
**Plain bearings — Thin-walled half
bearings with or without flange —**

**Part 1:
Tolerances, design features and
methods of test**

Paliers lisses — Demi-coussinets minces à ou sans collerette —

*Partie 1: Tolérances, caractéristiques de conception et méthodes
d'essai*



This document is a preview generated by EUS



COPYRIGHT PROTECTED DOCUMENT

© ISO 2022

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword.....	iv
1 Scope.....	1
2 Normative references.....	1
3 Terms and definitions.....	1
4 Symbols.....	1
5 Dimensions and tolerances.....	4
5.1 Housing diameter, half bearing outside diameter and crush height.....	4
5.2 Half bearing wall thickness and bearing bore.....	4
5.3 Width of half bearing, distance between flanges, outside diameter of flange and flange thickness.....	6
5.4 Free spread.....	7
6 Design features.....	10
6.1 General.....	10
6.2 Locating nick and recess.....	10
6.3 Reliefs and chamfers.....	11
6.4 Transition between radial part and flange.....	12
6.5 Assembled flange scalloped toes.....	14
6.6 Oil grooves and holes.....	14
7 Test data for determining the peripheral length.....	17
7.1 Calculation of test force F	17
7.2 Checking method A.....	18
7.3 Checking method B.....	19
8 Test data for determining axial width, B_2, of flange bearings.....	19
8.1 General.....	19
8.2 Go between two parallel plates.....	19
8.3 Axial width B_2 checked under force.....	20
9 Function and characteristics of assembled flange bearings.....	20
9.1 General.....	20
9.2 Characteristics.....	21
9.3 Classification.....	22
9.4 Checklist of items for ensuring the function of assembled flange bearings.....	22
Bibliography.....	23

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).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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 constructions details*.

This second edition cancels and replaces the first edition (ISO 3548:2014), which has been technically revised.

The main changes are as follows:

- normative references have been revised in [Clause 2](#);
- symbols and terms with units have been added to [Table 1](#);
- symbols in [Figure 2](#) have been modified;
- symbols and measures in [Figure 7](#) have been modified;
- [Figures 3, 10 and 11](#) have been modified;
- symbols in [7.2](#) and [7.3](#) have been modified.

A list of all parts in the ISO 3548 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.

Plain bearings — Thin-walled half bearings with or without flange —

Part 1: Tolerances, design features and methods of test

1 Scope

This document specifies tolerances, design features and test methods for thin-walled half bearings with integral flange up to an outside diameter of $D_o = 250$ mm and without flange up to an outside diameter of $D_o = 500$ mm. Due to the variety of design, it is, however, not possible to standardize the dimensions of the half bearings.

Half bearings according to this document are predominantly used in reciprocating machinery and consist of a steel backing and one or more bearing metal layers on the inside.

In reciprocating machinery, flanged half bearings can be used in connection with half bearings without flange.

Alternatively, to serve as a flanged half bearing, it is possible to use a half bearing without flange together with two separate half thrust washers according to ISO 6526, or a half bearing with assembled flanges.

NOTE All dimensions and tolerances are given in millimetres.

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 3548-3, *Plain bearings — Thin-walled half bearings with or without flange — Part 3: Measurement of peripheral length*

ISO 6526, *Plain bearings — Pressed bimetallic half thrust washers — Features and tolerances*

ISO 21920-3, *Geometrical product specifications (GPS) — Surface texture: Profile — Part 3: Specification operators*

3 Terms and definitions

No terms and definitions 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 Symbols

Symbols and units are shown in [Figures 1](#) and [2](#) and [Table 1](#).