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

GB/T 39693.7-2022

**Rubber, vulcanized or thermoplastic - Determination of
hardness - Part 7: Apparent hardness of rubber-covered rollers
by Shore-type durometer method**

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Table of Contents

foreword	
Introduction	
1 Scope	
2 Normative references	
3 Terms and Definitions	
4 Time interval between forming, grinding and testing	
5 Test temperature and adjustment	

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.

This document is Part 7 of GB/T 39693 "Determination of Hardness of Vulcanized Rubber or Thermoplastic Rubber". GB/T 39693 has issued

Published the following sections.

- Part 3. Determining the hardness of the test force with a very low rubber hardness (VLRH) scale;
- Part 6. Determination of apparent hardness of rubber rollers by IRHD method;
- Part 7. Determination of apparent hardness of rubber rollers by Shore hardness method;
- Part 8. Zhao hardness (P
- Part 9. Calibration and verification of hardness testers.

This document is equivalent to ISO 48-7:2018 "Determination of hardness of vulcanized rubber or thermoplastic rubber - Part 7. Shore hardness test

Determine the apparent hardness of rubber rollers".

Please note that some contents of this document may refer to patents. The issuing agency of this document assumes no responsibility for identifying patents.

Introduction

GB/T 39693 "Determination of 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 proposed to be composed of nine parts.

--- Part 1.Introduction and Guidelines. The purpose is to introduce all aspects of hardness determination of vulcanized rubber or thermoplastic rubber, and to define hardness

The terms and definitions involved in the test provide guidance for the reasonable selection of hardness test methods.

--- Part 2.International rubber hardness (10IRHD ~ 100IRHD). The purpose is to specify the international standard for vulcanized rubber or thermoplastic rubber

Method for determination of rubber hardness (IRHD).

--- Part 3.Determine the hardness of the test force with a very low rubber hardness (VLRH) scale. The purpose is to specify vulcanized rubber or thermoplastic

A method for the determination of the test force hardness of flexible rubber with a very low rubber hardness (VLRH) scale.

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

A method for measuring indentation hardness by the Shore durometer method (Shore hardness).

--- Part 5.Determination of indentation hardness by portable international rubber hardness tester method. The purpose is to specify vulcanized rubber or thermoplastic rubber

Determination of indentation hardness by portable international rubber hardness tester method.

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

A method for measuring the apparent hardness of rubber rollers.

--- Part 7.Determination of the apparent hardness of the rubber roller by the Shore hardness method. The purpose is to specify the Shore hardness for vulcanized rubber or thermoplastic rubber

It is a method for measuring the apparent hardness of rubber rollers by degree method.

--- Part 8.Zhao hardness (P

Zhao hardness (P

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

Determination of hardness of vulcanized or thermoplastic rubber

Part 7. Determination of apparent hardness of rubber rollers by Shore hardness method

Warning 1 --- Personnel using this document should be familiar with general laboratory operations. This document is not intended to address all possible issues that may arise when using

current security issues. It is the user's responsibility to establish appropriate safety and hygiene procedures and to comply with other applicable regulations.

Warning 2 --- Some procedures specified in this document may involve the use or generation of certain substances or wastes, which may be harmful to the local environment.

Appropriate documentation should be consulted for safe handling and disposal after use.

1 Scope

This document describes a method for the determination of the apparent hardness (expressed in Shore hardness) of vulcanized rubber or thermoplastic rubber covered rolls.

For measurements with medium precision requirements. The method and the instruments used are basically as described in ISO 48-4, and the measurement is performed on the curved surface of the treated rubber roller.

surface, not on a flat test piece. This document specifies Shore A and D instruments, the latter for measuring high hardness

glue roll.

NOTE. For some rubber rollers, significant differences in surface rubber thickness may affect the measured apparent hardness.

2 Normative references

The contents of the following documents constitute the essential provisions of this document through normative references in the text. Among them, dated references

Only the version corresponding to that date applies to this document. For undated references, the latest edition (including any amendments) applies to this document.

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

Note. GB/T 2941-2006 Rubber Physical Test Methods Specimen Preparation and Adjustment General Procedures (ISO 23529.2004, IDT)

3 Terms and Definitions

This document does not have terms and definitions that need to be defined.

4 Time interval between forming, grinding and testing

After forming and/or after grinding, the sample should not be left for less than 16 h; as an arbitration determination, the time after forming should not be less

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. In order to make the product and measure the ambient temperature

Equilibrium, if possible, the product should be stored under the assay conditions for a sufficient period of time. If the conditions do not permit, the stoppage shall be given in the product technical conditions.