



SLOVENSKI STANDARD SIST ISO 12132:2020

01-maj-2020

Drsni ležaji - Zagotavljanje kakovosti tankostenih ležajnih blazinic - Konstrukcije FMEA

Plain bearings - Quality assurance of thin-walled half bearings - Design FMEA

Paliers lisses - Assurance qualité des demi-coussinets minces - AMDE à la conception

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ICS:

21.100.10	Drsni ležaji	Plain bearings
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SIST ISO 12132:2020

en,fr,de

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INTERNATIONAL STANDARD

ISO
12132

Second edition
2017-03

Plain bearings — Quality assurance of thin-walled half bearings — Design FMEA

*Paliers lisses — Assurance qualité des demi-coussinets minces —
AMDE à la conception*

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ISO 12132:2017(E)

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 on 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 the following URL: www.iso.org/iso/foreword.html. (standards.iteh.ai)

This document was prepared by Technical Committee ISO/TC 123, *Plain bearings*, Subcommittee SC 5, *Quality analysis and assurance*. SIST ISO 12132:2020

This second edition cancels and replaces the first edition (ISO 12132:1992), which has been technically revised. https://standards.iteh.ai/catalog/standards/sist/a024feb3-bd9b-4ae8-aa4b-376c5e7d103c/iso-12132-2020

Introduction

FMEA (Failure Mode and Effects Analysis) is a form of analytical method that helps to define potential defects of the designed products and to eliminate these defects at the stage of designing.

FMEA is based on combining the experience gained in practice in designing and operation of plain bearings with the theory of probability.

FMEA increases reliability and quality of the product in question and that of its technology and also reduces the expenses for testing the product and for improving the technological process.

Systems for the implementation of a Design FMEA are well documented elsewhere and are outside the scope of this document. These systems aid in the analysis of complex designs, both existing and projected.

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Plain bearings — Quality assurance of thin-walled half bearings — Design FMEA

1 Scope

This document gives guidelines for the preparation of a Design FMEA for thin-walled half bearings used in machinery, e.g. internal combustion engines (the Process FMEA is the responsibility of the supplier). It lists the common potential failure mode(s), potential effect(s) and potential cause(s) of failure.

The numerical evaluation of risks in terms of occurrence, severity and detection can be specific to each application, manufacturer and customer.

Since they have to be assessed in each case, the numerical data are not included in this document. General guidance on statistical assessment can be obtained from the references.

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.

IEC 60812, *Analysis techniques for system reliability — Procedure for failure mode and effects analysis (FMEA)*

3 Terms and definitions

SIST ISO 12132:2020

<https://standards.iteh.ai/catalog/standards/sist/a024feb3-bd9b-4ae8-aa4b->

For the purposes of this document, the terms and definitions given in IEC 60812 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1

Failure Mode and Effects Analysis FMEA

method of reliability analysis intended to identify potential failures which have significant consequences affecting the system performance in the application considered

3.2

Design FMEA

FMEA (3.1) carried out by designers when developing the product

3.3

failure mode

effect by which a failure is observed in the bearing

3.4

failure effect

consequence of a *failure mode* (3.3) on the bearing system and equipment condition and operation

3.5

failure cause

deficiency or defect which causes a *failure mode* (3.3)