



SLOVENSKI STANDARD
SIST EN 4265:2014

01-februar-2014

Aeronavtika - Ležaj, krogelni, drsni, kovina na kovino, iz korozijsko odpornega jekla - Široki tip - Mere in obremenitve - Colske serije

Aerospace series - Bearing spherical plain, metal to metal in corrosion resisting steel - Wide series - Dimensions and loads - Inch series

Luft- und Raumfahrt - Gelenklager, Metall auf Metall aus korrosionsbeständigem Stahl - Breite Reihe - Maße und Belastungen - Inch Reihe

Série aérospatiale - Rotules lisses, métal à métal en acier résistant à la corrosion - Série large - Dimensions et charges - Séries en inches

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Ta slovenski standard je istoveten z: EN 4265:2013

ICS:

49.035	Sestavni deli za letalsko in vesoljsko gradnjo	Components for aerospace construction
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en

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 4265

January 2013

ICS 49.035

English Version

**Aerospace series - Bearing spherical plain, metal to metal in
corrosion resisting steel - Wide series - Dimensions and loads -
Inch series**

Série aéronautique - Rotules lisses, métal à métal en acier
résistant à la corrosion - Série large - Dimensions et
charges - Séries en inches

Luft- und Raumfahrt - Gelenklager, Metall auf Metall aus
korrosionsbeständigem Stahl - Breite Reihe - Maße und
Belastungen - Inch-Reihe

This European Standard was approved by CEN on 10 March 2011.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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Foreword

This document (EN 4265:2013) 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 July 2013, and conflicting national standards shall be withdrawn at the latest by July 2013.

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 organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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EN 4265:2013 (E)**1 Scope**

This European Standard specifies the characteristics of spherical plain bearings, metal to metal, in corrosion resisting steel, passivated, wide series, inch series for aerospace applications.

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

They shall be used in the temperature range – 54 °C to 150 °C. As they are lubricated by means of the following greases:

Code A: Grease as per MIL-PRF-23827C, operating temperature range – 73 °C to 121 °C.

Code B: Grease as per MIL-PRF-81322G, operating temperature range – 54 °C to 177 °C.

The range of application for bearings lubricated with grease per code A is limited to 121 °C.

In both cases the spherical surface of the outer or inner ring have to be provided with a dry-film lubricant as per MIL-PRF-46010G or equivalent (anti-seizing protection).

The slide hole treatment either at the outer ring or inner ring.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 2030, *Aerospace series - Steel FE-PM3501 (X105CrMo17) - Hardened and tempered - Bars D ≤ 150 mm*¹⁾

EN 2337, *Aerospace series — Spherical plain bearings — Technical specification*

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

EN 3161, *Aerospace series — Steel FE-PM3801 (X5CrNiCu17-4) — Air melted — Solution treated and precipitation treated — Bar — a or D ≤ 200 mm — R_m ≥ 930 MPa*

ISO 1132-1, *Rolling bearings — Tolerances — Part 1: Terms and definitions*

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

TR 4475, *Aerospace series — Bearings and mechanical transmissions for airframe applications — Vocabulary*¹⁾

MIL-PRF-23827C, *Grease — Aircraft and instrument — Gear and actuator screw — NATO code number G-354*²⁾

MIL-PRF-46010G, *Lubricant — Solid film — Heat cured — Corrosion inhibiting*²⁾

MIL-PRF-81322G, *Grease — Aircraft — General purpose — Wide temperature range — NATO code number G-395*²⁾

1) Published as ASD-STAN Technical Report at the date of publication of this standard, (www.asd-stan.org).

2) Published by: Department of Defense (DoD), <http://www.defenselink.mil/>

3 Terms and definitions

For the purposes of this document, the terms and definitions given in TR 4475 apply.

4 Symbols and abbreviations

Symbols of limit deviations are in accordance with definitions of ISO 1132-1.

α	is the maximum angle of tilt of the outer ring with respect to the inner ring, with the spherical surface of the outer ring being completely in contact with the inner ring;
C_a	is the permissible static axial load;
C_s	is the permissible static radial load;
Δ_{dmp}	is the single plane mean bore diameter deviation;
Δ_{Dmp}	is the single plane mean outside diameter deviation;
Δ_{ds}	is the deviation of a single bore diameter;
Δ_{Ds}	is the deviation of a single outside diameter.

Definitions and vocabulary according to TR 4475.

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5 Requirements

5.1 Configuration, dimensions, tolerances and mass

According to Figures 1 and 2 and Table 1. Dimensions and tolerances are expressed in millimetres (inches).
Values apply after to surface treatment.

5.2 Surface roughness

In accordance with Figures 1 and 2. Values in micrometres (micro inches), apply prior to surface treatment.

5.3 Material

Inner ring: According to EN 2030, hardness $55 < \text{HRC} < 62$.

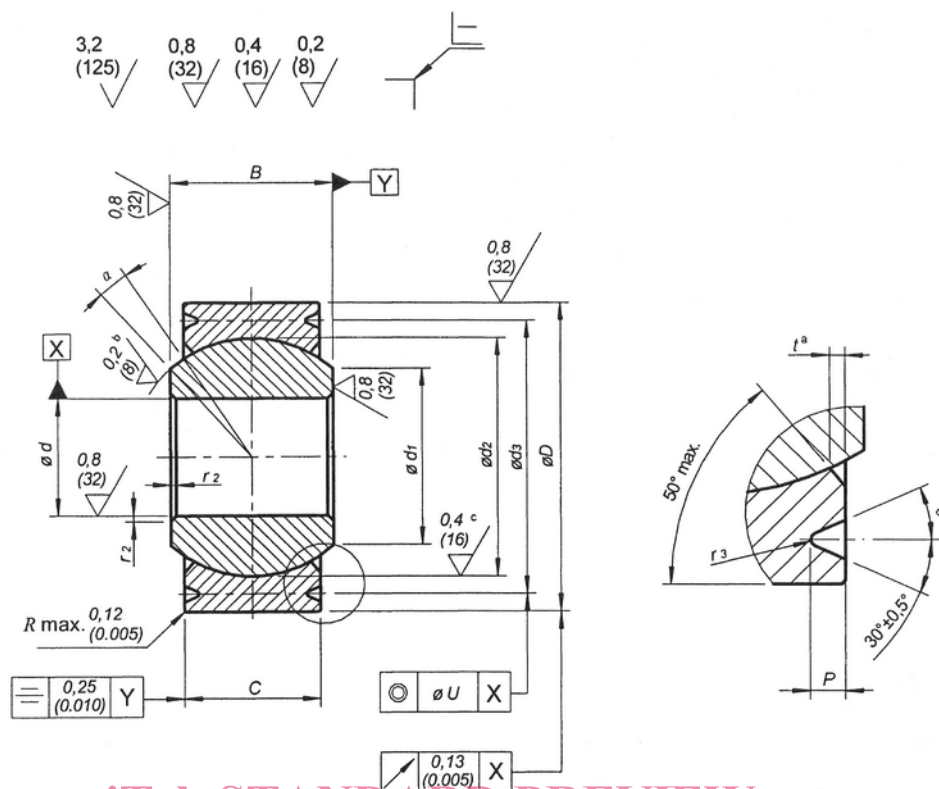
Outer ring: According to EN 3161, hardness $28 < \text{HRC} < 38$ before swaging.

5.4 Surface treatment

Surface treatment according to ISO 8075 for inner ring before swaging.

5.5 Loads and clearances

According to Tables 2 and 3.



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- a Set back
- b For the inner ring
- c For the outer ring

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Figure 2 — Code R — With swaging grooves