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

GB/T 39693.9-2021

**Rubber, vulcanized or thermoplastic - Determination of
hardness - Part 9: Calibration and verification of hardness
testers**

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Standardization Administration**

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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"

Drafting.

This document is part 9 of GB/T 39693 "Determination of Hardness of Vulcanized Rubber or Thermoplastic Rubber". GB/T 39693 has been issued

The following parts are distributed.

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

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

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

This document uses the translation method equivalent to ISO 48-9:2018 "Determination of the hardness of vulcanized rubber or thermoplastic rubber Part 9. Hardness

Calibration and verification of meter.

The Chinese documents that have consistent correspondence with the normatively cited international documents in this document are as follows.

---GB/T 25269-2010 rubber test equipment calibration guide (ISO 18899:2004, IDT);

---GB/T 27025-2019 General requirements for the competence of testing and calibration laboratories (ISO/IEC 17025:2017, IDT);

---GB/T 39693.3-2021 Determination of the hardness of vulcanized rubber or thermoplastic rubber Part 3. Use ultra-low rubber hardness

(VLRH) scale to determine the hardness of the test force (ISO 48-3:2018, IDT).

Introduction

GB/T 39693 "Determination of the hardness of vulcanized rubber or thermoplastic rubber" aims to establish a method for determining the hardness of vulcanized rubber or thermoplastic rubber.

The test method is planned to consist of nine parts.

---Part 1. Introduction and Guide. The purpose is to introduce all aspects of the hardness measurement of vulcanized rubber or thermoplastic rubber and define the hardness

The terms and definitions involved in the test provide a guide for the reasonable choice of hardness test methods.

---Part 2. International Rubber Hardness (10IRHD~100IRHD). The purpose is to specify the vulcanized rubber or thermoplastic rubber country

International rubber hardness (IRHD) measurement method.

---Part 3. Use the ultra-low rubber hardness (VLRH) scale to determine the hardness of the test force. The purpose is to specify vulcanized rubber or thermal

Ultra-low rubber hardness (VLRH) scale for plastic rubber is a method for determining the hardness of a given test force.

---Part 4. Determine the indentation hardness by the Shore hardness tester method (Shore hardness). The purpose is to specify vulcanized rubber or thermoplastic rubber

The method of measuring the indentation hardness of rubber by the Shore hardness tester (Shore hardness).

---Part 5. Use the portable international rubber hardness tester to determine the indentation hardness. The purpose is to specify vulcanized rubber or thermoplastic rubber

The method for measuring the indentation hardness of the rubber by the portable international rubber hardness tester.

---Part 6. IRHD method to determine the apparent hardness of rubber rollers. The purpose is to specify IRHD for vulcanized rubber or thermoplastic rubber

Method to determine the apparent hardness of rubber rollers.

--- Part 7. Use the Shore hardness tester to determine the apparent hardness of the rubber roller. The purpose is to specify the use of vulcanized rubber or thermoplastic rubber

The method of measuring the apparent hardness of rubber rollers by the Shore hardness tester method.

---Part 8. Using Zhao's (P

Zhao's (P

---Part 9. Calibration and verification of the hardness tester. The purpose is to establish calibration and verification procedures for various rubber hardness testers.

Determination of the hardness of vulcanized rubber or thermoplastic rubber

Part 9. Calibration and Verification of Hardness Tester

1 Scope

This document establishes Shore A, Shore D, Shore AO, Shore AM hardness testers (see ISO 48-4), portable rubber

Calibration and verification of international hardness testers (see ISO 48-5), rubber international hardness testers (see ISO 48-2) and ultra-low rubber hardness testers (see ISO 48-3)

program.

2 Normative references

The content of the following documents constitutes an indispensable clause of this document through normative references in the text. Among them, dated quotations

Only the version corresponding to the date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to

This document.

ISO 48-2 Determination of hardness of vulcanized rubber or thermoplastic rubber Part 2. International rubber hardness (10IRHD~100IRHD)

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

ISO 48-3 Determination of the hardness of vulcanized rubber or thermoplastic rubber Part 3. Determination of ultra-low rubber hardness (VLRH) scale

Constant test force hardness

[Rubber, vulcanized or thermoplastic-Determination of hardness-Part 3. Dead-load

hardness using the very low rubber hardness (VLRH) scale]

ISO 48-4 Determination of hardness of vulcanized rubber or thermoplastic rubber Part 4. Determination of pressure by the Shore durometer method (Shore hardness)

Entry hardness [Rubber, vulcanized or thermoplastic-Determination of hardness-Part 4. Indentation hard-

nessbydurometermethod(Shorehardness)]

ISO 48-5 Determination of the hardness of vulcanized rubber or thermoplastic rubber Part
5.Determination of pressure by the portable international rubber hardness tester method

Entry hardness (Rubber,vulcanizedorthermoplastic-Determinationofhardness-Part
5.Indentationhard-

nessbyIRHDpocketmetermethod)

ISO 18899 Rubber-Guide to the calibration of test equipment (Rubber-Guide to the
calibration of test equipment)

ISO /IEC 17025 General requirements for the competence of testing and calibration
laboratories (General requirements for the competition of
testingandcalibrationlaboratories)

3 Terms and definitions

The terms and definitions defined by ISO 48-2 and ISO 18899 apply to this document.

ISO and IEC have established terminology databases for standardization purposes. The
website is as follows.