

Bearings, precision ball in corrosion resisting steel for instruments and equipment — Technical specification

The European Standard EN 2130:2001 has the status of a
British Standard

ICS 21.100.01; 49.025.10; 49.035

National foreword

This British Standard is the official English language version of EN 2130:2001. The UK participation in its preparation was entrusted to Technical Committee ACE/21, Aerospace Fasteners, Fastening Systems, Details and Parts (International), which has the responsibility to:

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- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

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Aerospace series - Bearings, precision ball in corrosion resisting steel for instruments and equipment - Technical specification

Série aéronautique - Roulements à billes de précision en acier résistant à la corrosion pour instruments et équipements - Spécification technique

Luft- und Raumfahrt - Präzisionskugellager aus korrosionsbeständigem Stahl für Instrumente und Geräte - Technische Lieferbedingungen

This European Standard was approved by CEN on 15 January 2001.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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Foreword

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

After inquiries 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 AECMA, 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of an identical text or by endorsement, at the latest by April 2002, and conflicting national standards shall be withdrawn at the latest by April 2002.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This standard specifies the required characteristics, inspection and test methods, qualification and acceptance conditions for precision ball bearings, in corrosion resisting steel, with a nominal bore diameter ≤ 8 mm, used for aerospace instruments and equipment.

It is applicable whenever referenced.

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 (including amendments).

ISO 1132-1	Rolling bearings – Tolerances – Part 1: Terms and definitions
ISO 2859-1	Sampling procedures for inspection by attributes – Part 1 : Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection
ISO 3290	Rolling bearings – Balls – Dimensions and tolerances
EN 2079	Aerospace series – Bearings, precision ball, with flange in corrosion resisting steel, for instruments and equipment – Dimensions and loads
EN 3042	Aerospace series – Quality assurance – EN aerospace products – Qualification procedure
EN 3446	Aerospace series – Bearings, precision ball without flange in corrosion resisting steel, for instruments and equipment – Dimensions and loads
EN 10204	Metallic products – Types of inspection documents

3 Definitions

For the purposes of this standard, the following definitions apply:

3.1 Precision ball bearing

3.1.1 Shielded rolling bearing

A bearing whose rolling elements and raceways are protected with shields attached to one of the rings and separated from the other by a small space.

3.1.2 Sealed rolling bearing

A bearing whose rolling elements and raceways are completely enclosed by seals attached to the outer ring and rubbing on the other.

3.2 Torques

3.2.1 Starting torque

Maximum torque required to start the rotation of one ring, with the other ring held stationary.

3.2.2 Average torque

Arithmetical average of torque values recorded during the test cycle.

3.2.3 Test load

During the test, it is the specified axial load applied in the bearing rotational axis.

3.3 Load ratings

3.3.1 Basic dynamic radial load rating

That constant stationary radial load which a rolling bearing can theoretically endure for a basic rating life of 1 000 000 revolutions.

3.3.2 Basic static radial load rating

That static radial load which corresponds by calculation to a stress of 4 200 MPa at the most heavily stressed rolling element/raceway contact centre.

3.4 Delivery batch

This consists of bearings with the same identity block, which may come from different production batches.

3.5 Dimensional and geometrical parameters

According to ISO 1132-1