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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 13871.3-2023

Replacing GB/T 13871.3-2008

**Rotary shaft lip-type seals incorporating elastomeric sealing
elements - Part 3: Storage, handling and installation**

密封元件为弹性体材料的旋转轴唇形密封圈 第3部分：贮存、搬运和安装

(English Translation)

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents" Drafting:

This document is Part 3 of GB/T 13871 "Rotating shaft lip seals with sealing elements made of elastomer materials": GB/T 13871 the following sections have been published:

- Part 1: Dimensions and tolerances;
- Part 2: Vocabulary;
- Part 3: Storage, handling and installation;
- Part 4: Performance test procedures;
- Part 5: Identification of appearance defects;
- Part 6: Elastomer material specifications:

This document replaces GB/T 13871.3-2008 "Rotating shaft lip seals with sealing elements made of elastomer materials - Part 3: Storage, "Handling and Installation", compared with GB/T 13871.3-2008, in addition to structural adjustments and editorial changes, the main technical changes are as follows:

- a) Changed the scope of application (see Chapter 1, Chapter 1 of the:2008 edition);
- b) Changed the expression of storage requirements and added storage period requirements, and added normative references to GB/T 20739 (see Section 4 Chapter, Chapter 4 of the:2008 edition);
- c) The pressure holding time when installing with tools is added to 3s~5s (see 7.5):

This document is modified to adopt ISO 6194-3:2009 "Rotating shaft lip seals with sealing elements made of elastomeric materials - Part 3: Storage Storage, transportation and installation:

Compared with ISO 6194-3:2009, this document has many structural adjustments:
Comparison list of structure number changes between two files See Appendix A for the table:

The technical differences between this document and ISO 6194-3:2009 and their reasons are as follows:

- a) Replaced ISO 6194-2 (see Chapter 3) with the normatively quoted GB/T 13871.2 to adapt to my country's technical conditions;
- b) ISO 5598 (see Chapter 3) was replaced with the normatively cited GB/T 17446 to adapt to my country's technical conditions;
- c) Replaced ISO 2230 (see 4.1) with normatively cited GB/T 20739 to adapt to my country's technical conditions;
- d) Replaced ISO 6194-1 (see 7.1) with the normatively quoted GB/T 13871.1 to adapt to my country's technical conditions;
- e) The storage period of the rotating shaft lip seal ring made of silicone rubber material has been increased (see Table 1) to adapt to my country's technical conditions;
- f) Added the pressure holding time of 3s~5s when installing with tools, and added the description of the inner hole of the through cavity and the inner hole of the step cavity:
(See 7.5) to improve operability;
- g) For forward installation, "the installation indication is that the inner hole of the cavity and the bottom surface of the inner hole of the installation tool are in line with the machined end surface perpendicular to the axis:

Index number 5 and its description (see Figure 2) have been added to "Intent" to make the figure more complete;
- h) For the reverse installation diagram, the label "installation tool force application part" is added (see Figure 4 and Figure 5) to make the diagram more complete:

The following editorial changes have been made to this document:

---Deleted the note in Table 1 of ISO 6194-3:2007;

---Added Appendix A (informative) "Structure Number Comparison List":

Please note that some content in this document may be subject to patents: The publisher of this document assumes no responsibility for identifying patents:

Introduction

Rotary shaft lip seals are used to seal liquids (such as lubricating oil) in equipment with relatively low pressure differences: Usually the axis rotates and the cavity is stationary:

In some cases, the shaft is stationary and the cavity rotates:

This dynamic sealing is usually achieved by designing an interference fit between the shaft and the elastomeric sealing element:

Similarly, an interference fit between the outer circumference of the rotating shaft lip seal and the inner diameter of the cavity can tighten the seal and prevent static leakage:

GB/T 13871 "Rotating shaft lip seal ring with sealing element made of elastomer material" stipulates that the sealing element is made of elastomer material:

Shaft lip seal ring consists of 6 parts:

---Part 1: Dimensions and tolerances: The purpose is to design the dimensions of the lip seal ring of a rotating shaft whose sealing element is made of elastomer material:

and acceptance:

---Part 2: Vocabulary: The purpose is to summarize and define the terms and definitions of rotary shaft lip seals with elastomeric sealing elements:

Meaning, easy to understand and communicate:

---Part 3: Storage, handling and installation: The purpose is to standardize the operation of sealing rings during storage, transportation and installation: These operations Care must be taken to avoid damage caused before and during installation that may affect the service life of the seal:

---Part 4: Performance test procedures: The purpose is to verify the actual use of rotating shaft lip seals whose sealing elements are made of elastomer material:

Effect:

---Part 5: Identification of appearance defects: The purpose is to identify the appearance quality and avoid leakage due to appearance defects:

---Part 6: Elastomer material specifications: The purpose is to select suitable elastomers for rotating shaft lip seals under various working conditions:

Sexual material:

The sealing element is a lip of the rotating shaft made of elastomer material
Seals Part 3: Storage, Handling and Installation

1 Scope

This document specifies the storage, handling and installation of rotating shaft lip seals (hereinafter referred to as "seals") whose sealing elements are made of elastomer material:

It also provides instructions for the use of sealing rings, hazards involved, and information

on how to avoid these hazards:

This document applies to sealing rings used under low pressure conditions (see GB/T 13871.1):

Note: GB/T 13871 (all parts) and GB/T 21283 (all parts) are complementary to each other: GB/T 21283 (all parts) stipulates that the sealing element is thermal Rotary shaft lip seal made of plastic material:

2 Normative reference documents

The contents of the following documents constitute essential provisions of this document through normative references in the text: Among them, the dated quotations for undated referenced documents, only the version corresponding to that date applies to this document; for undated referenced documents, the latest version (including all amendments) applies to this document:

GB/T 13871.1 Lip seals for rotating shafts with elastomer sealing elements - Part 1: Dimensions and tolerances (GB/T 13871.1-2022,ISO 6194-1:2007,MOD) GB/T 13871.2 Rotating shaft lip seals with elastomer sealing elements - Part 2: Vocabulary (GB/T 13871.2-2015,ISO 6194-2:2009,MOD) GB/T 17446 Fluid transmission system and component vocabulary (GB/T 17446-2012, ISO 5598:2008, IDT) GB/T 20739 Rubber products storage guide (GB/T 20739-2006, ISO 2230:2002, IDT)

3 Terms and definitions

The terms and definitions defined in GB/T 13871.2 and GB/T 17446 apply to this document:

4 Storage

4.1

Damage caused by improper storage will affect the sealing performance of the sealing ring and even endanger the life of supporting bearings and related important components: Therefore Sealing rings should be properly stored, and the storage of sealing rings should comply with the storage regulations of GB/T 20739:

4.2

The sealing ring should be protected from damage by insects and rodents: Some insects and rodents will grow on rubber products:

4.3

To avoid possible mechanical damage or damage from falling objects, sealing rings should be stored in non-operating areas: If necessary, use airtight packaging boxes (container) to