
5 YfcbUj h_U! ? cHUb]`YyU]`nU`YHUU!`8 j cfYXb]`b] U b]`_fc[`] b]`YyU]`g'df]fcVb]Wb
bUni bUb`Ya `cVfc i ž]n`_cfc]`g_c`cXdcfbY[U`Y`Užn`na Ub`yUb]a `fUX]Ub]a
c\`Udca `YyUU!`A YfY]b`bcg]`bcg]`

Aerospace series - Bearings, airframe rolling - Double row self-aligning ball bearings with flanged outer ring in corrosion resisting steel, reduced internal radial clearance - Dimensions and loads

Luft- und Raumfahrt - Flugwerkklager - Zweireihige Pendelkugellager aus korrosionsbeständigem Stahl mit Flanschaußenring, reduzierte radiale Lagerluft - Maße und Belastungen

[SIST EN 4034:2009](https://standards.iteh.ai/catalog/standards/sist/04c48249-ea71-4451-8a98-)

Série aérospatiale - Roulements pour structures d'aéronefs - Roulements en acier résistant à la corrosion, sur deux rangées de billes, avec bague extérieure à collerette, jeu radial réduit - Dimensions et charges

Ta slovenski standard je istoveten z: EN 4034:2007

ICS:

49.035

Sestavni deli za letalsko in
vesoljsko gradnjoComponents for aerospace
construction**SIST EN 4034:2009****en,de**

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 4034

June 2007

ICS 49.035

English Version

Aerospace series - Bearings, airframe rolling - Double row self-aligning ball bearings with flanged outer ring in corrosion resisting steel, reduced internal radial clearance - Dimensions and loads

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This European Standard was approved by CEN on 16 March 2006.

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[SIST EN 4034:2009](https://standards.iteh.ai/catalog/standards/sist/04c48249-ca71-4451-8a98-1721e9811922/cen-en-4034-2007)

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This document (EN 4034:2007) has been prepared by the Aerospace and Defence Industries Association of Europe - Standardization (ASD-STAN).

After enquiries and votes carried out in accordance with the rules of this Association, this Standard has received the approval of the National Associations and the Official Services of the member countries of ASD, prior to its presentation to CEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by December 2007, and conflicting national standards shall be withdrawn at the latest by December 2007.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

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EN 4034:2007 (E)**1 Scope**

This standard specifies the characteristics of self-aligning double row ball bearings with flanged outer ring in corrosion resisting steel, reduced internal clearance, designed to withstand only slow rotations and oscillations under load.

They are intended for use between fixed and moving parts of the aircraft structure and their control mechanisms.

They are intended to be used in the temperature range: – 54 °C to 150 °C.

However, being lubricated with the following greases:

- very high pressure grease, ester type (code A), operational range – 73 °C to 121 °C or
- very high pressure grease, synthetic hydrocarbons, general purpose (code B), operational range – 54 °C to 177 °C (see EN 3280),

their field of application when lubricated with code A grease is limited to 121 °C.

2 Normative references

The following referenced documents are indispensable for the application 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 1132-1, *Rolling bearings — Tolerances — Part 1: Terms and definitions*.

ISO 8075, *Aerospace — Surface treatment of hardenable stainless steel parts*.

EN 2030, *Steel FE-PM43 — Hardened and tempered — Bars $D \leq 150$ mm — Aerospace series*.¹⁾

EN 2226, *Steel FE-PM43 — Hardened and tempered — Hand and die forgings $D_e \leq 150$ mm — Aerospace series*.¹⁾

EN 2424, *Aerospace series — Marking of aerospace products*.

EN 3280, *Aerospace series — Bearings, airframe rolling, rigid or self-aligning — Technical specification*.

3 Terms and definitions

For the purposes of this standard, the terms and definitions given in ISO 1132-1 apply.

1) Published as ASD Standard at the date of publication of this standard.

4 Symbols and abbreviations

Δ_{dmp}	=	single plane mean bore diameter deviation
Δ_{Dmp}	=	single plane mean outside diameter deviation
C_s	=	permissible static radial load
$F_{a \text{ max.}}$	=	permissible static axial load
K_{ea}	=	radial runout of assembled bearing outer ring
K_{ia}	=	radial runout of assembled bearing inner ring

5 Required characteristics

5.1 Dimensions – Tolerances – Masses

Configuration : see Figure 1; the bearings are fitted with either seals or shields.

Values : see Figure 1 and Table 1: values after surface treatment.

5.2 Surface roughness

Rolling elements and raceways: $R_a = 0,2 \mu\text{m}$

Bore, side faces and cylindrical outer surface: $R_a = 0,8 \mu\text{m}$

For code T, values prior to the surface treatment

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5.3 Materials <https://standards.iteh.ai/catalog/standards/sist/04c48249-ca71-4451-8a98-828e93ee2026/sist-en-4034-2009>

Inner ring : Steel EN 2030 or EN 2226, ≥ 58 HRC

Outer ring : Steel EN 2030 or EN 2226, ≥ 58 HRC

Balls : Steel EN 2030, ≥ 58 HRC

Shields : Corrosion resisting material

Seals : Polytetrafluoroethylene (PTFE) or glass fabric reinforced polytetrafluoroethylene (PTFE)

5.4 Surface treatment

Passivated ISO 8075: code T

With no surface treatment: no code

5.5 Loads, starting torques and clearances

See Table 2.

Table 2

Diameter code	Permissible static loads		Radial clearance µm	Radial runout tolerances max. µm		Starting torque ^a max. mN.m		Swivelling torque ^a max. N.m
	Axial load F_a max.	Radial load C_s		K_{ia}	K_{ea}	With shields	With seals	
	kN		µm			µm		
15	5,3	15,7	3 to 9	26	43	12	18	0,1
16								
20		19	5 to 10			23	35	
25		21,6				30	42	
32		27,5				10 to 18	40	

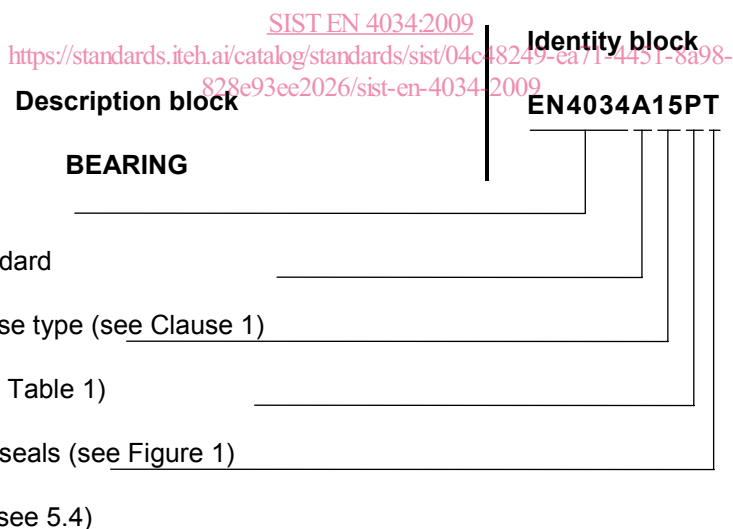
^a Definition: see EN 3280. EN 3280 incorporates no test of swivelling torque.

6 Designation

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EXAMPLE

EXAMPLE



NOTE If necessary, the code I9005 shall be placed between the description block and the identity block.

7 Marking

EN 2424, style A

Marking position and method are at manufacturer's option.