SLOVENSKI STANDARD
SIST EN 2501:2001

01-januar-2001

Aerospace series - Bearings, spherical plain in corrosion resisting steel with self-lubricating liner and wide inner ring - Dimensions and loads

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Luft- und Raumfahrt - Gelenklager aus korrosionsbeständigem Stahl mit selbstschmierender Beschichtung und breitem Innenring - Maße und Belastungen

Série aérospatiale - Rotules en acier résistant à la corrosion a garniture autolubrifiante et bague intérieure large - Dimensions et charges

Ta slovenski standard je istoveten z: **EN 2501:1988**

ICS:

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

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EUROPEAN STANDARD

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EN 2501

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Key words : Aircraft industry, spherical bearing, corrosion resisting steel, linings, self-lubricating parts, dimensions, loads.

English version

Aerospace series
Bearings, spherical plain in corrosion resisting steel with self-lubricating liner and wide inner ring
Dimensions and loads

Série aérospatiale
Rotules en acier résistant à la corrosion
à garniture autolubrifiante
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Luft- und Raumfahrt
Gelenklager aus korrosionsbeständigem Stahl
mit selbstschmierender Beschichtung
und breitem Innenring
Maße und Belastungen

This European Standard was accepted by CEN on 1987-11-16. CEN members are bound to comply with the requirements of CEN 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 Central Secretariat 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 CEN Central Secretariat has the same status as the official versions.

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat : Rue Bréderode 2, B—1000 Bruxelles

Brief history

This European Standard has been prepared by the European Association of Aerospace Manufacturers (AECMA).

After enquiries and votes carried out in accordance with the rules of this Association, this draft has successively received the approval of the National Associations and the Official Services of the member countries of AECMA, prior to its presentation to C.E.N.

According to the Common CEN/CENELEC Rules, following countries are bound to implement this European Standard:

1 Scope and field of application

This standard specifies the characteristics of bearings, spherical plain in corrosion resisting steel with self lubricating liner and wide inner ring.

They are intended, principally, for use in rod end fittings.

They shall be used in the temperature range -55 to +150 °C.

2 References

EN 2023, Aerospace series - Bearings, spherical plain, in corrosion resisting steel with self lubricating liner - Normal series - Dimensions and loads

EN 2030, Steel FE-PM43 - Hardened and tempered - Bars D $\leq$ 150 mm - Aerospace series

EN 2064, Bearings, spherical plain in corrosion resisting steel with self lubricating liner - Technical specification - Aerospace series

EN 2136, Steel FE-PM42 - 900 MPa $\leq$ Rm $\leq$ 1100 MPa - Bars De $\leq$ 100 mm - Aerospace series

EN 2539, Aerospace series - Steel FE-PM61-Rm $\geq$ 960 MPa - Bars De $\leq$ 150 mm 1)

3 Symbols

Δ ds = the deviation of a single bore diameter
Δ Ds = the deviation of a single outside diameter
Δ dmp = single plane mean bore diameter deviation
Δ Dmp = single plane mean outside diameter deviation
α = maximum displacement angle which can be formed by the outer ring with the inner ring the spherical track of the outer ring being fully in contact with the inner ring.

4 Required characteristics

4.1 Dimensions - Tolerances - Masses

Configuration shall correspond with figure.

Dimensions, tolerances and masses shall correspond with table 1.

4.2 Loads - Starting torques

Loads and starting torques shall correspond with table 2.

4.3 Materials

Inner ring : steel EN 2030
Outer ring : steel EN 2136 or steel EN 2539
Liner : Self-lubricating low friction wear resisting material consistent with requirements of EN 2064.

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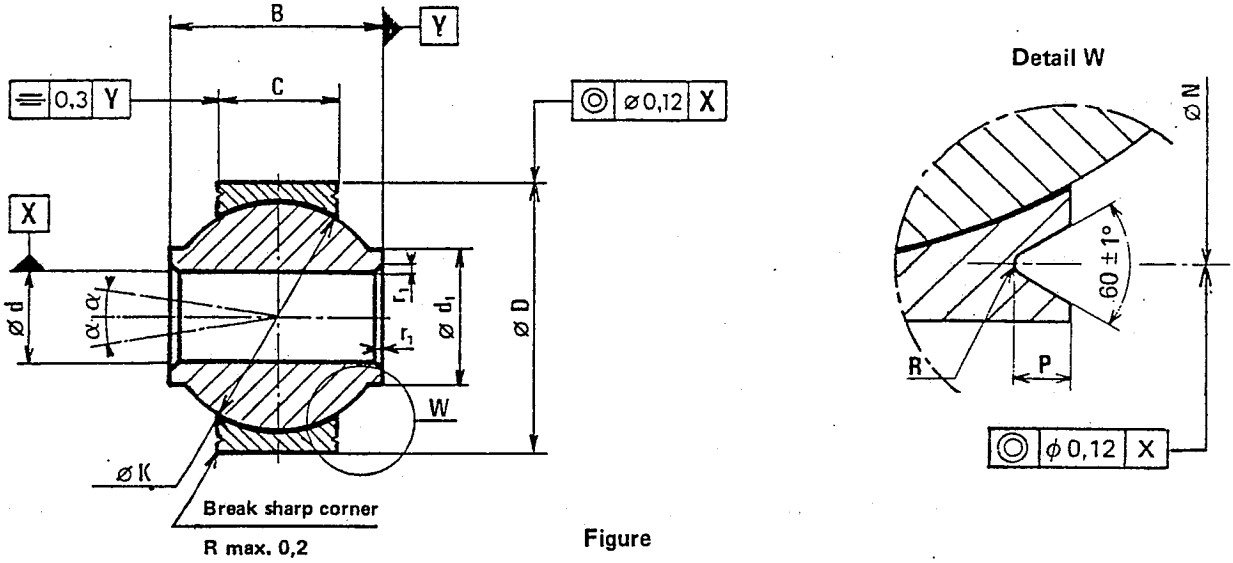
1) In preparation.



Figure

Table 1

Dimensions in millimetres

d		D	B	C	Tolerances μm				K	d_1	r_1	N	P	R	α	Mass
Code	Nominal		0 −0,06	±0,1	ΔDmp	ΔDs	Δdmp	Δds	≈	1) min.		+0,1 0	0 −0,2	+0,1 0	in degrees	≈ g
06	6	18	14	8	0 −8	+5 −13	0 −8	+2 −10	15,0	9,0	0,3 to 0,8	16,2	0,7	0,2	9	15
08	8	21	15	10	0 −9	+6 −15			17,5	11,0		18,4	0,9	0,3	8	22
10	10	26	20	13					22,2	13,5		23,4			10	48

1) Attention should be paid to the possible indentation of the support mountings by the inner bearing faces.

Table 2

d nominal mm	Permissible static loads kN			Permissible dynamic radial loads 25000 cycles kN	Starting torques N.m
	radial C_s	axial C_a	axial after swaging 1)		
6,0	41,5	5,1	4,5	16,6	0,12 to 0,80
8,0	63,0	9,5	6,5	25,2	
10,0	105,1	18,6	10,5	42,2	

1) These values are given for information.
The actual values depend on the method of swaging.

5 Designation

Each spherical plain bearing shall only be designated as in the following example :

Description block	Identity block
SPHERICAL PLAIN	EN2501-06

Number of EN standard

06 = Code diameter d (See table 1)

Note : If necessary, the originator code S9005 may be introduced between the description block and the identity block.

6 Marking

In addition to the manufacturer's own marking, each spherical plain bearing shall be marked, using the identity block as defined in clause 5 of this standard.

Marking position and method are at the manufacturer's option.

7 Technical specification

Spherical plain bearings supplied to this standard shall conform with the requirements of EN 2064.

Qualification testing of these bearings is unnecessary providing that :

- manufacturers have already been qualified to supply bearings in accordance with EN 2023 ;

- material and methods of manufacture are exactly the same for these bearings as those used for EN 2023.