



SLOVENSKI STANDARD
SIST EN 3056:2001
01-januar-2001

Aerospace series - Bearings, airframe rolling - Rigid double row ball bearings in steel - Dimensions and loads

Aerospace series - Bearings, airframe rolling - Rigid double row ball bearings in steel - Dimensions and loads

Luft- und Raumfahrt - Flugwerklager - Zweireihige Rillenkugellager aus Stahl - Maße und Belastungen

iTeh STANDARD PREVIEW

(standards.iteh.ai)

Série aérospatiale - Roulements pour structures d'aéronefs - Roulements en acier, rigides, a deux rangées de billes - Dimensions et charges

[https://standards.iteh.ai/catalog/standards/sist/407d3b80-67de-4e5a-a34b-](https://standards.iteh.ai/catalog/standards/sist/407d3b80-67de-4e5a-a34b-9ad0d28b8334/sist-en-3056-2001)

[9ad0d28b8334/sist-en-3056-2001](https://standards.iteh.ai/catalog/standards/sist/407d3b80-67de-4e5a-a34b-9ad0d28b8334/sist-en-3056-2001)

Ta slovenski standard je istoveten z: EN 3056:1994

ICS:

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

SIST EN 3056:2001

en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 3056:2001

<https://standards.iteh.ai/catalog/standards/sist/407d3b80-67de-4e5a-a34b-9ad0d28b8334/sist-en-3056-2001>

EUROPEAN STANDARD

EN 3056

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 1994

UDC 629.7.02:621.822.74.004.1:669.14

Descriptors: Aircraft industry, airframe bearings, ball bearings, steel, dimensions, static loads

English version

**Aerospace series - Bearings, airframe rolling -
Rigid double row ball bearings in steel -
Dimensions and loads**

Série aérospatiale - Roulements pour structures d'aéronefs - Roulements en acier, rigides, à deux rangées de billes - Dimensions et charges
Luft- und Raumfahrt - Flugwerklager - Zweireihige Rillenkugellager aus Stahl - Maße und Belastungen

STANDARD PREVIEW
(standards.iteh.ai)
SIST EN 3056:2001
<https://standards.iteh.ai/catalog/standards/sist/407d3b80-67de-4e5a-a34b-9ad0d28b8334/sist-en-3056-2001>

This European Standard was approved by CEN on 1994-04-27. CEN members are bound to comply with the CEN/CENELEC 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 Central Secretariat or to any CEN member.

The European Standards exist 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CEN

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

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

1 Scope

This standard specifies the characteristics of rigid double row ball bearings in steel ¹⁾ designed to withstand only slow rotations and oscillations under load.

They are intended for use in the hubs of bell crank levers fitted with a single bearing.

The airframe rolling bearings defined in this standard are used from – 54 °C to + 150 °C.

However, being lubricated with the following greases :

- very high pressure grease, ester type (code A), operational range – 73 °C to + 121 °C or
- very high pressure grease, synthetic hydrocarbons, general purpose (code B), operational range – 54 °C to + 177 °C (see EN 3280),

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

2 Normative references

This European Standard incorporates by dated or undated reference provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

ISO 1132	Rolling bearings - Tolerances - Definitions
EN 2031	Steel FE-PL31 - Hardened and tempered - Bars - Aerospace series 2)
EN 2221	Steel FE-PL31 - Hardened and tempered - Hollow bars 3,5 mm ≤ a ≤ 55 mm - Aerospace series 2)
EN 2222	Steel FE-PL31 - Hardened and tempered - Hand and die forgings - Aerospace series 2)
EN 3058	Aerospace series - Bearings, airframe rolling - Rigid double row ball bearings in corrosion resisting steel - Dimensions and loads
EN 3280	Aerospace series - Bearings, airframe rolling, rigid or self-aligning - Technical specification

SIST EN 3056:2001

3 Definition [https://standards.iteh.ai/catalog/standards/sist/407d3b80-67de-4e5a-a34b-](https://standards.iteh.ai/catalog/standards/sist/407d3b80-67de-4e5a-a34b-9ad0d28b8234/sist-en-3056-2001)

For the purposes of this standard, the following definition applies:

Bearing : full complement of balls (without cage), with filling slot.

4 Symbols

The definitions of tolerances and clearances are given in ISO 1132.

Δ_{dmp}	= single plane mean bore diameter deviation
Δ_{Dmp}	= single plane mean outside diameter deviation
Δ_{Ds}	= deviation of a single outside diameter
G_d	= diagonal internal clearance
S_{ia}	= assembled bearing inner ring face runout with raceway
S_{ea}	= assembled bearing outer ring face runout with raceway
K_{ia}	= radial runout of assembled bearing inner ring
K_{ea}	= radial runout of assembled bearing outer ring
$F_a \text{ max.}$	= permissible static axial load
C_s	= permissible static radial load.

1) For new design, use preferably bearings in corrosion resisting steel, see EN 3058.

2) Published as AECMA Standard at the date of publication of this standard.

5 Required characteristics

5.1 Dimensions - Tolerances - Clearances - Loads - Mass

Configuration : see figure 1 ; the bearings are fitted with either seals or shields.
Values : see table 1.

5.2 Surface roughness

Raceways and rolling elements : $R_a = 0,2 \mu\text{m}$

Bore, side faces and cylindrical outer surface : $R_a = 0,8 \mu\text{m}$.

5.3 Materials

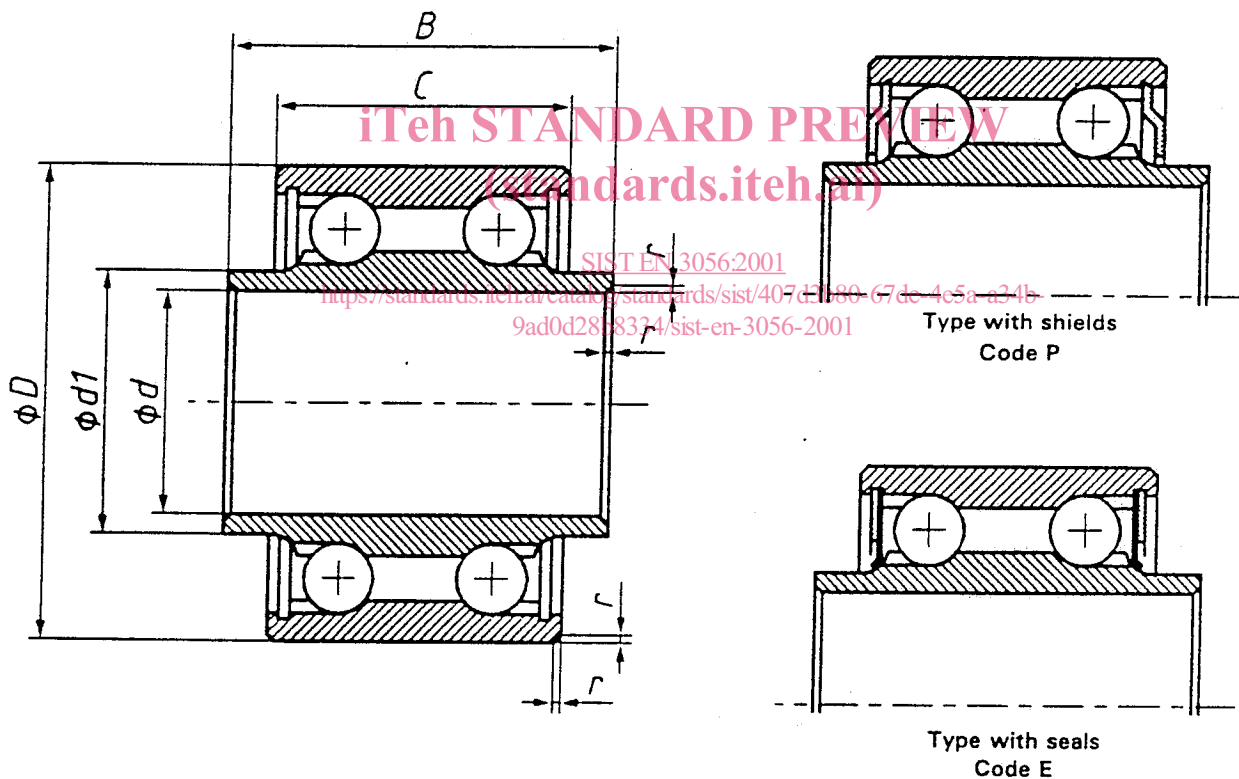
Inner ring : EN 2031 or EN 2221 or EN 2222, 59 HRC to 64 HRC

Outer ring : EN 2031 or EN 2221 or EN 2222, 59 HRC to 64 HRC

Balls : EN 2031, 59 HRC to 64 HRC

Shields : Corrosion resisting material

Seals : Polytetrafluoroethylene (PTFE) or polytetrafluoroethylene (PTFE) reinforced with fibreglass.



NOTE 1 : The installation of seals and shields is at the manufacturer's option.

NOTE 2 : The shields shall not extend beyond « C ».

Figure 1

Table 1

Dimensions in millimetres

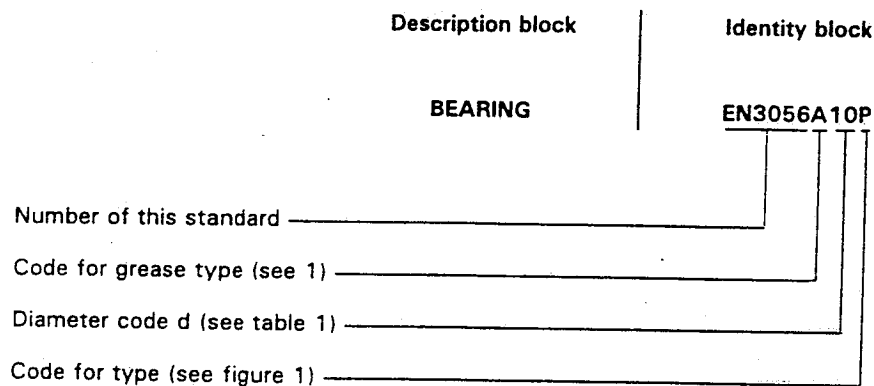
d		B	C	D	d1	Tolerances μm			r	Mass kg/1000 parts \approx
Code	Nominal	0 - 0,12	0 - 0,12		min.	Δ_{dmp}	Δ_{Dmp}	Δ_{Ds}		
08	8	22	17	22	10,6	J7	0 - 8	+ 2 - 11	0,3 to 0,8	30
10	10				12,6					52
12	12				14,7					60
15	15	26	20	32	17,7		0 - 9	+ 3 - 14		80
17	17	28	22	35	20,2					100
20	20	32	26	42	23,5					165

d Code	Diagonal internal clearance G_d μm	Runout tolerances max. μm				Starting torque ¹⁾ in mN.m		Permissible static loads ²⁾ kN	
		Axial		Radial		Code	Code	Axial	Radial
		S_{ia}	S_{ea}	K_{ia}	K_{ea}	P	E	F_a max.	C_s
08	50 to 250	40	40	25	40	4	6	10,9	24
10						6	9	15,6	34,4
12						7	11	18,4	40,4
15						9	14	21,4	47
17						11	17	24,5	53,8
20						15	23	37,7	83

1) Definition, see EN 3280.
2) Axial and radial loads may be applied simultaneously.
For ultimate static loads, see EN 3280.

6 Designation

EXAMPLE :



NOTE : If necessary, the code I9005 shall be placed between the description block and the identity block.

7 Marking

In addition to the manufacturer's own marking, each bearing shall be marked, on one side face only, using the identity block, see 6.

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

iTeh STANDARD PREVIEW
(standards.iteh.ai)

8 Technical specification

See EN 3280.

[SIST EN 3056:2001](https://standards.iteh.ai/catalog/standards/sist/407d3b80-67de-4e5a-a34b-9ad0d28b8334/sist-en-3056-2001)

<https://standards.iteh.ai/catalog/standards/sist/407d3b80-67de-4e5a-a34b-9ad0d28b8334/sist-en-3056-2001>