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Rolling bearings — Radial bearings — Geometrical product specifications (GPS) and tolerance values

Roulements — Roulements radiaux — Spécification géométrique des produits (GPS) et valeurs de tolérance

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Contents

Page

Foreword ... **iv**

Introduction ... **v**

1 Scope ... **1**

2 Normative references ... **1**

3 Terms and definitions ... **1**

4 Symbols ... **2**
4.1 Symbols for physical quantities ... 2
4.2 Additional symbols ... 3

5 Graphical description ... **4**

6 Deviation limits and tolerance values ... **17**
6.1 General ... 17
6.2 Radial bearings except tapered roller bearings ... 18
6.2.1 Tolerance class Normal ... 18
6.2.2 Tolerance class 6 ... 20
6.2.3 Tolerance class 5 ... 22
6.2.4 Tolerance class 4 ... 24
6.2.5 Tolerance class 2 ... 26
6.3 Radial tapered roller bearings ... 28
6.3.1 Tolerance class Normal ... 28
6.3.2 Tolerance class 6X ... 31
6.3.3 Tolerance class 5 ... 32
6.3.4 Tolerance class 4 ... 34
6.3.5 Tolerance class 2 ... 36
6.4 Radial bearings, outer ring flanges ... 38
6.5 Basically tapered bores, tapers 1:12 and 1:30 ... 38

Annex A (informative) **Background information on t_{VDsp} and t_{Vdsp} for radial tapered roller bearings** ... **40**

Annex B (informative) **Stiffness series for radial tapered roller bearings with boundary dimensions according to ISO 355** ... **41**

Bibliography ... **48**

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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 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).

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This document was prepared by Technical Committee ISO/TC 4, *Rolling bearings*, Subcommittee SC 4, *Rolling bearings - Vocabulary, boundary dimensions and geometrical product specifications*.

This sixth edition cancels and replaces the fifth edition (ISO 492:2014), which has been technically revised.

The main changes are as follows:

— symbols have been revised and the symbol list amended;

— some revisions have been made to the geometrical product specifications (GPS) system, such as the indication of K_{ia} and K_{ea};

— revisions have been made to the symbol for width of asymmetric rings and assembled bearing;

— an extension of deviation limits and tolerance values towards larger bore diameter and outside bearing diameters in Tables 4 to 26 has been made;

— the tables for the radial bearings and the tapered roller bearings, such as the headings, notes of tables and some other values, have been aligned;

— Annexes A, B, C and D (in ISO 492:2014) have been deleted;

— the stiffness series of tapered roller bearings and background information regarding affected tolerance values have been added in new Annexes A and B.

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.

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Introduction

This document is a machine element geometry standard as defined in the geometrical product specifications (GPS) system presented in matrix model of ISO 14638[7].

The fundamental rules of ISO GPS given in ISO 8015 apply to this document and the default decision rules given in ISO 14253-1[5] apply to specifications made in accordance with this document, unless otherwise indicated.

The connection between functional requirements, measuring technique, and measuring uncertainty should always be considered. For measurement uncertainty, ISO 14253-2[6] should be considered.

This document uses most of the existing symbols associated with rolling bearings because they are well established in the market. In some cases, new terms are derived from the full GPS definition. The definitions of the established terms and symbols are necessarily changed according to the GPS rules. These changes of terms, definitions and symbols for geometrical product specifications (GPS) to define characteristics and tolerances of rolling bearing components and assemblies are given in ISO 22872 and incorporated in this document.

The representation of symbols, tolerance values, limits of size, deviation limits and limit values derived from GPS indications according to, for example, ISO 1101 and ISO 14405-1, including indications in tables and graphical descriptions, have been revised and implemented in accordance with the principles of ISO 22872.

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