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STRUCTURAL BEARINGS - PART 7: SPHERICAL AND CYLINDRICAL PTFE BEARINGS

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Appareils d'appui structuraux - Partie 7: Appareils d'appui cylindriques sphériques comportant du PTFE

Lager im Bauwesen - Teil 7: Kalotten- und Zylinderlager mit PTFE

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Foreword

This document (EN 1337-7:2004) 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of an identical text or by endorsement, at the latest by September 2004, and conflicting national standards shall be withdrawn at the latest by September 2004.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 has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative annex ZA, which is an integral part of this document.

Annexes A and B are informative.

This document supersedes EN 1337-7:2000.

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

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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, requirements and test procedures given in this standard do not apply in such cases.

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1 Scope

This European Standard deals with the requirements for the design and manufacture of spherical and cylindrical PTFE bearings. The requirements and properties of the curved sliding surfaces are included in EN 1337-2. Spherical and cylindrical bearings with an included angle 2 θ > 60° and 2 θ > 75° respectively are beyond the scope of this European Standard. (see Figure 6).

For the purpose of controlling the degree of freedom the bearings may be combined with flat sliding elements and guides according to EN 1337-2:2004 and restraining rings as per 6.3.4.

Cylindrical bearings are susceptible to unexpected moments about the transverse axis of the cylindrical surface.

Additional limitation of application to be taken into consideration is given in clause 1 of EN 1337-2:2004.

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 1337–2:2004, *Structural bearings - Part 2: Sliding elements*

prEN 1337–5:1996, *Structural bearings - Part 5: Pot bearings*

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
cylindrical PTFE bearing
bearing consisting of a backing plate with a convex cylindrical surface (rotational element) and a backing plate with a concave cylindrical surface between which a PTFE sheet and the mating material form a curved sliding surface (see Figure 1). Cylindrical PTFE bearings are also used in combination with flat sliding elements and guides to form free or guided bearings (see Figure 2)

NOTE Numbers in brackets in Figures 1 and 2 refer to the examples shown in Figure 1 of EN 1337-1:2000.

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