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Plain bearings — Tolerances —

Part 2: Tolerances on form and position and surface roughness for shafts and thrust collars

Paliers lisses — Tolérances —

Partie 2: Tolérances de forme et de position et rugosité de surface des arbres et collets de butée

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: 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 (see www.iso.org/directives).

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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 123, *Plain bearings*, Subcommittee SC 3, *Dimensions, tolerances and construction details*.

This second edition cancels and replaces the first edition (ISO 12129-2:1995), which has been technically revised. The main changes compared to the previous edition are as follows:

— the title has been improved;

— normative references have been updated;

— the limitation to thick-wall bearings has been removed;

— the limitation to ISO 7902 for calculation of minimum lubricant film thickness has been removed;

— the case of different accuracy grades of journal und thrust collar has been explicitly added.

A list of all parts in the ISO 12129 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.

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Plain bearings — Tolerances —

Part 2: Tolerances on form and position and surface roughness for shafts and thrust collars

1 Scope

This document specifies tolerances on form and position as well as the surface roughness of shafts, flanges and thrust collars as used in plain bearing units. It is applicable to journal or thrust plain bearing units or to a combination of both, installed either horizontally or vertically.

This document is not applicable to crankshaft bearing units in combustion engines.

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 12301, *Plain bearings — Quality control techniques and inspection of geometrical and material quality characteristics*

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 General

The reliability of a plain bearing is not only a function of the proper selection of material and fit but depends in particular on the quality of the shafts and thrust collars used in the plain bearing unit.

The spread of the accuracy grade is based on the minimum lubricant film thickness, h_{min}, in micrometres, calculated for each particular application in accordance with ISO 7902-1, ISO 7902-2 and ISO 7902-3 or another appropriate calculation method. If the calculated lubricant film thicknesses for the journal bearing and thrust bearing are significantly different, then different accuracy grades can be specified for the journal (parameters t_1, t_2, t_3 and journal surface roughness) and thrust collar (parameters t_4, t_5 and thrust collar surface roughness).

5 Dimensions

See Figure 1 to Figure 4 and Table 1.

The illustrations show plain bearings in the horizontal position.

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