DIN EN 1337-2

ICS 91.010.30

Supersedes July 2001 edition.

Structural bearings

Part 2: Sliding elements English version of DIN EN 1337-2

Lager im Bauwesen - Teil 2: Gleitteile

European Standard EN 1337-2 : 2004 has the status of a DIN Standard.

A comma is used as the decimal marker.

National foreword

This standard has been prepared by CEN/TC 167 'Structural bearings' (Secretariat: Italy). The responsible German body involved in its preparation was the *Normenausschuss Bauwesen* (Building and Civil Engineering Standards Committee), Technical Committee 00.91.00 *Lager im Bauwesen*.

Amendments

This standard differs from the July edition as follows:

- a) the design is now based on characteristic values.
- b) some tables have been amended;
- c) references have been updated.

Previous edition

DIN EN 1337-2: 2001-07.

Document comprises 68 pages.

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EN 1337-2

March 2004

ICS 91.010.30

Supersedes EN 1337-2 : 2000.

English version

Structural bearings

Part 2: Sliding elements

Appareils d'appui structuraux – Partie 2: Eléments de glissement

EUROPEAN STANDARD

NORME EUROPÉENNE EUROPÄISCHE NORM

> Lager im Bauwesen – Teil 2: Gleitteile

This European Standard was approved by CEN on 2004-01-02.

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Contents

P	age
Foreword	3
Introduction	3
1 Scope	4
2 Normative references	4
3 Terms and definitions, symbols and abbreviations	5
4 Functional requirements	8
5 Material properties	10
6 Design requirements	16
7 Manufacturing, assembly and tolerances	25
8 Conformity evaluation	29
9 Installation	32
10 Criteria for in-service inspection	32
Annex A (informative) Reduced area for sliding elements	33
Annex B (informative) Coefficient of friction for dimpled PTFE sheets	35
Annex C (informative) Method for calculating the deformation of backing plates attached to concrete	36
Annex D (normative) Test methods for friction	37
Annex E (normative) Hard chromium plated surfaces – Ferroxyl test	48
Annex F (normative) Thickness measurement of the anodized surfaces	50
Annex G (normative) Lubricant – Oil separation test	52
Annex H (normative) Oxidation stability of lubricant	55
Annex J (normative) Austenitic steel sheets adhesive – Lap shear test	61
Annex K (normative) Factory production control (FPC)	64
Annex L (informative) Audit testing	66
Bibliography	66

Foreword

This document 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.

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.

In accordance with the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard:

Austria, Belgium, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, and the 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 1 500 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.