
Aeronavtika - Kroglasti drsni ležaji iz korozijsko odpornega jekla s samomazalno oblogo in z zvišano obremenitvijo pod nizkimi nihanji - Ozki tip - Mere in nosilnosti - 003. del: Colski tip z nizkim koeficientom trenja

Aerospace series - Bearings, spherical plain, in corrosion resisting steel with self-lubricating liner elevated load under low oscillations - Narrow series - Dimensions and loads - Part 003: Inch series with low friction coefficient

Luft- und Raumfahrt - Gelenklager, aus korrosionsbeständigem Stahl mit selbstschmierender Beschichtung Hohe Belastung ohne Montagenut - Schmale Reihe - Maße und Belastungen - Teil 003: Inch Reihe mit niedrigen Reibungskoeffizienten

[SIST EN 4538-003:2011](https://standards.iteh.ai/catalog/standards/sist/32cb5229-dd08-4ace-ae48-1a206a030001/sist-en-4538-003-2011)

Série Aérospatiale - Rotules, en acier résistant à la corrosion à garniture autolubrifiante à charge élevée sous faibles oscillations - Série étroite - Dimensions et charges - Partie 003 : Série en inches avec coefficient bas de friction

Ta slovenski standard je istoveten z: EN 4538-003:2010

ICS:

49.035

Sestavni deli za letalsko in vesoljsko gradnjo

Components for aerospace construction

SIST EN 4538-003:2011

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EUROPEAN STANDARD

EN 4538-003

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2010

ICS 49.035

English Version

**Aerospace series - Bearings, spherical plain, in corrosion
resisting steel with self-lubricating liner elevated load under low
oscillations - Narrow series - Dimensions and loads - Part 003:
Inch series with low friction coefficient**

Série Aéronautique - Rotules, en acier résistant à la
corrosion à garniture autolubrifiante à charge élevée sous
faibles oscillations - Série étroite - Dimensions et charges -
Partie 003 : Série en inches avec coefficient bas de friction

Luft- und Raumfahrt - Gelenklager, aus
korrosionsbeständigem Stahl mit selbstschmierender
Beschichtung Hohe Belastung ohne Montagenut - Schmale
Reihe - Maße und Belastungen - Teil 003: Inch Reihe mit
niedrigen Reibungskoeffizienten

This European Standard was approved by CEN on 30 July 2010.

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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 Management Centre has the same status as the official versions.

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Foreword

This document (EN 4538-003:2010) 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 May 2011, and conflicting national standards shall be withdrawn at the latest by May 2011.

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.

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EN 4538-003:2010 (E)**1 Scope**

This standard specifies the characteristics of bearings, spherical plain in corrosion resisting steel with self-lubricating liner, elevated load under low oscillations, with low friction coefficient, narrow series, inch series.

They shall be used in the temperature range – 54 °C to 120 °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, *Steel FE-PM43 — Hardened and tempered — Bars $D \leq 150$ mm — Aerospace series*¹⁾

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

EN 2424:2008, *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 $D \leq 200$ mm — $R_m \geq 930$ MPa*

EN 4540, *Aerospace series — Bearings, spherical plain, in corrosion resisting steel with self-lubricating liner — Elevated load under low oscillations — Technical specification*²⁾

ISO 1132-1:2000, *Rolling bearings — Tolerances — Part 1 Terms and definitions*

<https://standards.iteh.ai/catalog/standards/sist/32cb5229-dd08-4ace-ae48-712114a1091e/iso-1132-1-2000>

TR 4475, *Aerospace series — Bearings and mechanical transmissions for airframe applications — Vocabulary*³⁾

AMS-QQ-C-320, *Chromium Plating (Electrodeposited)*⁴⁾

3 Symbols and definitions

For the purposes of this document, the symbols and definitions given in ISO 1132-1:2000 and the following apply.

α = 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 = Permissible static axial load.

C_s = Permissible static radial load.

1) Published as ASD-STAN Standard at the date of publication of this standard by Aerospace and Defence Industries Association of Europe-Standardization (ASD-STAN) (www.asd-stan.org).

2) Published as ASD-STAN Prestandard at the date of publication of this standard by Aerospace and Defence Industries Association of Europe-Standardization (ASD-STAN) (www.asd-stan.org).

3) Published as ASD-STAN Technical Report at the date of publication of this standard by Aerospace and Defence Industries Association of Europe-Standardization (ASD-STAN) (www.asd-stan.org).

4) Published by: Society of Automotive Engineers (SAE) (www.sae.org).

C_{250} = Permissible dynamic radial load by 250 000 cycles.

Δ_{dmp} = Single plane mean bore diameter deviation.

Δ_{Dmp} = Single plane mean outside diameter deviation.

Δ_{ds} = Deviation of a single bore diameter.

Δ_{Ds} = Deviation of a single outside diameter.

The definition and vocabulary, see TR 4475.

4 Required characteristics

4.1 Configuration, dimensions, tolerances and mass

See Figures 1 and 2 and Table 1. The dimensions are expressed in millimetres and apply after surface treatment.

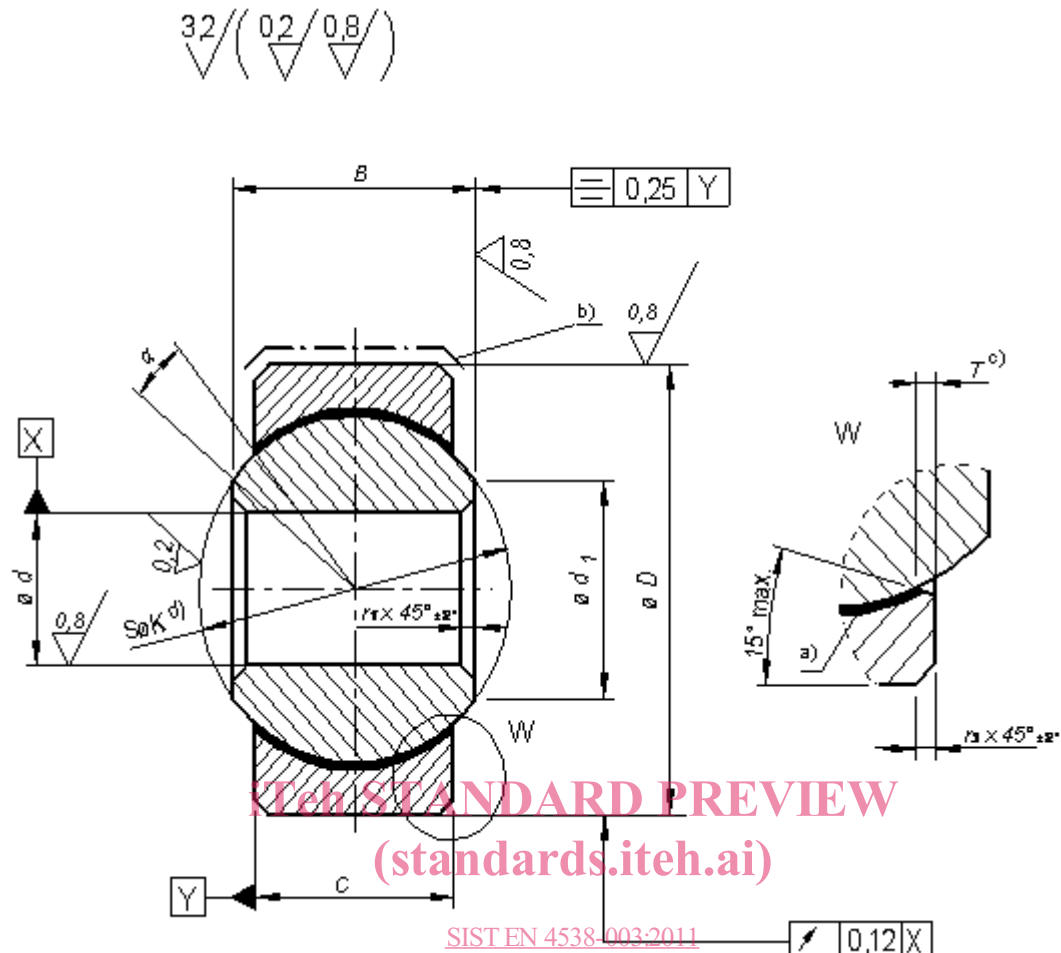
4.2 Surface roughness

See Figures 1 and 2. The values are expressed in micrometres and apply before surface treatment.

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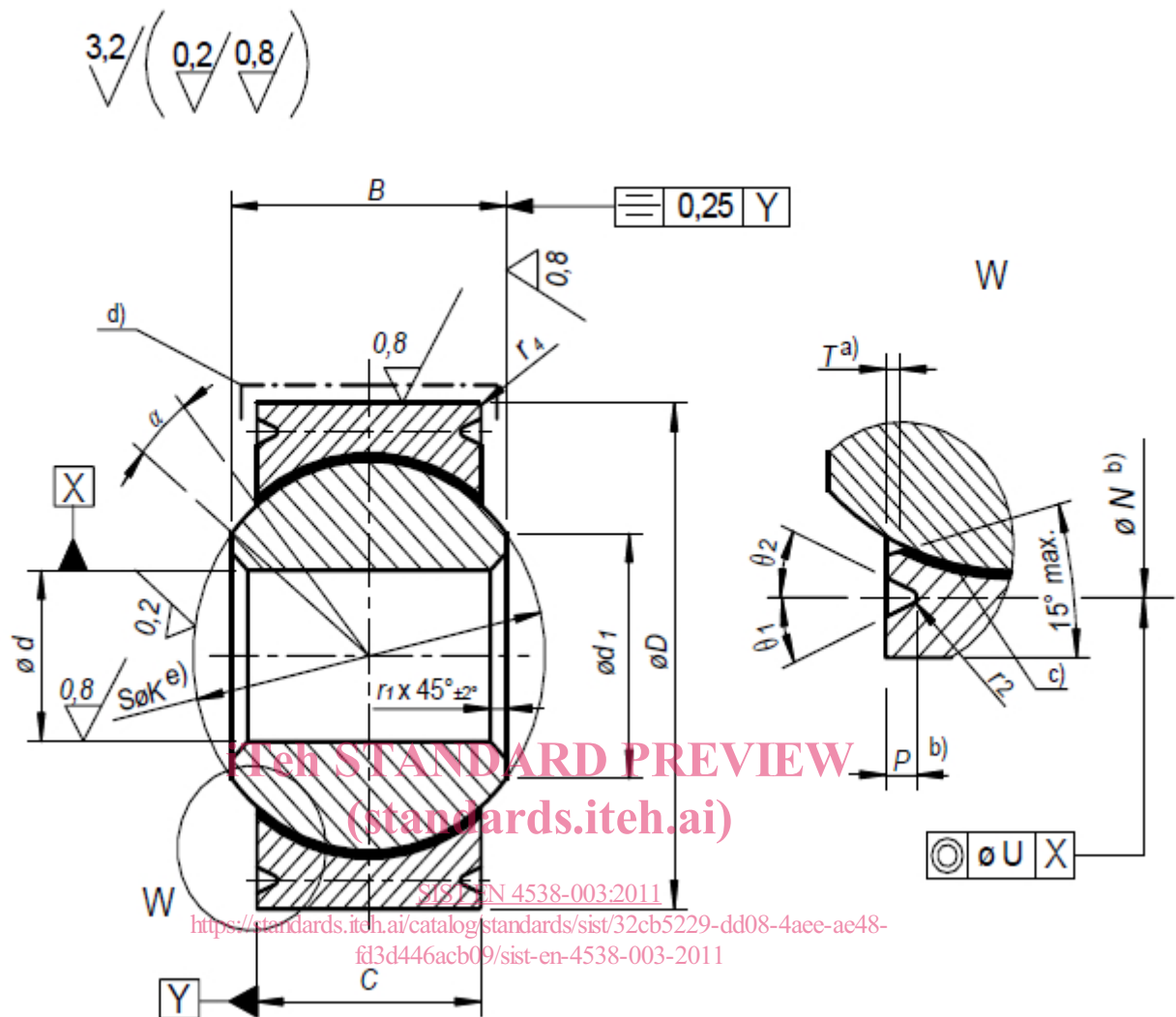
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- a TFE liner
- b Cadmium plated
- c Set back
- d Spherical diameter

Figure 1 — Bearing without swaging grooves, code “S”



- a Set back
- b Swaging groove
- c TFE liner
- d Cadmium plated
- e Spherical diameter

Figure 2 — Bearing with swaging grooves, code “R”