SLOVENSKI STANDARD
SIST EN 2018:2001

01-januar-2001

Bearings, airframe rolling, single row, self aligning roller bearings in steel, diameter series 3 and 4 - Dimensions and loads - Aerospace series

Bearings, airframe rolling, single row, self aligning roller bearings in steel, diameter series 3 and 4 - Dimensions and loads - Aerospace series

Luft- und Raumfahrt - Flugwerklager, einreihige Tonnenlager aus Stahl, Durchmesserreihen 3 und 4 - Maße und Belastungen

Roulements pour structures d'aéronefs, roulements en acier, a rotule sur une rangée de rouleaux, séries de diametres 3 et 4 - Dimensions et charges - Série aérospatiale

Ta slovenski standard je istoveten z: **EN 2018:1984**

ICS:

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

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EUROPEAN STANDARD
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Key words : Aircraft industry, airframe bearings, self aligning bearings, roller bearings, steel, dimensions, static loads

English version

Bearings-airframe rolling
single row, self aligning roller bearings in steel
diameter series 3 and 4
Dimensions and loads
Aerospace series

Roulements pour structures d'aéronefs
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Luft- und Raumfahrt
Flugwerklager
einreihige Tonnenlager aus Stahl
Durchmesserreihen 3 und 4
Masze und Belastungen

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CEN

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

Central Secretariat : Rue Bréderode 2, B—1000 Brussels

BRIEF HISTORY

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

This Standard has been accepted by the European Committee for Standardization (CEN) after inquiries and votes carried out in accordance with the rules of this Committee.

CONTENTS

1 SCOPE

This standard specifies the characteristics, of rigid single row ball bearings of diameter series 3 and 4 1) designed to withstand only slow rotations and oscillations under load. They are intended for use between fixed and moving parts of the aircraft structure and their control mechanisms.

2 FIELDS OF APPLICATION

The airframe roller bearings defined in the present standard shall be used from − 54 to + 150 °C.

However, being lubricated with the following greases :

- very high pressure grease, ester type (code A), operational range − 73 to + 121 °C or
- very high pressure grease, synthetic hydrocarbons, general purpose (code B), operational range − 54 to + 177 °C (refer to EN2063),

their field of application when lubricated with code A grease shall be limited to + 121 °C.

3 REFERENCES

ISO 15 - 1981, Rolling bearings - Radial bearings - Boundary dimensions - General plan

EN2031, Steel FE-PL31, Hardened and tempered, Bars

EN2063, Bearings, airframe rolling - Technical Specification.

4 DEFINITIONS

Self aligning roller bearings, full complement (without cage), single row.

5 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
C_s = permissible static radial load
F_a = bearing axial load = axial component of actual bearing load
$F_{a\ max}$ = permissible static axial load
F_r = static radial load
P_{or} = static equivalent radial load
Y_s = coefficient of axial load.

6 MATERIALS

Inner ring : Steel EN2031 2) 59 to 64 HRC
Outer ring : Steel EN2031 2) 59 to 64 HRC
Rollers : Steel EN2031 2) 59 to 64 HRC
Shields : Corrosion resisting material
Seals : Polytetrafluoroethylene (PTFE);
or polytetrafluoroethylene (PTFE) - glass fibre reinforced plastic material.

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1) See ISO 15.

2) For new designs, bearings in corrosion resisting steel shouls be used for preference, see EN2020.

8 DESIGNATION

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

Description block	Identity block
BEARING	EN2018 A08E

- Number of EN standard — EN2018
- A = code for ester type grease
- 08 = diameter code of d (see table)
- E = code for type with seals

where the following codes are applied :

Greases	Types
A = ester type grease	E = with seals
B = synthetic hydrocarbon type grease	P = with shields

Note : If necessary, the originator code S 9005 may be introduced between the description block and the identity block.

9 MARKING

In addition to the manufacturers' own marking, each bearing shall be marked, on one side face only using the identity block as defined in clause 8 of this standard.
Marking position and method are at the manufacturer's option.

10 TECHNICAL SPECIFICATION

Bearings supplied to this standard shall conform with the requirements of EN2063.