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

GB/T 39693.6-2020

**Rubber, vulcanized or thermoplastic - Determination of
hardness - Part 6: Apparent hardness of rubber-covered rollers
by IRHD method**

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Foreword

GB/T 39693 "Determination of the hardness of vulcanized rubber or thermoplastic rubber" is divided into 9 parts:

---Part 1: Introduction and Guide;

---Part 2: International Rubber Hardness (10IRHD~100IRHD);

---Part 3: Use the ultra-low rubber hardness (VLRH) scale to determine the hardness of the test force;

---Part 4: Determine the indentation hardness by the Shore hardness tester method (Shore hardness);

---Part 5: Use the portable international rubber hardness tester to determine the indentation hardness;

---Part 6: IRHD method to determine the apparent hardness of rubber rollers;

---Part 7: Shore hardness method to determine the apparent hardness of rubber rollers;

---Part 8: Zhao's hardness (P

---Part 9: Calibration and verification of the hardness tester:

This part is Part 6 of GB/T 39693:

This section was drafted in accordance with the rules given in GB/T 1:1-2009:

The translation method used in this part is equivalent to ISO 48-6:2018 "Determination of the hardness of vulcanized rubber or thermoplastic rubber Part 6:

IRHD method to measure the apparent hardness of rubber rollers":

This section also made the following editorial changes:

---In order to clearly indicate the structure of the IRHD hardness tester, an explanation is added in Figure 1 and Figure 2 in 6:2:

This part was proposed by the China Petroleum and Chemical Industry Federation:

This part is organized by the National Rubber and Rubber Products Standardization Technical Committee Rubber Miscellaneous Technical Committee (SAC/TC35/SC7)

Focus:

Drafting organizations of this section: Suzhou Baosu Mining and Metallurgy Equipment Co., Ltd., Nanjing Shengqiang Rubber and Plastic Co., Ltd., Zhejiang Zhengrong Roll Co., Ltd.,

Nanjing Gubai Rubber and Plastic Products Co., Ltd., Zhejiang Fuming Industrial Machinery Co., Ltd., Hengshui City Quality and Technical Supervision and Inspection Institute, Nanjing Dongrun Special

Rubber & Plastic Co., Ltd:

1 Scope

This part of GB/T 39693 specifies the method for measuring the apparent hardness of rubber rollers (expressed in international rubber hardness):

This method is similar in principle to the method of measuring rubber hardness in ISO 48-2, and it is essentially measured by measuring a spherical indenter under a prescribed force:

The depth of the dent caused: The instrument used is similar to that described in ISO 48-2, with specially designed for roller surfaces and similar curved surfaces:

The base of the surface:

Note: For some rubber rollers, the surface rubber thickness may vary significantly, which may affect the measured apparent hardness:

2 Normative references

The following documents are indispensable for the application of this document: For dated reference documents, only the dated version applies to this article

Pieces: For undated references, the latest version (including all amendments) applies to this document:

ISO 48-2:2018 Determination of hardness of vulcanized rubber or thermoplastic rubber
Part 2: Hardness between 10IRHD~100IRHD

(Rubber,vulcanized or thermoplastic-Determination of hardness-Part 2: Hardness between 10IRHD and 100IRHD)

ISO 23529 Rubber-General procedures for the preparation and adjustment of rubber physical test methods (Rubber-General procedures for preparing and conditioning test pieces for physical test methods)

3 Terms and definitions

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

The terminology database for standardization maintained by ISO and IEC is located at the following website:

---ISO online browsing platform: the available address is at <https://www.iso.org/obp>;

---IEC Electrotechnical Encyclopedia: The available address is at <https://www.electropedia.org/>:

4 Time interval between forming, grinding and testing

After molding and/or grinding, the parking time of the sample shall not be less than 16h; as the determination of arbitration, the parking time after molding shall not be less than

72h:

5 Test temperature and adjustment

As long as conditions permit, the determination should be carried out at the standard laboratory temperature specified in ISO 23529: To make the product and measure the ambient temperature