

---

---

**Plain bearings — Bearings with  
embedded solid lubricants**

*Paliers lisses — Paliers avec lubrifiants solide incorporé*

This document is a preview generated by EVS



This document is a preview generated by ELS



**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2021

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](mailto:copyright@iso.org)  
Website: [www.iso.org](http://www.iso.org)

Published in Switzerland

# Contents

	Page
Foreword.....	iv
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>1</b>
<b>4 Characteristics</b> .....	<b>1</b>
4.1 Structure.....	1
4.2 Friction and wear characteristics.....	3
4.3 Applicable field.....	3
<b>5 Material</b> .....	<b>4</b>
5.1 Metallic base body.....	4
5.1.1 General.....	4
5.1.2 Copper alloy castings.....	4
5.1.3 Grey cast irons.....	4
5.2 Solid lubricant.....	5
5.3 Combination of metallic base body and solid lubricant.....	5
<b>6 Dimensions</b> .....	<b>5</b>
<b>7 Assembling</b> .....	<b>8</b>
<b>8 Surface finish</b> .....	<b>9</b>
<b>Annex A (informative) Guide for selection of a bearing with embedded solid lubricants</b> .....	<b>10</b>
<b>Annex B (informative) Actual applications of a bearing with embedded solid lubricants</b> .....	<b>11</b>
<b>Bibliography</b> .....	<b>12</b>

## 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](http://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](http://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](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 123, *Plain bearings*, Subcommittee SC 7, *Special types of plain bearings*.

This second edition cancels and replaces the first edition (ISO 19259:2015), of which it constitutes a minor revision.

The main changes are as follows:

- editorial update.

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](http://www.iso.org/members.html).

# Plain bearings — Bearings with embedded solid lubricants

## 1 Scope

This document specifies a bearing with embedded solid lubricants, which has been widely used as a solid lubricant bearing.

## 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 185, *Grey cast irons — Classification*

## 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 Characteristics

### 4.1 Structure

A bearing with embedded solid lubricants is composed of a metallic base body supporting a load and a solid lubricant embedded in holes or hollows formed on the surface of the metallic base body giving lubricity. As to the embedded state of a solid lubricant, there is a plug type and a spiral type (see [Figure 1](#)).

As for hole type, there are “through” or perforated ones and “bottomed” ones (see [Figure 2](#)).

This document specifies a type which is most common and has been widely used where a solid lubricant of a plug type is embedded in through holes. This document also specifies a cylindrical bush and a flanged bush (see [Figure 3](#)).