IS 15424 (Part 3) : 2022 ISO 9182-3 : 2020

दाब हेतु औजर — गाइडस्तम्भ भाग 3 टाइपबी, सिरा - लॉकिंग स्तम्भ (दूसरा पुनरीक्षण)

Tools for Pressing — Guide Pillars Part 3 Type B, End-Locking Pillars

(Second Revision)

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NATIONAL FOREWORD

This Indian Standard (Part 3) (Second Revision) which is identical with ISO 9182-3: 2020 'Tools for pressing — Guide pillars — Part 3: Type B, end-locking pillars' issued by the International Organization for Standardization (ISO) was adopted by the Bureau of Indian Standards on the recommendation of the Metal Forming Machines Sectional Committee and approval of the Production and General Engineering Division Council.

This standard was originally published in 2004 and subsequently revised in 2018. First revision of this standard was identical with ISO 9182-3: 2013. The second revision of this standard has been undertaken to align it with the latest version of ISO 9182-3: 2020.

The major changes in this revision are as follows:

- a) Correction of Fig. 1 with the addition of a surface roughness indication on diameter d_1 .
- b) Addition of a surface roughness indication on the groove in Fig. 2.

Other parts in this series are:

Part1 Types

Part2 Type A, Straight pillars

Part 4 Type C, Pillars with taper lead and bush

Part 5 Type D, End-locking pillars with flange

The text of ISO Standard has been approved as suitable for publication as an Indian Standard without deviations. Certain conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

- a) Wherever the words 'International Standard' appear referring to this standard, they should be read as 'Indian Standard'.
- b) Comma (,) has been used as a decimal marker while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

In this adopted standard, reference appears to certain International Standards for which Indian Standards also exist. The corresponding Indian Standards, which are to be substituted in their respective places, are listed below along with their degree of equivalence for the editions indicated:

ISO 9182-3:2020

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Indian Standard

TOOLS FOR PRESSING — GUIDE PILLARS PART 3 TYPE B, END-LOCKING PILLARS

(Second Revision)

1 Scope

This document specifies the dimensions and tolerances of guide pillars, type B, intended for use in press tools. These guide pillars can be end-locking, type B1 (see <u>Figure 1</u>), or end-locking with lubrication grooves, type B2 (see <u>Figure 2</u>).

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.

 ${\tt ISO~6753-1, Tools~for~pressing~and~moulding-Machined~plates-Part~1: Machined~plates~for~press~tools}$

ISO 9448-10, Tools for pressing — Guide bushes — Part 10: Form E, gliding bushes, flanged, type 2

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:

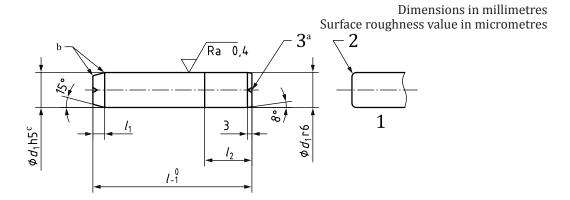
- ISO Online browsing platform: available at https://www.iso.org/obp
- IEC Electropedia: available at http://www.electropedia.org/

4 Dimensions

The dimensions of end-locking guide pillar (type B1) shall conform to the indications of <u>Figure 1</u> and <u>Table 1</u>.

The dimensions of end-locking guide pillar with lubrication grooves (type B2) shall conform to the indications of Figure 2 and Table 1.

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Dimensions in millimetres

Key

- 1 alternative
- 2 radius
- 3 centres

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.
- A g6 tolerance can be applied if required for certain applications and, if so, shall be used only in conjunction with guide bush in accordance with ISO 9448-10.

Figure 1 — Type B1, end-locking guide pillar

Surface roughness values in micrometres

Ra 3,2

Ra 0,4

3

1

Key

- 1 alternative
- 2 radius
- 3 centres

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.
- ^c A g6 tolerance can be applied if required for certain applications and, if so, shall be used only in conjunction with guide bush in accordance with ISO 9448-10.

Figure 2 — Type B2, end-locking guide pillar with lubrication grooves

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Table 1

Dimensions in millimetres

d_1^{a}		25	32	40	50	63	80	100
l_1 min.		6	6	6	8	8	8	8
l ₂ min.b		32	40	40	50	63	80	100
	125	×	×					
	140	×	×	×				
	160	×	×	×	×			
	180	×	×	×	×	×		
	200	×	×	×	×	×	×	
	224	×	×	×	×	×	×	×
l_{-1}^{0}	250	×	×	×	×	×	×	×
-1	280	×	×	×	×	×	×	×
	315		×	×	×	×	×	×
	355			×	×	×	×	×
	400			×	×	×	×	×
	450				×	×	×	×
	500				×	×	×	×

Key

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 9182-3;
- c) its type;
- d) its diameter, d_1 , in millimetres, and corresponding tolerance;
- e) its overall length, *l*, in millimetres.

EXAMPLE A guide pillar, type B1, of diameter d_1 = 25 mm with a tolerance h5, and overall length l = 125 mm is designated as follows:

Guide pillar ISO 9182-3 - B1 - 25h5 × 125

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: 24, 30, 38, 48, and 60.

 $^{^{\}rm b}$ Larger values of l_2 shall be chosen as a function of other dimensions such as plate thickness in accordance with ISO 6753-1.

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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

IS 1542 (Part 3): 2022 ISO 9182-3: 2020

NATIONALANNEXA

(National Foreword)

A-1 BIS CERTIFICATION MARKING

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act*, 2016 and the Rules and Regulations framed thereunder, and the products may be marked with the Standard Mark.

International Standard Corresponding Indian Standard Degree of Equivalence

ISO 6753-1 Tools for IS 11443 (Part 1): 2016 Tools for pressing and moulding — pressing and moulding — 6753-1: 2005

Machined plates: Part 1 Machined plates: Part 1 Machined Machined plates for press plates for press tools (second tools revision)

ISO 9448-10 Tools for IS 15448 (Part 10) : 2018 Tools for pressing — Guide bushes — pressing — Guide bushes — Part Part 10: Form E, gliding 10: Form E, gliding bushes, bushes, flanged, type 2 (first revision)

This standard also makes a reference to the BIS Certification Marking of the product. Details of which is given in National Annex A.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated expressing the result of a test or analysis, shall be rounded off in accordance with IS 2:2022 'Rules for rounding off numerical values (*second revision*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Bureau of Indian Standards

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Review of Indian Standards

Amendments are issued to standards as the need arises on the basis of comments. Standards are also reviewed periodically; a standard along with amendments is reaffirmed when such review indicates that no changes are needed; if the review indicates that changes are needed, it is taken up for revision. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition by referring to the website-www.bis.gov.in or www.standardsbis.in.

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Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected	

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