Irish Standard
I.S. EN 4614:2009

Aerospace series - Spherical plain bearings in corrosion resisting steel with self-lubricating liner, wide series - Dimensions and loads - Inch series

I.S. EN 4614:2009

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English Version

Aerospace series - Spherical plain bearings in corrosion resisting steel with self-lubricating liner, wide series - Dimensions and loads - Inch series

Série aérospatiale - Rotules lisses résistant à la corrosion à garniture autolubrifiante, série large - Dimensions et charges - Séries en inches

Luft- und Raumfahrt - Gelenklager aus korrosionsbeständigem Stahl mit selbstschmierender Beschichtung, breite Reihe - Maße und Belastungen - Inch Reihe

This European Standard was approved by CEN on 19 March 2009.

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

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Foreword

This document (EN 4614:2009) has been prepared by the Aerospace and Defence Industries Association of Europe - Standardization (ASD-STAN).

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of an identical text or by endorsement, at the latest by December 2009, and conflicting national standards shall be withdrawn at the latest by December 2009.

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.

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.

This standard was reviewed by the Domain Technical Coordinator of ASD-STAN's Mechanical Domain.

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.

1 Scope

This standard specifies the characteristics of bearings, spherical plain with self lubricating liner in corrosion resisting steel with self-lubricating liner, wide series for aerospace applications.

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

They shall be used in the temperature range – 55 °C to 163 °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.

EN 2030, Aerospace —*Steel FE-PM43 — Hardened and tempered — Bars D ≤ 150 mm* [1]

EN 2133, *Aerospace series — Cadmium plating of steels with specified tensile strength ≤ 1 450 MPa, copper, copper alloys and nickel alloys*

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

EN 2755, *Aerospace series — Bearings, spherical plain in corrosion resisting steel with self-lubricating liner — Elevated loads at ambient temperature — Technical specification* [2]

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* [3]

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 = maximum angle of tilt of the outer ring with respect to the inner ring, with the spherical raceway of the outer ring being completely in contact with the inner ring (see Figures 1 and 2);

C_a = permissible static axial load;

C_s = permissible static radial load;

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

2 Published as ASD Prestandard at the date of publication of this standard.

3 Published as ASD Technical Report at the date of publication of this standard.