
**Plain bearings — Surface modification
by press fitting solid lubricants
combined with micro dimple
processing**

*Paliers lisses — Modification de la surface par fixation par pression
de lubrifiants solides combinée à un traitement par micro-cavités*



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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.

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

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

As a general surface modification method, heat treatment such as carburizing or nitriding, hard film coating by chemical vapour deposition (CVD) or physical vapour deposition (PVD), solid lubricant coating using a resin binder, etc. are used. However, these conventional surface modification methods have problems such as the need for a special device, insufficient adhesion strength of the coating film, etc. Therefore, the purpose of this document is to provide a method for forming a lubricating film firmly bonded to the base metal by a simple method.

This document specifies surface modification method by a combination of processes capable of quickly processing with general purpose equipment in order to obtain excellent friction characteristics by a method excellent in mass production.

Plain bearings — Surface modification by press fitting solid lubricants combined with micro dimple processing

1 Scope

This document specifies the method of surface modification that improves the friction characteristics of plain bearings, by press fitting a solid lubricant onto the bearing metal surface mechanically in combination with processing a lot of micro dimples on the surface.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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/>

3.1

hybrid media

shot media having a surface modifying material attached to the media surface

Note 1 to entry: A shot media coated by carbon black is described in [A.2](#) as an example of hybrid media.

3.2

Almen strip

rectangular metal strip used for evaluating the shot peening intensity

3.3

arc height

height of the arched deformation of an Almen strip

Note 1 to entry: An arc height shows the intensity of the shot peening and is expressed in millimetres.

4 Structure

The structure of the surface modified layer obtained by the surface modification method specified in this document is shown in [Figure 1](#). The thickness of the surface modified layer is several micro meters. Dimensions such as the thickness of the surface modified layer and the diameter/depth/area ratio of dimples are determined by the application and its operating conditions.