2 - C - 16 × 68 - A 2/1**

## 5 Materials

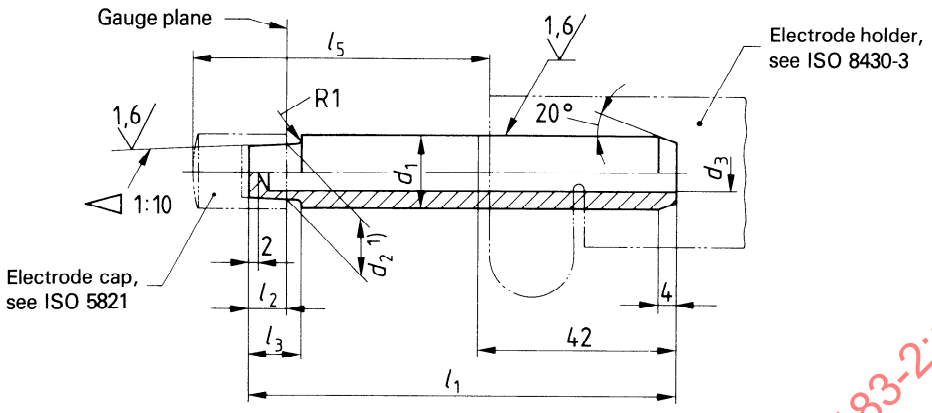
The material of which the electrode adaptor is made shall be in accordance with ISO 5182, preferably group A, type 2.

## 6 Marking

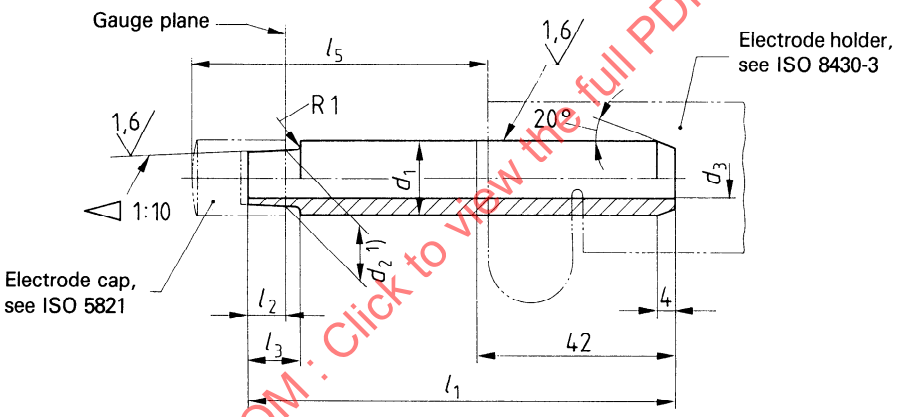
Electrode adaptors complying with this part of ISO 5183 shall be marked with the designation laid down in clause 4, but excluding the description block and the reference number of this part of ISO 5183, for example:

**C - 16 × 68 - A 2/1**

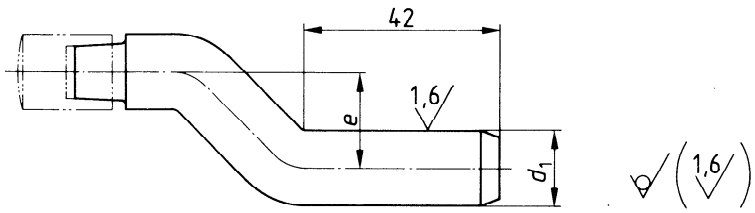
Dimensions in millimetres,
surface roughness values in micrometres




**a) Type C: Straight adaptor with cooling hole open on one side**




**b) Type D: Straight adaptor with cooling hole open on both sides**




**c) Type E: Double-cranked adaptor**

NOTE — On the part of the adaptor indicated as being 42 mm long, the surface shall be neither damaged nor marked.

**Figure 1 — Electrode adaptors**

1) $d_2$ is the cone diameter at the gauge plane.

**Table 1 — Dimensions**

Dimensions in millimetres

| $d_1$ h11 | $d_2$[1] | $d_3$ | $e$ | $l_2$ ± 0,5 | $l_3$ | $l_1$ for $l_5$[2] = | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 40 | 50 | 63 | 80 | 100 | 125 | (140) | 160 | (180) | 200 |
| 12,5 | 10 | 6,5 | 12,5 | 6,5 | 9 | 68,5[3] | 78,5 | 91,5 | 108,5 | 128,5 | 153,5 | — | — | — | — |
| 16 | 12 | 8,0 | 16 | 8 | 11 | 68[3] | 78[3] | 91 | 108 | 128 | 153 | 168 | 188 | — | — |
| 20 | 15 | 10,5 | 20 | 10 | 14 | — | 78[3] | 91[3] | 108 | 128 | 153 | 168 | 188 | 208 | 228 |



1) $d_2$ is the cone diameter at the gauge plane.

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

3) Values not applicable to type E adaptors.

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