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BSI Standards Publication

**Aerospace series — Bearing, spherical plain, in corrosion resisting steel with self-lubricating liner, low starting torque and low friction coefficient, elevated duty cycles under low oscillations at different operating conditions**

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Part 3: Technical specification

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## National foreword

This British Standard is the UK implementation of EN 4854-3:2019.

The UK participation in its preparation was entrusted to Technical Committee ACE/12, Aerospace fasteners and fastening systems.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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**Compliance with a British Standard cannot confer immunity from legal obligations.**

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### Amendments/corrigenda issued since publication

Date	Text affected
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## EUROPÄISCHE NORM

October 2019

ICS 49.035

English Version

**Aerospace series - Bearing, spherical plain, in corrosion  
resisting steel with self-lubricating liner, low starting  
torque and low friction coefficient, elevated duty cycles  
under low oscillations at different operating conditions -  
Part 3: Technical specification**

Série aérospatiale - Rotules en acier résistant à la  
corrosion à garniture autolubrifiante, faible couple de  
démarrage et faible coefficient de frottement, cycles  
d'endurances élevés sous faibles oscillations à  
différentes conditions de fonctionnement, série large -  
Partie 3 : Spécification Technique

Luft- und Raumfahrt - Gelenklager aus  
korrosionsbeständigem Stahl mit selbstschmierender  
Beschichtung, geringem Losbrechmoment und  
niedrigem Reibungskoeffizienten, hohe Anzahl an  
gering oszillierenden Belastungszyklen bei  
unterschiedlichen Einsatzbedingungen - Teil 3:  
Technische Lieferbedingungen

This European Standard was approved by CEN on 12 November 2018.

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 CEN-CENELEC Management Centre 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 the CEN-CENELEC Management Centre has the same status as the official versions.

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**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

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## European foreword

This document (EN 4854-3:2019) 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 April 2020, and conflicting national standards shall be withdrawn at the latest by April 2020.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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## 1 Scope

This European Standard specifies the required characteristics, inspection and test methods, qualification and acceptance conditions for spherical plain bearings in corrosion resisting steel with self-lubricating liner, low starting torque and low friction coefficient, elevated duty cycles under low oscillations at different operating conditions.

This standard applies whenever referenced.

These self-lubricating spherical plain bearings are intended for use in fixed or moving parts of the aircraft structure especially for control mechanism and operating systems. The bearings are designed subjected under low dynamic radial loads and slow rotations in the temperature range of  $-55\text{ °C}$  to  $120\text{ °C}$  ( $-67\text{ °F}$  to  $248\text{ °F}$ ).

The liner may be of a fabric or composite material bonded to the inside diameter of the outer ring or in a composite material moulded into a pre-formed cavity between the inner and outer rings.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 4854-1, *Aerospace series — Bearing, spherical plain, in corrosion resisting steel with self-lubricating liner, low starting torque and low friction coefficient, elevated duty cycles under low oscillations at different operating conditions, narrow series — Part 1: Dimensions and loads*

EN 4854-2, *Aerospace series — Bearing, spherical plain, in corrosion resisting steel with self-lubricating liner, low starting torque and low friction coefficient, elevated duty cycles under low oscillations at different operating conditions, wide series — Part 2: Dimensions and loads*

EN 10204, *Metallic products — Types of inspection documents*

MIL-PRF-87257B, *Hydraulic Fluid, Fire Resistant; Low Temperature, Synthetic Hydrocarbon Base, Aircraft and Missile*

NSA307110, *Fluid — Hydraulic Phosphate Ester — Base Fire Resistant*

TR 4475, *Bearings and mechanical transmissions for airframe applications — Vocabulary*<sup>1</sup>

ASTM D 1655, *Specification for Aviation Turbine Fuels*

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1 Published as ASD-STAN Technical Report at the date of publication of this standard by AeroSpace and Defence Industries Association of Europe – Standardization (ASD-STAN) ([www.asd-stan.org](http://www.asd-stan.org)).