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

GB/T 11210-2014

Replacing GB/T 11210-1989

**Rubber, vulcanized or thermoplastic -- Antistatic and
conductive products -- Determination of electrical resistance**

硫化橡胶或热塑性橡胶 抗静电和导电制品 电阻的测定

(English Translation)

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Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules.

This standard replaces GB 11210-1989 "vulcanized rubber antistatic and conductive products - Determination of resistance", and GB 11210-1989 phase Ratio, the main technical changes are as follows.

- Added "principle" (see Chapter 3);
- Added "Calibration" (see Chapter 5);
- Delete the words "and the measured product resistance below 102ohm, the electrode can not" provisions (see 1989 3.2.1);
- Delete the words "or procedures required by product area" Determining the size of the electrodes (see 1989 edition 6.1);
- Delete the words "in the anesthetized ventilated rubber bag test" requirement (see 1989 edition 6.5);
- Delete the words "the rubber feet of the device test" requirement (see 1989 edition 6.6);
- Remove the "device made of rubber buffers, textile cover and bezel test" requirement (see 1989 edition 6.7);
- Delete the words "on a removable tire having a tread to the rim of the conductive layer of the test" requirement (see 1989 edition 6.8);
- Remove the "rubber shoe test" requirement (see 1989 edition 6.9);
- Delete the words "in the flat transmission belt test" requirement (see 1989 Version 6.10);
- Delete the words "on the belt test (toothed belt)" requirement (see 1989 edition 6.11).

This standard uses the translation method identical with ISO 2878:2011 "vulcanized rubber or thermoplastic rubber, antistatic and conductive products resistance Determination. " 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. Northwest Rubber Plastic Research and Design Institute, Beijing Rubber Industry Research provided Design Institute.

Introduction

Eliminate or reduce the static voltage or static charge the surface of the rubber is extremely important in many applications. To provide appropriate disclosure channel, electricity Charge can be dissipated. Antistatic properties of rubber products are also subject to electrostatic charging characteristics influence. This standard only relates to the leakage path method.

Add the appropriate amount of carbon black to the polymer, after mixing, forming a conductive carbon black particles in a polymer network, it can be made with a wide lead Electric rate range of materials. Sensitive conductive network of mechanical deformation, and thus with the resistive material will strain after deformation, time and thermal history of Movies Sound change. Rubber added to the ionizable substance antistatic properties can be obtained.

Determination of the resistance and antistatic conductive rubber material, see ISO 1853.

Vulcanized rubber or thermoplastic rubber and antistatic Determination of resistance of the conductive products Warning 1. Use of this standard shall have a person experiences regular laboratory work. This standard does not point out all possible security asked question. Users have the responsibility to take appropriate safety and health practices and to ensure compliance with the conditions relevant national regulations.

Warning 2. The standard in use or may be used to produce certain substances polluting the environment, should refer to the relevant file post-processing these wastes.

1 Scope

This standard specifies the test methods for the preparation of partially or entirely made of a rubber antistatic and conductive products measuring the resistance between the specified points.

Rubber products by the addition of carbon black and/or other substances have conductivity, when the first measurement, the resistance of products does not exceed $3 \times 10^8 \Omega$.

Note: This method can not be used to determine the high conductivity products.

This standard specifies the basic dimensions of the electrodes, but for some special products should refer to the relevant product standard.

This standard applies to the preparation of vulcanized rubber or thermoplastic rubber, antistatic and conductive products.

This standard does not apply to the following products.

- a) from the surface of the composite material made of insulating and conductive products;
- b) article surface made of insulating material, including footwear (shoes do not usually have an outer surface and an antistatic conductive).

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 25269-2010 rubber test equipment calibration guidelines (ISO 18899:2004, IDT)
Principle 3 Electrode system using a predetermined position between the two measured resistance products for factory inspection and testing services.

4.1 Test Instrument

Test instrument rated DC open circuit voltage of 500V, preferably insulation tester (ohmmeter) or can be given by any comparable Suitable instrument to test the results.

Resistance measurement test instrument error should be less than 10%, the power consumption of the products should be less than 3W.

The voltage applied to the product will affect the measured value of the resistance, the voltage is too low may produce large errors. In case of dispute, the Voltage is not less than 40V; but when you meet on the article is not greater than the power consumed by the requirements of 3W, the voltage may be lower than 40V.

4.2 Electrode contact means

Unless otherwise specified, typically by conductive silver paint, colloidal graphite or conductive liquid products formed on the surface electrode.