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CCS G40



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

GB/T 13939-2014

Replacing GB/T 13939-1992

**Rubber, vulcanized-Test method of deterioration by heat and
oxygen-Tube tester**

硫化橡胶 热氧老化试验方法 管式仪法

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Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules. This standard replaces GB/T 13939-1992 "vulcanized rubber thermal aging test method for tubular instrument law", and GB/T 13939-1992 Compared to the main technical changes are as follows:

--- Remove the oxygen pressure vessel size requirements (see 1992 edition 4.2);
--- Added "if the sample after aging tensile properties need to be tested, its thickness and width should be measured before the aging test" requirement (see 7.1). The use of standard reference ASTM D572-10 redrafted law "rubber thermal aging test method" preparation, and ASTM D572-

10 The non-equivalent. The standard proposed by China Petroleum and Chemical Industry Association. This standard by the National Standardization Technical Committee rubber and rubber products, Common test methods for Club (SAC/TC35/SC2) centralized. This standard was drafted. Guangzhou Institute of Materials Co., Ltd., Beijing Rubber Industry Research and Design Institute. The main drafters of this standard. Xie Yufang, Yi Jun, Xie Junfang. This standard replaces the standards previously issued as follows:

--- GB/T 13939-1992. Vulcanized rubber thermal aging test method Tubular instrument law Warning. Use of this standard shall have a person experiences regular laboratory work. This standard does not point out all possible security issues. Users have the responsibility to take appropriate safety and health practices and to ensure compliance with the conditions relevant national regulations.

1 Scope

GB/T 13939-2014 is the Chinese national standard on rubber, vulcanized-test method of deterioration by heat and oxygen-tube tester, in the field of rubber and plastic industries. 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 31 December 2014 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 July 2015. Classification: ICS 83.060, CCS G40. 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.

This standard specifies the test method for accelerated aging of vulcanized rubber at high temperature and high pressure oxygen environment. This standard applies to vulcanized rubber in the hot oxygen aging test factors.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

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

GB/T 531.1 vulcanized rubber or thermoplastic rubber hardness test pushed Part 1. Shore hardness method (Shore hardness)

GB/T 2941 rubber physical test method for preparing and conditioning General Procedure

3 Test principle

Rubber and its products to withstand prolonged heat and oxygen aging will inevitably lead to physical performance degradation. The sample is exposed to high temperature and high pressure oxygen ring Measure its properties throughout the aging after a certain time, and the performance of the unaged samples were compared.

4 Test device

4.1 meter from the oxygen-type pressure vessels, heat transfer medium and climate control systems and other components.

4.2 oxygen tubular container is a pressure vessel made of metal, it should be maintained and the temperature of the pressurized environment. Place the container shall be provided with a sample Hanger, the size of the container should be able to ensure that the vertical sample suspended without contact with each other, do not touch the vessel wall. The best total volume of the sample does not exceed the capacity of 10% of the volume of the contents. Oxygen pressure vessel shall be equipped with a reliable safety valve to ensure

that the pressure vessel pressure is less than 3.45MPa. Copper or copper parts can not be exposed to the test environment, pressure vessels, pipe fittings or valves not prepared copper material.

4.3 heat transfer medium optional water, air or other fluid under aerobic secure environment can be used as a heat transfer medium. Oil or combustible liquids shall not Used as a heat transfer medium.

4.4 thermostatic control system consists of a heating device, temperature controller and over-temperature protection device components. Climate control system can provide power protection and super Temperature insulation to prevent temperature increases resulting in accidents. Heat source can be optional, but should be placed outside the oxygen pressure vessel.

5 Sample

5.1 Sample parking, preparation and regulation should be consistent with the relevant provisions of GB/T 2941 in.