

ICS 21.100.20
CCS J 11



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

GB/T 6391-2010

Replacing GB/T 6391-2003; GB/T 20059-2006

Rolling bearings -- Dynamic load ratings and rating life

滚动轴承 额定动载荷和额定寿命

(English Translation)

Issued on: January 14, 2011

Implemented on: October 1, 2011

Issued by: Standardization Administration of China

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Foreword

This standard is identical with ISO 281:2007 "Rolling bearings - Dynamic load ratings and rating life." this standard is equivalent translation ISO 281:2007.

For ease of use, this standard made the following editorial changes.

--- "This International Standard" be replaced by "this standard";

--- Deleted directory and international standards preface;

--- With a decimal point "." Instead of a comma as the decimal point "." this standard replaces GB/T 6391-2003 "Rolling Dynamic load ratings and rating life" and GB/T 20059-2006 "rolling Bearing Dynamic load ratings and rating life The basic dynamic load rating calculation discontinuities. " this standard compared with GB/T 6391-2003, the main changes are as follows.

--- An increase of some terms and definitions (see Chapter 3);

--- An increase of some symbols (see Chapter 4);

--- Correction factor a_1 Reliability lifetime value slightly changed, and reliability extends from 99 to 99.95% (2003 edition and this edition

Table 12);

--- To increase the content of "fatigue load limit" areas (see 9.3.2);

--- To increase the content of "practical method for estimating the life correction coefficient" aspects (see 9.3.3);

--- Added Appendix "detailed methods to estimate pollution coefficient" (see Appendix A);

--- Added Appendix "fatigue load limit calculation method" (see Appendix B);

--- The GB/T 20059-2006 content into an increase of the appendix "basic dynamic load rating calculation discontinuities" (See Appendix C);

--- Remove the appendix "References" (2003 edition Appendix A);

--- Remove the appendix (2003 edition Appendix B) "calculated life correction factor a_1 formula reliability." the Standard Appendix A, Appendix B and Appendix C are informative appendices.

The standard proposed by China Machinery Industry Federation.

This standard by the National Standardization Technical Committee of Rolling (SAC/TC98) centralized.

This standard was drafted. Luoyang Bearing Research Institute Co., Ltd. Hai Fei bearing race.

Introduction

For each specific application the choice of bearings, if through a lot of tests to determine their suitability is usually unrealistic.

However, life (see 3.1) is a major manifestation of applicability, therefore, can be considered reliable life calculation can be properly and easily Alternative tests. This standard is intended to provide the necessary basis for life calculation.

GB/T 6391 published since 1995, people on contamination, lubrication, installation of internal stress, hardened material fatigue loading pole Limiting factors such as knowledge increases bearing life impacts a lot. In the adjusted rating life calculation GB/T 6391-2003 of the bearing, We propose a general approach to consider these factors. This standard presents a practical approach to consider the lubrication conditions, unclean Lubricant and fatigue load bearing material dyed on bearing life.

ISO/T S16281 [1] introduced the advanced calculation method, allows users to work under normal load conditions bearing clearance and shaft deflection Affect bearing life be considered. You can also consult the bearing manufacturer such working conditions as well as other factors (such as rolling elements from Equivalent effort or other high-speed effect) under load and lifetime recommendations and estimates.

For the conditions of use and (or) cause the internal structure of the contact zone Rolling ring raceways apparent truncated bearing, according to the standard Quasi calculation can not be satisfied with the results. For example, filling groove ball bearings, bearing axial load when in use, filling Groove ball actually extends into the channel with the contact area, the calculation results should be corrected before they apply. In this case, the user should be bearing factory advisory.

Reliability Life adjustment factor a_1 slightly changed, and has been extended to 99.95 percent reliability.

According to the development of new information or a special bearing types and materials,

this standard still need to continue to be revised.

About this criteria listed formulas and coefficients derived background information see ISO/T R86461) and ISO/T R1281-2 [2].

1) has to ISO/T R1281-1.2008 release.

Rolling bearings - Dynamic load ratings and rating life

1 Scope

This standard specifies the method for the calculation of rolling bearings basic dynamic load rating for the size range comply with the relevant standards, contemporary Common quality hardened bearing steel, processing method according to good manufacturing and rolling contact surface shape of substantially conventional design bearing.

The standard also specifies the method of calculation of the basic rating life, the life expectancy is 90 percent reliability, commonly used high-quality materials and good processing Conventional operating condition and the quality of life related. In addition, the standard also provides for taking into account different reliability, lubrication condition, contaminated Run Slip agent and calculation of the adjusted rating life of the bearing fatigue loads.

This standard does not include the effects of wear, corrosion and electrical erosion on bearing life.

This standard does not apply to the rolling element bearing on a shaft or operation of direct surface structure, unless the surface in all respects with the bearing ring (Or washer) raceway fairly.

The standard double-row radial bearings and thrust bearings, are assumed to be symmetrical.

Other restrictions on all types of bearings, described in the relevant articles.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB/T 4662-2003 Rolling static load rating (ISO 76. 1987, IDT) GB/T 6930-2002 Rolling Vocabulary (ISO 5593:1997, IDT) GB/T 7811-2007 Rolling parameter symbols (ISO 15241:2001, IDT) ISO/T R8646. 1985 Rolling to ISO 281/1-1977 Note 2)

3 Terms and Definitions

GB/T 6930-2002 and established the following terms and definitions apply to this standard.

Life life

The first signs of fatigue on extended life means bearing a ring or washer or rolling material Before, bearing a ring or gasket rings relative to one another or the number of revolutions of the rotary washer.

Note: Life can also be given at a given constant speed operation represents the number of hours.

Reliability refers to a group operating under the same conditions, to achieve nearly the same expectations or exceeds a predetermined Rolling the percentage of life.

NOTE: a single set of rolling bearing reliability for bearings reaches or exceeds a predetermined life expectancy.

Rated life ratinglife Dynamic load based on radial or axial basic rated basic dynamic load value of life expectancy.

2) has to ISO/T R1281-1.2008 release.