SLOVENSKI STANDARD
SIST ISO 4386-2:2020

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Drsni ležaji - Večslojni kovinski ležaji - 2. del: Preskušanje medslojnega spoja ležajnega kovinskega sloja z debelino, večjo ali enako 2 mm, s porušitvijo

Plain bearings - Metallic multilayer plain bearings - Part 2: Destructive testing of bond for bearing metal layer thicknesses greater than or equal to 2 mm

Paliers lisses - Paliers lisses métalliques multicouches

Ta slovenski standard je istoveten z: ISO 4386-2:2019

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21.100.10 Drsni ležaji Plain bearings

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INTERNATIONAL STANDARD

ISO 4386-2

Third edition
2019-04

Plain bearings — Metallic multilayer plain bearings —

Part 2: Destructive testing of bond for bearing metal layer thicknesses greater than or equal to 2 mm

Paliers lisses — Paliers lisses métalliques multicouches — Partie 2: Détermination, par essai destructif, de l'adhérence du matériau antifriction d'épaisseur supérieure ou égale à 2 mm

Reference number
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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).

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

This third edition cancels and replaces the second edition (ISO 4386-2:2012), of which it constitutes a minor revision. The changes compared to the previous edition are as follows:

— Adjustment to the ISO Directives, including the implementation of Clause 3 *Terms and definitions*.

A list of all parts in the ISO 4386 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.

Introduction

Long years of experience with bond tests led to an adaptation of this document. The test apparatus has been modified to reduce the negative local bending stress influence on the specimen. The geometry of the test specimen has been modified to avoid negative influence due to tolerances. A description of the specimen machining sequence has been added to get a more uniform specimen. A subclause on the application for quality control has been added.

Plain bearings — Metallic multilayer plain bearings —

Part 2: Destructive testing of bond for bearing metal layer thicknesses greater than or equal to 2 mm

1 Scope

This document specifies a tensile test method for determination of the bond strength between the bearing metal and the backing. The test can be applied to multilayer plain bearings with bearing metals based on lead, tin, copper or aluminium. For tested layer thicknesses ≥ 2 mm, a raw lining thickness of a minimum additional 1 mm is necessary.

The backings are from steel, cast steel or copper alloys. The bond strength test does not apply to bearings with cast iron backing.

The test applies to all thrust bearings and to journal bearings with an inner diameter of backing ≥ 90 mm.

The test can be used for comparative investigations into the influence on the bond strength of various processes and types of material. In addition, the test is suitable for production control and for process qualification of bearing production.

For non-destructive ultrasonic testing of the bond between bearing metal and backing for bearing metal layer thicknesses ≥ 2 mm, see ISO 4386-1.

2 Normative references

There are no normative references in this document.

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 Principle

During the tensile testing carried out vertically to the bond surface, the bond strength, R_{Ch}, in newtons per square millimetre, is the quotient of the maximum force, F_{max}, in newtons and the bond surface, A, in square millimetres, of the specimen (see Table 2), as given by Formula (1).

NOTE The subscript "Ch" refers to the test method proposed by Chalmers.

$$R_{Ch} = \frac{F_{max}}{A} \quad (1)$$