INTERNATIONAL STANDARD

ISO 9182-4

Third edition
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Tools for pressing — Guide pillars —

Part 4: Type C, pillars with taper lead and bush

Outillage de presse — Colonnes de guidage —

Partie 4: Type C, colonnes à emmanchement conique et sa bague de guidage

Reference number
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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).

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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 29, *Small tools*, Subcommittee SC 8, *Tools for pressing and moulding.*

This third edition cancels and replaces the second edition (ISO 9182-4:2013), which has been technically revised.

The main changes compared to the previous edition are as follows:

— addition of surface roughness indications in Figure 1;

— addition of the dimensioning of the taper of the pillar (Figure 1) and of the bush (Figure 2);

— updating of the Bibliography.

A list of all parts in the ISO 9182 series can be found on the ISO website.

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 www.iso.org/members.html.

Tools for pressing — Guide pillars —

Part 4:
Type C, pillars with taper lead and bush

1 Scope

This document specifies the dimensions and tolerances of guide pillars, type C, with taper lead and bush, intended for use in press tools.

It gives guidance on the materials and specifies the hardness and the designation of guide pillars which meet the requirements of this document.

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 6753-1, *Tools for pressing and moulding — Machined plates — Part 1: Machined plates for press tools*

3 Terms and definitions

No terms and definitions are listed in this document.

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

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

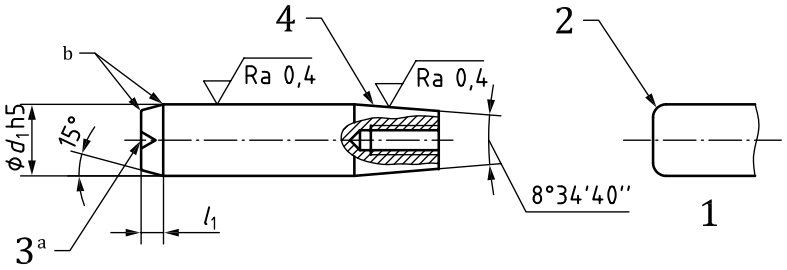
4 Dimensions

The dimensions of guide pillar with taper lead (type C) shall conform to the indications of Figure 1 and Table 1.

The dimensions of the bush for guide pillar with taper lead shall conform to the indications of Figure 2 and Table 1.

The dimensions of the mounting of the bush on the pillar shall conform to the indications of Figure 3 and Table 1.

Dimensions in micrometres



Key

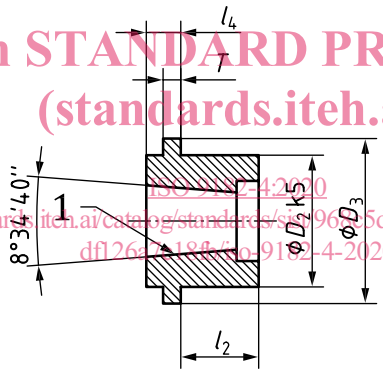
1 alternative
2 radius
3 centres
4 taper

NOTE Tolerance classes and limit deviations are defined in ISO 286-2.

a Optional.

b Slightly rounded. The values of the radii are left to the manufacturer's discretion.

Figure 1 — Guide pillar with taper lead



Key

1 taper

NOTE Tolerance classes and limit deviations are defined in ISO 286-2.

Figure 2 — Bush for guide pillar with taper lead

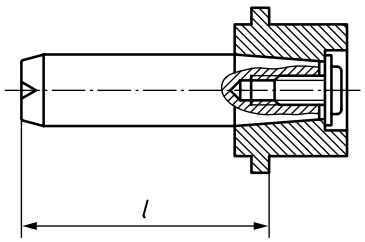


Figure 3 — Mounting of the bush on the pillar

Table 1

Dimensions in millimetres

d_1[a]		12	16	20	25	32	40	50	63	80	100
D_2		22	28	32	40	48	58	70	85	105	125
D_3		30	36	40	48	56	66	80	95	117	137
l_1 min.		4	4	4	6	6	6	8	8	8	8
l_2 min.[b]		20	25	32	32	40	40	50	63	80	100
l_4		10	10	12	12	15	15	18	18	22	22
$T \pm 0{,}1$		6,3	6,3	6,3	6,3	6,3	6,3	6,3	6,3	6,3	6,3
$l\ ^{0}_{-1}$	80	×									
	90	×	×								
	100	×	×	×							
	112	×	×	×	×						
	125	×	×	×	×	×					
	140		×	×	×	×	×				
	160		×	×	×	×	×	×			
	180		×	×	×	×	×	×			
	200			×	×	×	×	×	×		
	224				×	×	×	×	×		
	250				×	×	×	×	×	×	
	280					×	×	×	×	×	
	315						×	×	×	×	
	355						×	×	×	×	×
	400							×	×	×	×
	450							×	×	×	×

Key

× standardized dimension

[a] To prevent an incorrect assembly of the upper and lower plates of the die set in relation to each other, the following values of d_1 are recommended: 11, 15, 19, 24, 30, 38, 48, and 60.

[b] Larger values of l_2 shall be chosen as a function of other dimensions such as plate thickness in accordance with ISO 6753-1.

5 Material

The material is left to the manufacturer's discretion and the hardness shall be $\left(60\ ^{+2}_{0}\right)$ HRC.

NOTE Rockwell C hardness (HRC) is defined in ISO 6508-1

6 Designation

Guide pillars for press tools in accordance with this document shall be designated by

a) "Guide pillar";

b) a reference to this document, i.e. ISO 9182-4;

c) its type;

d) its diameter, d_1, in millimetres;

e) the bush length, l_2, in millimetres;

f) the length, l, in millimetres.

EXAMPLE A guide pillar, type C, of diameter d_1 = 12 mm with a bush length l_2 = 20 mm and a length l = 80 mm is designated as follows:

Guide pillar ISO 9182–4 – C – 12 × 20 × 80

Bibliography

[1] ISO 286-2, *Geometrical product specifications (GPS) — ISO code system for tolerances on linear sizes — Part 2: Tables of standard tolerance classes and limit deviations for holes and shafts*

[2] ISO 6508-1, *Metallic materials — Rockwell hardness test — Part 1: Test method*

[3] ISO 9182-1, *Tools for pressing — Guide pillars — Part 1: Types*