BRITISH STANDARD

BS EN
1337-2:2004

Structural bearings —

Part 2: Sliding elements

The European Standard EN 1337-2:2004 has the status of a British Standard

ICS 91.010.30

National foreword

This British Standard was published by BSI. It is the UK implementation of EN 1337-2:2004. It supersedes BS EN 1337-2:2001 which is withdrawn. It partially supersedes BS 5400-9-1:1983 and BS 5400-9-2:1983 which will remain current until the remaining parts of the BS EN 1337 series have been published, the last part being Part 8.

The UK participation in its preparation was entrusted to Technical Committee B/522, Structural bearings.

A list of organizations represented on B/522 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.

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

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

Management Centre: rue de Stassart, 36 B-1050 Brussels

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Contents

Foreword

This document (EN 1337-2:2004) has been prepared by Technical Committee CEN /TC 167, "Structural bearings", the secretariat of which is held by UNI.

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of an identical text or by endorsement, at the latest by September 2004, and conflicting national standards shall be withdrawn at the latest by September 2004.

This document supersedes EN 1337-2:2000.

This European Standard EN 1337 “Structural bearings”, consists of the following 11 Parts:

Part 1: General design rules

Part 2: Sliding elements

Part 3: Elastomeric bearings

Part 4: Roller bearings

Part 5: Pot bearings

Part 6: Rocker bearings

Part 7: Spherical and cylindrical PTFE bearings

Part 8: Guide bearings and restrain bearings

Part 9: Protection

Part 10: Inspection and maintenance

Part 11: Transport, storage and installation

Annexes A, B, C and L are informative. Annexes D, E, F, G, H, J and K are normative.

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

Introduction

This standard considers a minimum operating temperature of –35°C.
An extension down to –40°C will be considered in a future amendment.
Applications beyond the range of temperature given in clause 1 need special consideration not covered by this standard. Characteristics and requirements given in this standard do not apply in such cases.

1 Scope

This European Standard specifies the characteristics for the design and manufacture of sliding elements and guides which are not structural bearings but only parts of them for combination with structural bearings as defined in other Parts of this European Standard.

Suitable combinations are shown in Table 1 of EN 1337-1:2000.

Sliding surfaces with a diameter of the circumscribing circle of single or multiple PTFE sheets less than 75 mm or greater than 1500 mm, or with effective bearing temperatures less than –35°C or greater than 48°C are outside the scope of this European Standard.

Sliding elements for use as temporary devices during construction, for example during launching of the superstructure, are also outside the scope of this European Standard.

In this standard the specification is also given for curved sliding surfaces which are not part of separate sliding elements but which are incorporated in cylindrical or spherical PTFE bearings as per EN 1337.

NOTE The general principles detailed in this European Standard may be applied for sliding elements outside this scope, but their suitability for the intended use should be proven.

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).

EN 1337-1:2000, *Structural bearings - Part 1: General design rules*

EN 1337-7, *Structural bearings - Part 7: Spherical and cylindrical PTFE bearings*

EN 1337-10:2003, *Structural bearings - Part 10: Inspection and maintenance*

EN 1337-11:1997, *Structural bearings - Part 11: Transport, storage and installation*

EN 10025, *Hot rolled products of non-alloy structural steels –Technical delivery conditions*

EN 10088-2, *Stainless steels – Part 2: Technical delivery conditions for sheet/plate and strip for general purposes*

EN 10113-1, *Hot-rolled products in weldable fine grain structural steels - Part 1: General delivery conditions*

EN 10137-1, *Plates and wide flats made of high yield strength structural steels in the quenched and tempered or precipitation hardened conditions – Part 1: General delivery conditions*

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

ENV 1992-1-1, *Eurocode 2: Design of concrete structures - Part 1-1: General rules and rules for buildings*

ENV 1993-1-1, *Eurocode 3: Design of steel structures - Part 1-1: General rules and rules for buildings*

EN ISO 527-1, *Plastics – Determination of tensile properties – Part 1: General principles (ISO 527-1:1993 including Corr 1:1994)*

EN ISO 527-3, *Plastics – Determination of tensile properties – Part 3: Test conditions for films and sheets (ISO 527-3:1995)*

EN ISO 1183 (all Parts), *Plastics - Methods for determining the density of non-cellular plastics*

EN ISO 2039-1, *Plastics - Determination of hardness - Part 1: Ball indentation method (ISO 2039-1:2001)*

EN ISO 2409, *Paints and varnishes - Cross-cut-test (ISO 2409:1992)*

EN ISO 4287, *Geometrical product specifications (GPS) – Surface textute: Profile method – Terms, definitions and surface texture parameters (ISO 4287:1997)*

EN ISO 6506 (all Parts), *Metallic materials – Brinell hardness test*

EN ISO 6507-1, *Metallic materials – Vickers hardness test - Part 1: Test method (ISO 6507-1:1997)*

EN ISO 6507-2, *Metallic materials - Vickers hardness test - Part 2: Verification of testing machines (ISO 6507-2:1997)*

ISO 1083, *Spheroidal graphite cast iron - Classification*

ISO 2137, *Petroleum products - Lubricating grease and petrolatum - Determination of cone penetration*

ISO 2176, *Petroleum products - Lubricating grease - Determination of dropping point*

ISO 3016, *Petroleum products - Determination of pour point*

ISO 3522, *Cast aluminium alloys - Chemical composition and mechanical properties*

ISO 3755, *Cast carbon steels for general engineering purposes*

prEN ISO 6158, *Metallic coatings - Electrodeposited coatings of chromium for engineering purposes (ISO/DIS 6158:2002)*

3 Terms and definitions, symbols and abbreviations

3.1 Terms and definitions

For the purposes of this European Standard, the following terms and definitions apply.

3.1.1
backing plate
metallic component which supports sliding materials

3.1.2
coefficient of friction
ratio of lateral force (resisting force F_x) to the normal force F_z

3.1.3
composite material
sliding material used in guides

3.1.4
guide
sliding element which restrains a sliding bearing from moving in one axis

3.1.5
hard chromium surface
steel backing element plated with a hard chromium layer

3.1.6
lubricant
special grease used to reduce the friction and wear in the sliding surfaces

3.1.7
mating surface
hard smooth metallic surface against which the PTFE or composite materials slide