Irish Standard
I.S. EN 4156:2013

Aerospace series - Rod ends, with self-aligning double row ball bearings and threaded shank in steel - Inner ring and balls in corrosion resisting steel - Dimensions and loads - Inch series

I.S. EN 4156:2013

Incorporating amendments/corrigenda/National Annexes issued since publication:

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EUROPEAN STANDARD **EN 4156**

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English Version

Aerospace series - Rod ends, with self-aligning double row ball bearings and threaded shank in steel - Inner ring and balls in corrosion resisting steel - Dimensions and loads - Inch series

Série aérospatiale - Embouts à rotule sur deux rangées de billes et à tige filetée en acier - Bague intérieure et billes en acier résistant à la corrosion - Dimensions et charges - Série en inches

Luft- und Raumfahrt - Ösenköpfe mit zweireihigem Pendelkugellager und Gewindeschaft aus Stahl - Innenring und Wälzkörper aus korrosionsbeständigem Stahl - Maße und Belastungen - Zoll Reihe

This European Standard was approved by CEN on 21 March 2013.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This document (EN 4156:2013) 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of an identical text or by endorsement, at the latest by June 2014, and conflicting national standards shall be withdrawn at the latest by June 2014.

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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1 Scope

This European Standard specifies the characteristics of adjustable rod ends with self-aligning double row ball bearing and threaded shank in steel, inner ring and balls in corrosion resisting steel.

They consist of:

- a rod end comprising:
  - either seals or shields;
  - an optional longitudinal groove for locking purpose;
- an inner ring with balls.

These rod ends are intended for use with flight control rods or rods for aerospace structures.

They are intended to be used in the temperature range: – 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 according MIL-PRF-23827 type II
- very high pressure grease, synthetic hydrocarbons, general purpose (code B), operational range – 54 °C to 177 °C (see EN 2067), according MIL-PRF-81322.
- very high pressure grease, lithium type (code C) operational range – 73 °C to 121 °C according MIL-PRF-23827 type I.

Their field of application when lubricated with codes A and C grease is limited to 121 °C.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 2030, *Aerospace series — Steel FE-PM3501 (X105CrMo17) — Hardened and tempered — Bars $D \leq 150$ mm*

EN 2067, *Aerospace series — Rod ends with self-aligning ball bearings — Technical specification*

EN 2099, *Aerospace series — Steel FE-PL71 — Carburized, hardened and tempered — Bars $D_e \leq 100$ mm* [1)]

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

1) In preparation at the date of publication of this standard.