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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 45599-2025

Self-lubricating liquid silicone rubber for connectors

液体硅橡胶 连接器用自润滑型

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Table of Contents

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 for standardization documents" Drafting. Please note that some of the contents of this document may involve patents, and the issuing organization of this document does not assume the right to identify patents. This document was proposed by the China Petroleum and Chemical Industry Federation. This document is under the jurisdiction of the National Technical Committee on Rubber and Rubber Products (SAC/TC35). This document was drafted by: Jiangxi Bluestar Spark Organic Silicone Co., Ltd., Yongxiu County Inspection and Testing Center (Jiangxi Organic Silicone Product Quality Supervision Center Shenzhen Senri Silicone Materials Co., Ltd., Dongguan Zhengan Silicone Technology Co., Ltd., Dongguan Hongsheng Rubber Products Co., Ltd., Xin'an Tianyu Silicone Co., Ltd., Wanxin (Xiamen) New Materials Co., Ltd., Zhejiang Senri Silicone Materials Co., Ltd., Guangzhou Siyou New Material Technology Co., Ltd. and Shenyang Rubber Research and Design Institute Co., Ltd. The main drafters of this document are. Lei Lijuan, Guo Peng, Wu Hong, Shen Jing, Chen Hao, Li Yanmin, Zhao Lingzhi, Chen Jinwen, Zhou You, Lan Jiashui, Zhong Wei, Tao Wuping, Liao Kai, and Feng Haipeng. Self-lubricating type for liquid silicone rubber connectors

1 Scope

China's national standard for self-lubricating liquid silicone rubber used in connectors. The material solves a specific and awkward problem in automotive and electrical connectors: the seal that keeps water out of a connector must grip tightly enough to seal, which makes the connector hard to mate - and a connector requiring high insertion force is one that assembly workers fail to seat fully, which is a leading cause of the intermittent faults that are the hardest to diagnose in a vehicle. The traditional answer was to apply grease at assembly, which is messy, inconsistent and attracts contamination. A self-lubricating silicone carries its own lubricant, migrating slowly to the surface, so the seal is slippery when mated and remains sealed afterwards without anything being applied. The standard

specifies the classification, technical requirements, inspection rules, marking, packaging, transport and storage of such compounds, and describes the corresponding test methods.

2 Normative references

The contents of the following documents constitute essential clauses of this document through normative references in this document. For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document.

GB/T 528 Determination of tensile stress-strain properties of vulcanized rubber or thermoplastic rubber

GB/T 529 Determination of tear strength of vulcanized rubber or thermoplastic rubber (trouser-shaped, right-angled and crescent-shaped test specimens)

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

GB/T 533 Determination of density of vulcanized rubber or thermoplastic rubber

GB/T 7759.1 Determination of compression set of vulcanized rubber or thermoplastic rubber Part

3 Terms and definitions

There are no terms or definitions that require definition in this document.

4 Naming

According to the provisions of GB/T 36804, the liquid silicone rubber code, product composition, vulcanization mechanism code, hardness and self-lubricating use are used. The amount of oil separation is named. Example. The self-lubricating liquid silicone rubber for connectors with a hardness of 20ShoreA and oil separation volume of I is named "LQ-2-PA20A/O-I" LQ- Liquid Silicone Rubber Two-component PA Addition Type 20A/ Hardness after vulcanization Self-lubricating Oil separation