

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

SN/T 0541.2-2011

Replacing SN/T 0541.2-1996

**Inspection of import and export standard rubber. Part 2:
Determination of plasticity and plasticity retention index**

进出口标准橡胶检验方法 第2部分：塑性值和塑性保持率的测定

(English Translation)

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Foreword

SN/T 0541 "Importers standard rubber test methods" standard series is divided into five parts.

- Part 1. Sampling and sample preparation;
- Part 2. Determination of plasticity and plasticity retention rate;
- Part 3. Determination of ash content;
- Part 4. Determination of volatile matter content;
- Part 5. Determination of nitrogen content.

This section SN/T 0541 "Importers standard rubber test methods" series of standards - Part 2.

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

The partial replacement of SN/T 0541.2-1996 "Determination of the import and export standard rubber and plastic testing methods Initial plasticity retention rate." Compared with the SN/T 0541.2-1996, in addition to editorial changes outside the main technical changes are as follows.

- Modified mixed laboratory sample size from the original 400g to 250g $\pm$ 5g (see 52, 1996 version 5.2.);
- Modify the sample size from the original 30g to 20g $\pm$ 2g (see 531, 1996 edition 5.3.);
- Modify the sample film is folded over the roll number, from three times to two times (see 531, 1996 edition 5.3.);
- Modify the oven temperature aging film, from 140.0 °C $\pm$ 0.5 °C to 140.0 °C $\pm$ 0.2 °C

(see 6.1, 1996 edition 6.1.1);

--- Modify the oven temperature to rise, rose to $140.0\text{ }^{\circ}\text{C} \pm 0.5\text{ }^{\circ}\text{C}$ within 6min changed from the original rose to within 2min in the range of $139\text{ }^{\circ}\text{C} \sim 140\text{ }^{\circ}\text{C}$ (see 6.1, 1996 version 6.3.1.);

--- Modify the terms of a parallel plate plastic test sample applied constant pressure from the original 98N to $100\text{N} \pm 1\text{N}$ (see 6.2.3, 1996 edition 6.2).

This section proposed and managed by the National Certification and Accreditation Administration Committee.

1 Scope

SN/T 0541 provisions of this part of the standard rubber plasticity (P0) and plasticity retention index (PRI) measurement method.

This section applies to the import and export inspection standard rubber and plastic plasticity retention rate, also apply to other varieties of natural rubber testing.

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 6038 Rubber test material ingredients, mixing and vulcanization - Equipment and procedures SN/T 0541.1 and export standard rubber test methods - Part 1. Sampling and Sample Preparation

3 PRINCIPLE OF THE METHOD

According to the scientific definition of rubber plastic, rubber sample film thickness is applied perpendicular to a predetermined constant pressure to compression, pressure measurement After releasing the rubber specimen thickness deformation can maintain, and compared with the original thickness, the value obtained by calculating the percentage, defined as the rubber test Kind of plasticity.

The rubber is heated in a natural environment, aging and physical performance degradation phenomena influencing factors such as oxidation occurs, the same rubber sample points Into two, one of which carried a hot air oven accelerated aging test, it significantly decreased physical properties. After aging, at the same time, with Under a condition, simultaneous determination of aging and unaged sample specimens plasticity. The aged samples plasticity and ductility compared to the value of the original, by scoring Plasticity retention index (PRI) percentage value is defined for the count obtained rubber samples, and as thermal oxidation index to evaluate thermal rubber Oxidation.

4.1 Laboratory open-roll

Shall comply with GB/T 6038 and has the following features.

Roller diameter. 150mm ~ 250mm After the (fast) line of roller speed. 1.46m/min $\pm$ 0.50m/min Roller speed ratio. 1.1.4 Roll temperature. Cooling water at room temperature Bezel between the roll length. 265mm $\pm$ 15mm

4.2 Thickness Gauge

With the division of the dial unit of 0.01mm, the contact plane having a diameter of about 10mm, the operating pressure of 20kPa $\pm$ 3kPa.