TECHNICAL SPECIFICATION

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Rolling bearings — Parts library — Reference dictionary for rolling bearings

Roulements — Bibliothèque de composants — Dictionnaire de référence des roulements

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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 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 of 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 www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 4, *Rolling bearings*.

This first edition cancels and replaces ISO/TS 23768-1:2011, which has been technically revised.

The main changes are as follows:

— the part number of this document has been deleted as no further parts will be being developed;

— the scope has been clarified to clearly state that linear motion rolling bearings and spherical plain bearings are out of the scope;

— this document has been made compatible with ISO 13584-42:2010;

— this document has been aligned with the classes and properties with ISO 21107:2015;

— some figures have been updated.

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

Rolling bearing data consist of entities of the rolling bearing application domain together with their descriptive properties and domains of values. Descriptive properties specified by this document include, but are not limited to, geometrical and dimensional data, identification and designation data, miscellaneous and spare part data, and material data.

Each entity, property or domain of values defines an entry of the rolling bearing reference dictionary. The rolling bearing reference dictionary constitutes the formal and computer-sensible representation of the rolling bearing data. Each rolling bearing datum is associated with a computer-sensible and human-readable definition, and with a computer-sensible identification. Identification of a dictionary entry allows for unambiguous reference from any application. Definitions and identifications of dictionary entries consist of instances of the EXPRESS entity data types defined in the common dictionary schema, resulting from a joint effort between ISO/TC 184/SC 4/WG 2 and IEC SC 3D, or in its extensions defined in the logical series of parts of ISO 13584.

This document is intended for use, among others, by manufacturers, rolling bearing vendors or producers, and developers of manufacturing software. This document is intended to allow or improve several capabilities, including:

— the provision of a common set of definitions for use in describing rolling bearings,

— the integration and sharing of rolling bearing data between software applications,

— the direct import of vendor rolling bearing data into customer databases or applications, and

— a reduction of the level of effort required for manufacturers to maintain accurate and current rolling bearing information from multiple sources and for multiple applications.

Some of the definitions of classes and properties of rolling bearings are taken from International Standards on rolling bearings and from Reference [12].

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Rolling bearings — Parts library — Reference dictionary for rolling bearings

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1 Scope

This document establishes the means to achieve an electronic representation of rolling bearing data by providing a reference dictionary needed to describe various data about rolling bearings together with their descriptive properties and domains of values in various International Standards relevant to rolling bearings.

This document is intended to facilitate the use, manipulation and exchange of rolling bearing data, for example, manufacturing, distribution and usage.

This document specifies a reference dictionary that contains:

— a definition of a general class of bearings intended to be further extended by reference dictionaries specifying bearings in other International Standards;

— definitions and identifications of the classes of rolling bearings as they are described in the various International Standards relevant to rolling bearings, with associated classification scheme;

— definitions and identifications of data element types that represent properties of rolling bearings;

— definitions and identifications of domains of values that prove useful for describing the above-mentioned data element types.

Each class, property or domain of values of this application domain constitutes an entry of the reference dictionary defined in this document. It is associated with a computer-sensible and a human-readable definition, and with a computer-sensible identification. Identification of a dictionary entry allows for unambiguous reference from any application.

Definitions and identifications of dictionary entries are defined by means of standard data, which consist of instances of the EXPRESS entity data types defined in the common dictionary schema and in their extensions defined in ISO 13584-25.

Identification dictionary is given in Annex A.

The following are within the scope of this document:

— standard data that represent the classes of rolling bearings;

— standard data that represent the properties of rolling bearings;

— standard data that represent domains of values used for properties of rolling bearings.

The following are outside of the scope of this document:

— methodology for structuring parts families used for specifying standard data defined in this document;

— an implementation method by which the standard data defined in this document can be exchanged.

NOTE 1 The structure of the physical file used for exchanging the standard data defined in this document is specified in ISO 10303-21.

NOTE 2 The physical file used for exchanging the standard data is compliant with ISO 13584-42:2010.

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NOTE 3 It is intended to provide an OntoML-based (XML) representation of the standard data when ISO 13584-32 (OntoML) is published.

This document does not establish the reference dictionaries for linear motion rolling bearings and spherical plain bearings.

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.

ISO/IEC Guide 77-2, *Guide for specification of product properties and classes — Part 2: Technical principles and guidance*

ISO 286-1, *Geometrical product specifications (GPS) — ISO code system for tolerances on linear sizes — Part 1: Basis of tolerances, deviations and fits*

ISO 1998-1, *Petroleum industry — Terminology — Part 1: Raw materials and products*

ISO 3096, *Rolling bearings — Needle rollers — Boundary dimensions, geometrical product specifications (GPS) and tolerance values*

ISO 5593, *Rolling bearings — Vocabulary*

ISO/IEC 8824-1, *Information technology — Abstract Syntax Notation One (ASN.1) — Part 1: Specification of basic notation*

ISO 10303-1, *Industrial automation systems and integration — Product data representation and exchange — Part 1: Overview and fundamental principles*

ISO 10303-11, *Industrial automation systems and integration — Product data representation and exchange — Part 11: Description methods: The EXPRESS language reference manual*

ISO 13584-1, *Industrial automation systems and integration — Parts library — Part 1: Overview and fundamental principles*

ISO 13584-42:2010, *Industrial automation systems and integration — Parts library — Part 42: Description methodology: Methodology for structuring parts families*

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC Guide 77-2, ISO 286-1, ISO 1998-1, ISO 3096, ISO 5593, ISO 10303-1, ISO 10303-11, ISO 13584-1, ISO 13584-42 and the following apply.

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

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

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