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

GB/T 13871.6-2022

**Rotary shaft lip-type seals incorporating elastomeric sealing
elements - Part 6: Specification of elastomeric materials**

密封元件为弹性体材料的旋转轴唇形密封圈 第6部分：弹性体材料规范

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for Standardization Work Part

1. Structure and Drafting Rules of Standardization Documents" drafted. This document is part 6 of GB/T 13871 "Rotating Shaft Lip Seals with Elastomeric Sealing Elements". GB/T 13871 The following sections have been published.

1. Dimensions and tolerances;

3. Storage, handling and installation;

4. Performance test procedures;

5. Identification of cosmetic defects;

6. Specification for elastomeric materials. Please note that some content of this document may be patented. The issuing agency of this document assumes no responsibility for identifying patents. This document is proposed by China Machinery Industry Federation. This document is under the jurisdiction of the National Hydraulic Pneumatic Standardization Technical Committee (SAC/TC3). This document is drafted by: Northwest Rubber and Plastics Research and Design Institute Co., Ltd., Anhui Zhongding Seals Co., Ltd., Guangzhou Machinery Division Research Institute Co., Ltd., Qingdao Beihai Sealing Technology Co., Ltd., Chengdu Shengbang Sealing Co., Ltd., Xi'an Xiangyang Aerospace Materials Co., Ltd. Co., Ltd., Guangdong Tiancheng Seal Co., Ltd., Zhejiang Shangyu Oil Seal Manufacturing Co., Ltd., Changzhou Langbo Sealing Technology Co., Ltd. Co., Ltd., Nanjing Lide Oriental Rubber and Plastic Technology Co., Ltd., Qingdao Hailiwei New Material Technology Co., Ltd., Nanjing Dongrun Special Rubber and Plastic Co., Ltd. Co., Ltd., Jiangsu Mingzhu Testing Machinery Co., Ltd., Maanshan Hongli Rubber Products Co., Ltd., Qingdao Ruizhisen Oil Seal Co., Ltd., Xiamen Mai Feng Seals Co., Ltd., Dongguan Runyin Industrial Co., Ltd. The main drafters of this document. Gao Jingru, Cao Yuanli, Xia Yingsong, Wang Yong, Wu Yongzeng, Fan Debo, Liu Haijun, Xie Hongbo, Xu Xiangjun, Wu

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Rotary shaft lip seals are used to seal liquids (such as lubricating oils) in equipment with relatively low differential pressures. Usually the shaft rotates, the cavity is stationary, and there are In some cases the shaft is stationary and the cavity is rotating. 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 bore diameter of the cavity can tighten the seal and prevent static leakage. GB/T 13871 "Rotating Shaft Lip Seal Rings with Elastomeric Materials as Sealing Elements" stipulates that the sealing element is an elastomer material for rotating shafts. The technical requirements for the shaft lip seal, which consists of six parts.

1. Dimensions and tolerances. The purpose is to dimension the rotary shaft lip seals for which the sealing element is an elastomer material and acceptance.
2. Vocabulary. The purpose is to summarize and define the terms and definitions of rotary shaft lip seals whose sealing elements are elastomeric materials. meaning, easy to understand and communicate.
3. Storage, handling and installation. The purpose is to standardize the operation of the sealing ring during storage, handling and installation to avoid Damage caused before and during installation affects the life of the seal.
4. Performance test procedures. The purpose is to verify the practical use of rotary shaft lip seals with elastomeric sealing elements Effect.
5. Identification of cosmetic defects. The purpose is to identify the appearance quality and avoid leakage due to appearance defects.
6. Specification for elastomeric materials. The purpose is to select suitable elastics for rotating shaft lip seals under various working conditions. Sexual material. Rotating shaft lip with sealing element in elastomer material Sealing rings part

1 Scope

GB/T 13871.6-2022 is the Chinese national standard on rotary shaft lip-type seals incorporating elastomeric sealing elements - part 6: specification of elastomeric materials, in the field of fluid systems and general-purpose components. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 12 October 2022 by the State Administration for

Market Regulation; Standardization Administration of China, and has been in force since 12 October 2022. Classification: ICS 23.100.60, CCS J 20. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

2 Normative references

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

GB/T 528 Determination of Tensile Stress-Strain Properties of Vulcanized Rubber or Thermoplastic Rubber

GB/T 531.1 Test method for indentation hardness of vulcanized or thermoplastic rubber - Part

GB/T 1690 Vulcanized rubber or thermoplastic rubber liquid resistance test method

GB/T 2941 Rubber Physical Test Methods General Procedures for Specimen Preparation and Conditioning

GB/T 3512 Vulcanized rubber or thermoplastic rubber hot air accelerated aging and heat resistance test

GB/T 5576 Rubber and Latex Nomenclature

GB/T 6031 Determination of hardness of vulcanized rubber or thermoplastic rubber (10IRHD~100IRHD)

GB/T 7758 Determination of low temperature properties of vulcanized rubber Temperature retraction procedure (TR test)

GB/T 7759.1 Determination of Compression Set of Vulcanized Rubber or Thermoplastic Rubber Part

3 Terms and Definitions

There are no terms and definitions that need to be defined in this document.

4 Requirements

4.1 The elastomer materials commonly used in the manufacture of sealing rings are shown in Table 1. Table

1 Elastomer materials commonly used in the manufacture of sealing rings Elastomer material material code a Hardness level, IRHD Nitrile rubber NBR 70Ab, 70,

80 Hydrogenated nitrile rubber HNBR 60,70,

80 Acrylate Rubber ACM

70 Viton FKM 70,80

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