INTERNATIONAL STANDARD

ISO 5822

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INTERNATIONAL ORGANIZATION FOR STANDARDIZATION
ORGANISATION INTERNATIONALE DE NORMALISATION
МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ

Spot welding equipment — Taper plug gauges and taper ring gauges

Matériel de soudage par points — Calibres coniques mâles et calibres coniques femelles

Reference number
ISO 5822 : 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 5822 was prepared by Technical Committee ISO/TC 44, *Welding and allied processes.*

This second edition cancels and replaces the first edition (ISO 5822 : 1982), clause 4 of which has been technically revised.

Printed in Switzerland

Spot welding equipment — Taper plug gauges and taper ring gauges

1 Scope

This International Standard specifies requirements for taper plug and ring gauges used for the checking of type A, B and C tapers according to ISO 1089.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard 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 286-1 : 1988, *ISO system of limits and fits — Part 1: Bases of tolerances, deviations and fits.*

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

ISO 1302 : 1978, *Technical drawings — Method of indicating surface texture on drawings.*

ISO 1947 : 1973, *System of cone tolerances for conical workpieces from C = 1 : 3 to 1 : 500 and lengths from 6 to* 630 mm.

ISO 3670 : 1979, *Blanks for plug gauges and handles (taper lock and trilock) and ring gauges — Design and general dimensions.*

3 Definitions

3.1 type A tapers: Type A tapers are those suitable for straight thrust.

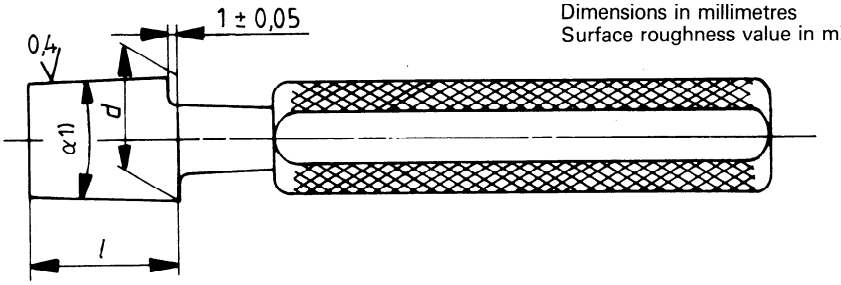
3.2 type B tapers: Type B tapers are those suitable for eccentric loading.

3.3 type C tapers: Type C tapers are those suitable for electrode caps.

4 Dimensions

The symbols for surface texture used in the drawings of this International Standard are as specified in ISO 1302.

4.1 Dimensions of taper plug gauges (P)



Dimensions in millimetres
Surface roughness value in micrometres

1) The cone angle α and any deviation from conical form shall lie, as specified in ISO 1947, within the tolerance zone defined by the diameter tolerance.

Table 1 — Dimensions of type A tapers

Dimensions in millimetres

Designation	Nominal diameter of taper to be measured	Taper	d js4 1)	l 0 0,05	Handle No. 2)
PA 10	10	1 : 10	9,8	15	3
PA 13	13	1 : 10	12,7	18	4
PA 16	16	1 : 10	15,5	22	5
PA 20	20	1 : 10	19	27	6
PA 25	25	1 : 10	24,5	33,5	6
PA 32	32	1 : 5	31	43	7
PA 40	40	1 : 5	39	53	7

1) For explanation of symbols, see ISO 286-1.
2) For dimensions of handle and shank, see ISO 3670.

Table 2 — Dimensions of type B tapers

Dimensions in millimetres

Designation	Nominal diameter of taper to be measured	Taper	d js4 1)	l 0 −0,05	Handle No. 2)
PB 13	13	1 : 10	12,7	27	4
PB 16	16		15,5	33,5	5
PB 20	20		19	43	6
PB 25	25		24,5	53	6

1) For explanation of symbols, see ISO 286-1.
2) For dimensions of handle and shank, see ISO 3670.

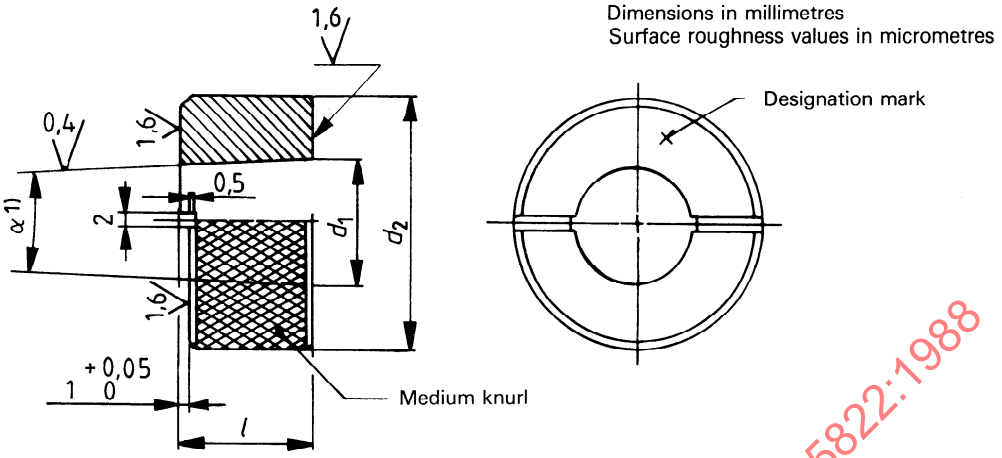
Table 3 — Dimensions of type C tapers

Dimensions in millimetres

Designation	Nominal diameter of taper to be measured	Taper	d js4 1)	l 0 −0,05	Handle No. 2)
PC 13	13	1 : 10	10	7,5	3
PC 16	16	1 : 10	12	9	4
PC 20	20	1 : 10	15	11	5

1) For explanation of symbols, see ISO 286-1.
2) For dimensions of handle and shank, see ISO 3670.

4.2 Dimensions of taper ring gauges (R)



Dimensions in millimetres
Surface roughness values in micrometres

1) The cone angle α and any deviation from conical form shall lie, as specified in ISO 1947, within the tolerance zone defined by the diameter tolerance.

Table 4 — Dimensions of type A tapers

Dimensions in millimetres

Designation	Nominal diameter of taper to be measured	Taper	$d_{1\,JS4}$ 1)	d_2	l 0 −0,05
RA 10	10	1 : 10	9,8	32	13,5
RA 13	13	1 : 10	12,7	38	16,5
RA 16	16	1 : 10	15,5	45	20,5
RA 20	20	1 : 10	19	45	25,5
RA 25	25	1 : 10	24,5	53	32
RA 32	32	1 : 5	31	63	40,5
RA 40	40	1 : 5	39	71	50,5

1) For explanation of symbols, see ISO 286-1.

Table 5 — Dimensions of type B tapers

Dimensions in millimetres

Designation	Nominal diameter of taper to be measured	Taper	$d_{1\,JS4}$ 1)	d_2	l 0 −0,05
RB 13	13	1 : 10	12,7	38	25,5
RB 16	16		15,5	45	32
RB 20	20		19	45	40,5
RB 25	25		24,5	53	50,5

1) For explanation of symbols, see ISO 286-1.

Table 6 — Dimensions of type C tapers

Dimensions in millimetres

Designation	Nominal diameter of taper to be measured	Taper	$d_{1\,JS4}$ 1)	d_2	l 0 −0,05
RC 13	13	1 : 10	10	32	7
RC 16	16	1 : 10	12	38	8,5
RC 20	20	1 : 10	15	38	10,5

1) For explanation of symbols, see ISO 286-1.

5 Designation

Gauges shall be designated by the number of this International Standard, by the type of taper and by its nominal diameter.

Example for the designation of a taper plug gauge, type A taper, used for checking a taper nominal diameter of 20 mm:

ISO 5822 — PA 20

Example for the designation of a taper ring gauge, type B taper, used for checking a taper nominal diameter of 20 mm:

ISO 5822 — RB 20

6 Materials

6.1 Material for gauges

The material shall be steel, heat-treated to HRc = 63-65.

6.2 Material for handles

The material shall be suitable for the purpose, for example, unhardened steel or light alloys.

7 Marking

7.1 Marking of taper plug gauges

The handle shall be permanently marked with the full designation of the gauge fitted according to clause 5, for example:

ISO 5822 — PA 20

7.2 Marking of taper ring gauges

The gauge shall be permanently marked with the full designation (see drawing in 4.2) according to clause 5, for example:

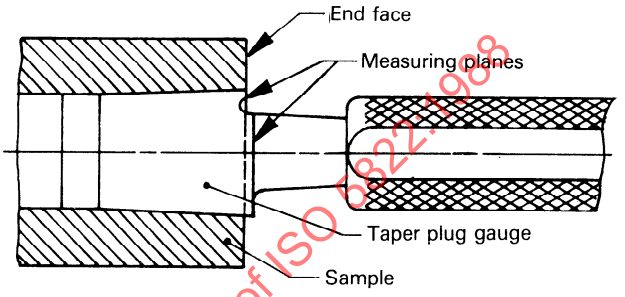
ISO 5822 — RB 20

8 Method of use

8.1 Taper fit and permissible diameter

Taper fit and permissible tolerance of taper diameter d to be checked.[1)]

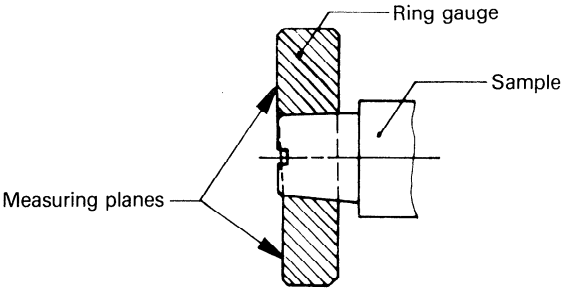
The end face of the sample shall be within the measuring planes.



8.2 Taper fit and permissible length

Taper fit and permissible tolerance of taper length to be checked.[1)]

The end face of the sample shall be within the measuring planes.



1) Angle variations cannot be checked.