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Rolling bearings—Dynamic load ratings and rating life

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In the event of any doubts arising as to the contents,
the original JIS is to be the final authority.

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Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of Economy, Trade and Industry, through deliberations at the Japanese Industrial Standards Committee as the result of proposal for revision of Japanese Industrial Standard submitted by The Japan Bearing Industrial Association (JBIA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law applicable to the case of revision by the provision of Article 14.

Consequently **JIS B 1518**: 1992 is replaced with this Standard.

Attention is drawn to the possibility that some parts of this Standard may conflict with patent rights, applications for a patent after opening to the public or utility model rights. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying any of such patent rights, applications for a patent after opening to the public or utility model rights.

Rolling bearings—Dynamic load ratings and rating life

Introduction

This Japanese Industrial Standard has been prepared based on the second edition of **ISO 281** published in 2007 with some modifications of technical contents, such as addition of terms and definitions.

The portions with continuous sidelines or dotted underlines are the matters not given in the corresponding International Standard. A list of modifications with explanations is given in Annex JA.

1 Scope

This Standard specifies methods of calculating the basic dynamic load rating and rating life of rolling bearings designed in accordance with bearings-related standards specified in **JIS B 1511**, and manufactured by quenching the steel material specified in **JIS G 4805** or alloy steel equivalent thereto in quality to an appropriate hardness.

In addition to the methods of calculating the basic rating life, which is the life associated with 90 % reliability with conventional operating conditions, this Standard also specifies methods of calculating the modified rating life, in which various reliabilities, lubrication condition, contaminated lubricant and fatigue load of the bearing are taken into account.

The following should be noted in using this Standard.

— This Standard does not cover the influence of wear, corrosion and electrical erosion on bearing life.

— This Standard is not applicable to designs where the rolling elements operate directly on a shaft or housing surface, unless that surface is equivalent in all respects to the bearing ring (or washer) raceway it replaces.

— Double-row radial bearings and double-direction thrust bearings are, when referred to in this Standard, presumed to be symmetrical.

NOTE : The International Standard corresponding to this Standard and the symbol of degree of correspondence are as follows.

ISO 281 : 2007 *Rolling bearings—Dynamic load ratings and rating life* (MOD)

The symbols which denote the degree of correspondence in the contents between the relevant International Standard and **JIS** are IDT (identical), MOD (modified), and NEQ (not equivalent) according to **ISO/IEC Guide 21-1**.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this Standard. For standards with the year indication, only the editions of the indicated year shall be applied and the revisions (including amendments) made thereafter shall not be applied. For those without the indication of the year, the most recent edition (including amendments) shall be applied.