
**Tools for pressing — Guide bushes —
Part 9:
Form B, ball cage bushes, plain, type 2**

Outillage de presse — Bagues de guidage —

Partie 9: Forme B, bagues lisses pour guidage à billes, type 2



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ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

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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. www.iso.org/directives

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 29, *Small tools*, Subcommittee SC 8, *Tools for pressing and moulding*.

This second edition results from the reinstatement of ISO 9448-9:1992, which was withdrawn in 2006 and with which it is technically identical.

ISO 9448 consists of the following parts, under the general title *Tools for pressing — Guide bushes*:

- Part 1: *Forms*
- Part 2: *Form A, gliding bushes, plain, type 1*
- Part 3: *Form B, ball cage bushes, plain, type 1*
- Part 4: *Form C, gliding bushes, headed, type 1*
- Part 5: *Form D, ball cage bushes, headed, type 1*
- Part 6: *Form E, gliding bushes, flanged, type 1*
- Part 7: *Form F, ball cage bushes, flanged, type 1*
- Part 8: *Form G, gliding bushes, stepped, type 1*
- Part 9: *Form B, ball cage bushes, plain, type 2*
- Part 10: *Form E, gliding bushes, flanged, type 2*
- Part 11: *Form F, ball cage bushes, flanged, type 2*

Tools for pressing — Guide bushes —

Part 9: Form B, ball cage bushes, plain, type 2

1 Scope

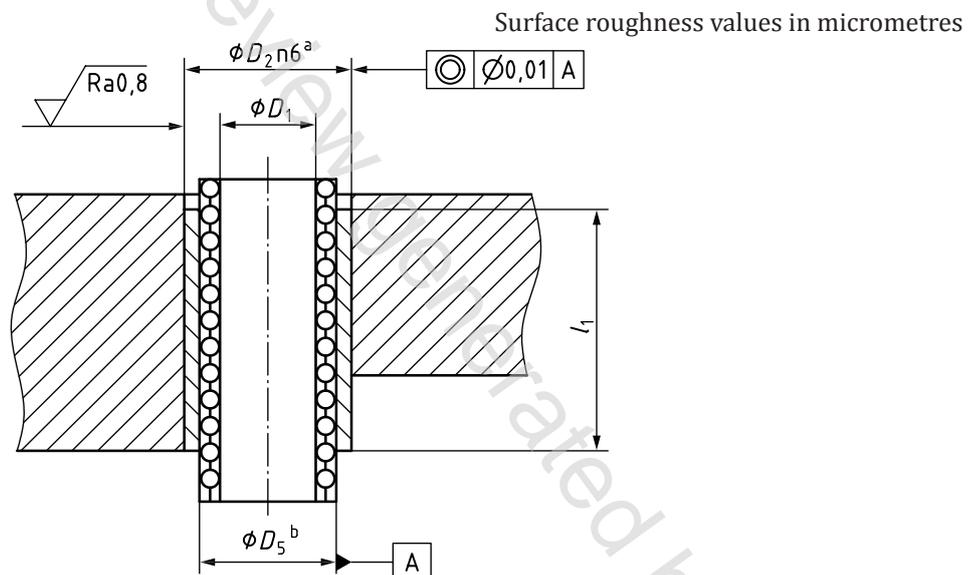
This part of ISO 9448 specifies the main dimensions and tolerances, in millimetres, of guide bushes of form B, plain ball cage bushes, type 2, intended for use in press tools and to be mounted in the clamp plate by means of interference fit.

It gives guidance on the materials, and specifies the hardness and the designation of bushes in accordance with this part of ISO 9448.

2 Dimensions

The dimensions of type 2 plain ball cage bushes (form B) shall conform to the indications of [Figure 1](#) and [Table 1](#).

Details not stated, such as chamfers, radii and lubrication grooves, are left to the manufacturer's discretion.



- a Intended to be fit into a hole having a tolerance of H7.
- b The manufacturer shall determine the internal diameter, D_5 , of the bush, using the tolerance M5. This diameter is intended to be lapped or ground to ensure the proper preloading of the balls between the pillar and the bush, as determined by the manufacturer. This lapping or grinding operation shall be carried out to give a surface roughness $Ra = 0,05 \mu\text{m}$ and this diameter shall act as a reference diameter for the concentricity and perpendicularity tolerances.

Figure 1 — Form B, plain ball cage guide bushes, type 2