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BSI Standards Publication

Aerospace series — Bearing, spherical, plain, in corrosion resisting steel with self-lubricating liner — Elevated load under low oscillations — Wide series — Dimensions and loads

Part 2: Inch series

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National foreword

This British Standard is the UK implementation of EN 4539-2:2019.

The UK participation in its preparation was entrusted to Technical Committee ACE/12, Aerospace fasteners and fastening systems.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Compliance with a British Standard cannot confer immunity from legal obligations.

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Amendments/corrigenda issued since publication

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EUROPÄISCHE NORM

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English Version

Aerospace series - Bearing, spherical, plain, in corrosion resisting steel with self-lubricating liner - Elevated load under low oscillations - Wide series - Dimensions and loads - Part 2: Inch series

Série aérospatiale - Rotules lisses, en acier résistant à la corrosion à garniture autolubrifiante - À charge élevée sous faibles oscillations - Série large - Dimensions et charges - Partie 2 : Série en inches

Luft- und Raumfahrt - Gelenklager aus korrosionsbeständigem Stahl mit selbstschmierender Beschichtung - Hohe Belastung, gering oszillierend - Breite Reihe - Maße und Belastungen - Teil 2: Inch-Reihe

This European Standard was approved by CEN on 2 December 2018.

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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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

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European foreword

This document (EN 4539-2:2019) 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 April 2020, and conflicting national standards shall be withdrawn at the latest by April 2020.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN 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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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1 Scope

This European standard specifies the characteristics of spherical plain bearing in corrosion resistant steel, with self-lubricating liner, wide series, elevated load under low oscillations applications.

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

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.

EN 2030, *Aerospace series — Steel X105CrMo17 (1.3544) — Hardened and tempered — Bars — $D_e \leq 150\text{ mm}$*

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 $D \leq 200\text{ mm}$, $R_m \geq 930\text{ MPa}$*

EN 4540, *Aerospace series — Bearings, spherical plain, in corrosion resisting steel with self-lubricating liner, Elevated load under low oscillations — Technical specification*

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

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

3 Symbols and definitions

The tolerance definitions are given in ISO 1132-1.

Δ_{dmp} = single plane mean bore diameter deviation;

Δ_{ds} = deviation of a single bore diameter;

Δ_{Dmp} = single plane mean outside diameter deviation;

Δ_{Ds} = deviation of a single outside diameter;

α = angle of tilt of the outer ring with respect to the inner ring, the spherical surface of the outer ring being completely in contact with the inner ring.