INTERNATIONAL STANDARD

ISO 9182-4

Fourth edition
2023-08

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
ISO 9182-4:2023(E)

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Published in Switzerland

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Foreword

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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 document 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).

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This document was prepared by Technical Committee ISO/TC 29, *Small tools*, Subcommittee SC 8, *Tools for pressing and moulding.*

This fourth edition cancels and replaces the third edition (ISO 9182-4:2020) which has been technically revised.

The main changes are as follows:

— deletion of pillar diameter 12 mm, 80 mm and 100 mm, of pillar lengths 400 mm and 450 mm and modification of the tolerance on d_1;

— addition of an option with a thread;

— modification of the surface roughness value on d_1;

— modification of the hardness of the pillar;

— deletion of the pillar end alternative with radius;

— modification of dimension T and of the tolerance on d_2 on the bush;

— change in the designation of the lengths of the pillar and of the bush.

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.

This document 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 definition are listed in this document.

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

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

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

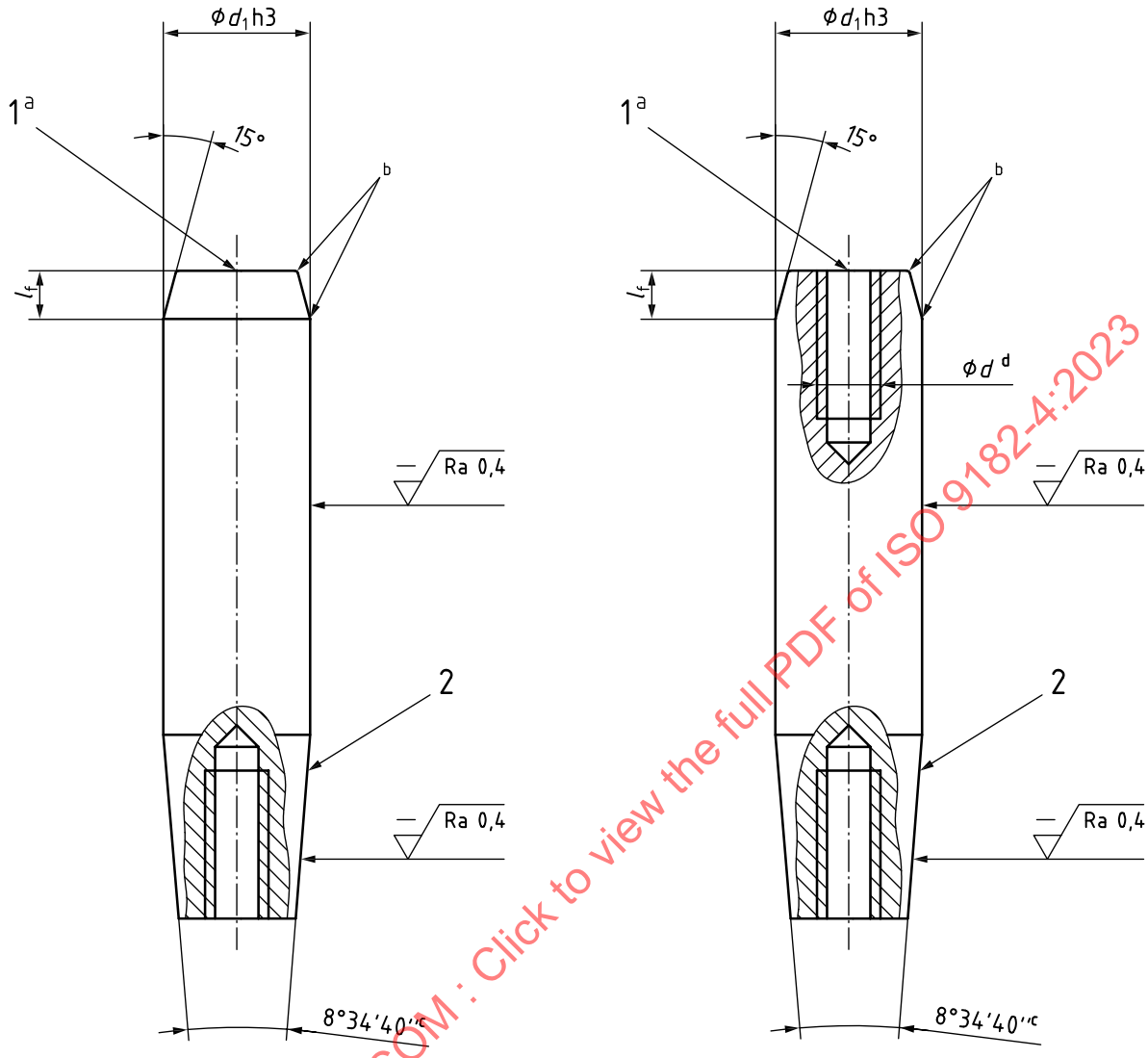
4 Dimensions

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.

Surface roughness value in micrometres



a) Option A without thread **b) Option B with thread**

Key

1 centre

2 taper

NOTE 1 Tolerance classes and limit deviations are defined in ISO 286-2.

NOTE 2 Centre holes are defined in ISO 6411.

a Optional.

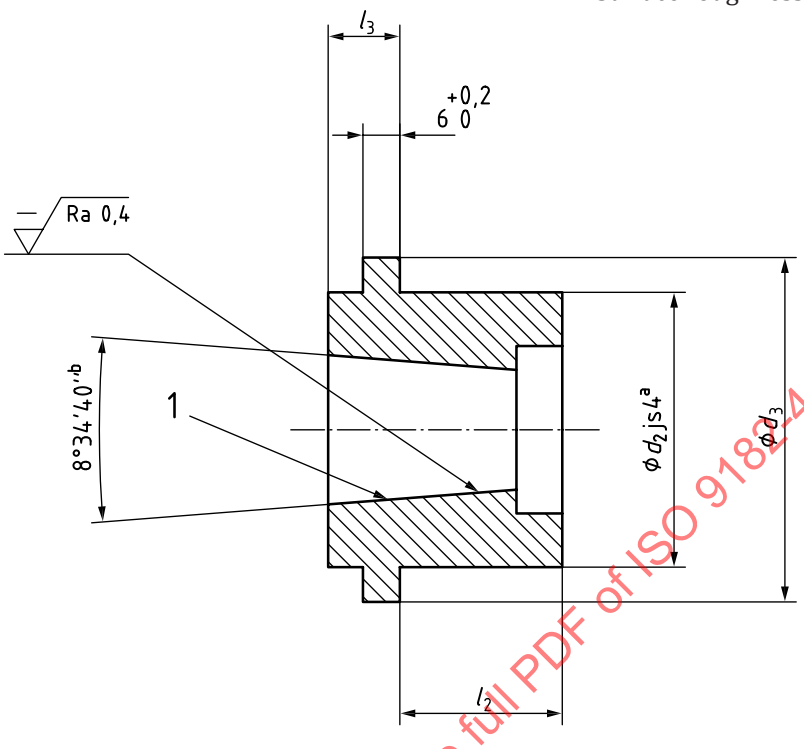
b Slightly rounded. The values of the radii are left to the manufacturer's discretion.

c The angle is left to the manufacturer's discretion and is the same for the pillar and the bush. 8°34'40'' is a recommended value.

d The diameter of the thread is left to the manufacturer's discretion.

Figure 1 — Guide pillar with taper lead

Dimensions in millimetres
Surface roughness value in micrometres



Key

1 taper

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

a To be mounted in a hole toleranced H5.

b The angle is left to the manufacturer's discretion and is the same for the pillar and the bush. 8°34'40'' is a recommended value.

Figure 2 — Bush for guide pillar with taper lead

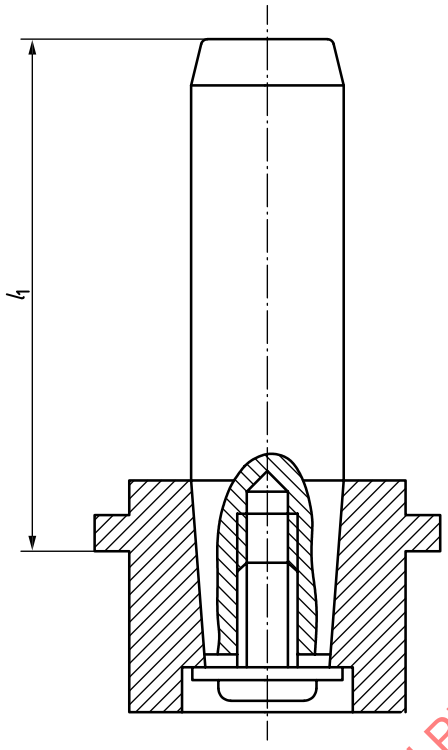


Figure 3 — Mounting of the bush on the pillar

Table 1 — Dimensions of guide pillar with taper lead (type C), its corresponding bush and their mounting dimension

Dimensions in millimetres

d_1 [a]		16	20	25	32	40	50	63
d_2		28	32	40	48	58	70	85
d_3		36	40	48	56	66	80	95
l_f min.		4	4	6	6	6	8	8
l_2 min. [b]		25	32	32	40	40	50	63
l_3		10	12	12	15	15	18	18
$l_1{}^{0}_{-1}$	80							
	90	×						
	100	×	×					
	112	×	×	×				
	125	×	×	×	×			
	140	×	×	×	×	×		
	160	×	×	×	×	×	×	
	180	×	×	×	×	×	×	
	200		×	×	×	×	×	×
	224			×	×	×	×	×
	250			×	×	×	×	×
	280				×	×	×	×
	315					×	×	×
	355					×	×	×

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: 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 and hardness are left to the manufacturer's discretion, but the hardness shall be $(56\ ^{+2}_{0})$ 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 9182-4:2023;

c) its type;

d) its diameter, d_1, in millimetres;

e) the bush length, l_2, in millimetres;

f) the length, l_1, in millimetres;