

ICS 21.100.20

CCS J 11



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 307.1-2017

Replacing GB/T 307.1-2005

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

Issued on: November 1, 2017

Implemented on: May 1, 2018

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine of the People's Republic of China, Standardization
Administration of the People's Republic of China**

Table of Contents

- Foreword
- Introduction
- 1 Scope
- 2 Normative references
- 3 Terms and definitions
- 4 symbol
- 5 Limit deviation and tolerance value
 - 5.1 General
 - 5.2 Radial bearings (except tapered roller bearings)

Foreword

GB/T 307 is divided into four parts.

---GB/T 307.1 Rolling bearing radial bearing product geometry specification (GPS) and tolerance values;

---GB/T 307.2 Principles and methods for measurement and inspection of rolling bearings;

---GB/T 307.3 General technical rules for rolling bearings;

---GB/T 307.4 Rolling bearing thrust bearing product geometry specification (GPS) and tolerance values.

This part is the first part of GB/T 307.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This part replaces GB/T 307.1-2005 "Rolling bearing radial bearing tolerance", compared with GB/T 307.1-2005, the main technology

The changes are as follows.

---Modified standard name (see cover and front page, cover and front page of.2005 edition);

---Modified the meaning and representation of the symbol (see Chapter 4, Chapter 4 of the.2005 edition);

--- Added pattern annotation (see Figure 1 ~ Figure 17);

--- Revised the tolerance values of SD and SD1 (see Table 7, Table 9, Table 11, Table 17, Table 20, Table 23, Table 6, Table 8,.2005 Edition)

Table 10, Table 16, Table 19, Table 22);

--- Added four appendices and references (see Appendix A ~ Appendix D and references).

This part uses the translation method equivalent to ISO 492:2014 "Rolling bearing radial bearing product geometry technical specification (GPS) and public

Difference.

The documents of our country that have a consistent correspondence with the international documents referenced in this part are as follows.

--- GB/T 273.3-2015 Rolling bearings - Overall dimensions - Part 3. Radial bearings (ISO 15:2011, IDT)

---GB/T 274-2000 Rolling bearing chamfer size maximum (idtISO 582:1995)

---GB/T 1182-2008 Product Geometry Specification (GPS) Geometric Tolerance Shape, Orientation, Position and Runout Tolerance
(ISO 1101:2004, IDT)

---GB/T 6930-2002 Rolling Bearing Vocabulary (ISO 5593:1997, IDT)

This part was proposed by the China Machinery Industry Federation.

This part is under the jurisdiction of the National Rolling Bearing Standardization Technical Committee (SAC/TC98).

This section drafted by: Luoyang Bearing Research Institute Co., Ltd., Xiangyang Automobile Bearing Co., Ltd., Shanghai Tianan Bearing Co., Ltd.

Introduction

This part is the geometry of the mechanical parts specified in the Product Geometric Specifications (GPS) system (see ISO /T R14638 [12] Master Plan)

Prime standard.

Unless otherwise specified, the basic principles of ISO /GPS given in ISO 8015 [8] apply to this part, given in ISO 14253-1 [10]

The default principles apply to the technical specifications established in accordance with this section.

It is recommended to consider the relationship between functional requirements and measurement methods and measurement uncertainty. The traditional measurement method is ISO 1132-

The description is given in 2[5], and the measurement uncertainty is recommended to focus on ISO 14253-2 [11].

Rolling bearing radial bearing

Product Geometric Specifications (GPS) and tolerance values

1 Scope

This part of GB/T 307 specifies the dimensions and geometrical characteristics of the radial bearing, the limit deviation from the nominal size, and the tolerance value.

The interface of the directional heart bearing (except for chamfering). The nominal dimensions are given in ISO 15, ISO 355 [2] and ISO 8443 [7].

This section does not apply to some special types of radial bearings (such as drawn cup needle roller bearings) or radial bearings used in special occasions (such as

Aircraft frame bearings and instrument precision bearings). The tolerances of these bearings are given in the corresponding standards.

The chamfer size limit is given in ISO 582.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article.

Pieces. For undated references, the latest edition (including all amendments) applies to this document.

ISO 15 Rolling Bearing Radial Bearings Overall Size
(Rollingbearings-Radialbearings-Boundary

Dimensions, generalplan)

ISO 582 rolling bearing chamfer size maximum
(Rollingbearings-Chamferdimensions-Maximumvalues)

ISO 1101 Product Geometry Specification (GPS) Geometric Tolerance Shape, Orientation, Position, and Runout Tolerance (Geometrical

ProductsSpecifications(GPS)-Geometricaltolerancing-Tolerancesofform,orientation,locationa
nd

Run-out)

ISO 5593 Rolling Bearing Vocabulary (Rollingbearings-Vocabulary)

ISO 14405-1 Geometrical Product Specifications (GPS) Dimensional Tolerance Part 1.
Linear Dimensions (Geometricalproduct

Specifications(GPS)-Dimensionaltolerancing-Part 1.Linearsizes)

ISO /T S17863 Product Geometry Specification (GPS) Geometric tolerances for moving components (Geometrical products specification)

Tion(GPS)-Geometrical tolerancing of moveable assemblies)

3 Terms and definitions

The terms and definitions defined by ISO 1101, ISO 5593, ISO 14405-1 and ISO /T S17863 apply to this document.

4 symbol

To indicate the application of the ISO /GPS system, ie ISO 8015 [8], the technical product documentation (as shown) should contain dimensions and geometry.

The dimensions and geometric specifications associated with these characteristics are illustrated in Table 1 and Figures 1-17.

The description of the symbols is consistent with the GPS terminology; see Appendix A for the relationship to traditional terms.

The tolerance values associated with the characteristics are denoted by t plus the characteristic symbol, such as tVBs.

The default ISO size specification set in this section is consistent with ISO 14405-1, which is valid for two-point sizes. Some specification modifiers are in

It is described in Appendix D.

The terms in ISO 1101 and ISO 14405-1 are not completely equivalent to the definitions of the traditional terms in ISO 1132-1 [4].

Record C.

Table 1 Nominal size symbols, characteristic symbols, and specification modifiers

Nominal size

And distance) symbol a

Characteristic symbol a GPS symbol and specification modifier b,c description d figure number

Inner ring nominal width 1,2,12

VBs

Symmetrical ferrule. The range of the two-point size of the inner ring width is 1,12

Asymmetrical ferrule. by any longitudinal direction through the inner bore axis