



International Standard

ISO 7148-2

Plain bearings — Testing of the tribological behaviour of bearing materials —

Part 2: **iTeh Standards**
Testing of polymer-based bearing materials (<https://standards.iteh.ai>)
Document Preview

Paliers lisses — Essai du comportement tribologique des matériaux antifriction —

Partie 2: Essai des matériaux pour paliers à base de polymère

<https://standards.iteh.ai/catalog/standards/iso/ta893173-f9a3-4635-83ba-5fd792600594/iso-7148-2-2026>

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[ISO 7148-2:2026](#)

<https://standards.iteh.ai/catalog/standards/iso/fa893173-f9a3-4635-83ba-5fd792600594/iso-7148-2-2026>



COPYRIGHT PROTECTED DOCUMENT

© ISO 2026

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	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Symbols and units	1
5 Special features for the tribological testing of polymer-based materials	3
6 Test methods	3
6.1 General	3
6.2 Test method A — Pin-on-disc	6
6.3 Test method B — Block-on-ring	7
6.4 Test method C — Rotation under thrust load	8
6.5 Test method D — Sphere-on-prism	9
6.6 Test method E — Plain bearing-on-shaft	9
6.7 Test method F — Linear guidance system	10
7 Test specimens	11
7.1 Data required	11
7.2 Polymer-based plain bearing materials	11
7.3 Materials of mating component	11
7.4 Dimensions of test specimens	12
7.4.1 General	12
7.4.2 Disc	12
7.4.3 Ring	12
7.4.4 Pin	12
7.4.5 Block	12
7.4.6 Sphere	13
7.4.7 Prism	13
7.4.8 Plain bearing	15
7.4.9 Shaft	15
7.4.10 Sleeve	15
7.4.11 Plate	16
7.4.12 Slider	16
7.5 Preparation of the test specimens	17
8 Test methods and test equipment	17
8.1 General	17
8.2 Test method A — Pin-on-disc	18
8.3 Test method B — Block-on-ring	18
8.4 Test method C — Rotation under thrust load	19
8.4.1 General	19
8.4.2 Test method C1	19
8.4.3 Test method C2	19
8.5 Test method D — Sphere-on-prism	19
8.6 Test method E — Plain bearing-on-shaft	20
8.6.1 General	20
8.6.2 Test method E1	20
8.6.3 Test method E2	20
8.6.4 Test method E3	20
8.7 Test method F — Linear guidance system	20
9 Lubrication	20
9.1 General	20
9.2 Dry (dr)	21
9.3 Grease (gr)	21
9.4 Oil (oi)	21

9.5	Solid lubricant (so)	21
10	Designation	21
11	Test conditions	21
11.1	Environmental conditions.....	21
11.2	Mounting of the test specimens	22
11.3	Test variables.....	22
12	Test procedure	24
12.1	Running-in.....	24
12.2	Carrying out the tests	24
13	Test report	24
13.1	General.....	24
13.2	Test results.....	24
Annex A (informative) Test report		26
Bibliography		28

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[ISO 7148-2:2026](https://standards.iteh.ai/catalog/standards/iso/fa893173-f9a3-4635-83ba-5fd792600594/iso-7148-2-2026)

<https://standards.iteh.ai/catalog/standards/iso/fa893173-f9a3-4635-83ba-5fd792600594/iso-7148-2-2026>

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 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).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

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 2, *Materials and lubricants, their properties, characteristics, test methods and testing conditions*.

This third edition cancels and replaces the second edition (ISO 7148-2:2012), which has been technically revised.

The main changes are as follows:

[ISO 7148-2:2026](http://www.iso.org/iso/7148-2:2026)

- the descriptive statement in [Clause 1](#) about matching test conditions to practical applications have been moved to [Clause 5](#);
- [Clause 2](#) "Normative references" has been updated;
- [Clause 3](#) "Terms and definitions" has been added and subsequent clauses have been renumbered;
- [Table 1](#) and [Table A.1](#) have been updated with symbols and units;
- [Clause 6](#) has been updated and a new [Table 2](#) has been added to compare test methods;
- [Clause 7](#) has been updated where example of warning messages have been added;
- [subclause 7.4.9](#) and [subclause 8.3](#) have been updated with runout tolerance requirements to make the test more accurate;
- [Clause 11](#) has been updated where the relative humidity symbol "RH" has been added;
- [Clause 13](#) "Test report" has been changed to make the reports completer; text have been moved to make the procedures clearer;
- [subclause 7.4.6](#) and [subclause 8.2](#) have been updated to include footnotes and references have been added;
- footnotes have been added to "balls for ball bearings" in [subclause 7.4.6](#) and "precision rolling bearings" in [subclause 8.2](#), and bibliographies have been added.