

ICS 83.060
CCS G 35



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

GB/T 47990-2026

Isobutene-isoprene rubber (IIR) - Evaluation procedure

异丁烯-异戊二烯橡胶 (IIR) 评价方法

(English Translation)

Issued on: July 30, 2026

Implemented on: February 1, 2027

Issued by: State Administration for Market Regulation

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document is modified to adopt ISO 2302:2020 "Isobutylene-isoprene rubber (IIR) - Evaluation method".

Compared with ISO 2302:2020, this document has undergone the following structural adjustments.

---6.2.2.3.1 and 6.2.2.3.2 correspond to 6.2.2.3 in ISO 2302:2020, where 6.2.2.3.1 corresponds to...

Paragraphs 1, 6, 7, 9, and 10 of 6.2.2.3, and paragraphs 2-5 of 6.2.2.3 in ISO 2302:2020. 8 segments.

The technical differences between this document and ISO 2302:2020, and the reasons therefor, are as follows.

---The applicable limits have been expanded (see Chapter 1) to meet the writing requirements;

---ISO 289-1 (see 5.1) has been replaced with the normatively referenced GB/T 1232.1 to adapt to my country's technical conditions;

---ISO 248-1 has been replaced by the normatively referenced GB/T 24131.1, and ISO 248-2 has been replaced by GB/T 24131.2 [see 5.2 and].

Chapter 10, d), to adapt to my country's technological conditions;

---ISO 247-1:2018 has been replaced by GB/T 4498.1 (normative reference), and ISO 247-2 has been replaced by GB/T 4498.2-2017.

2018 [see 5.3 and Chapter 10(e)], to adapt to our country's technological conditions;

---ISO 2393 (see 6.2.1, 6.2.2.2f), 6.2.2.3.1, 6.2.2.3.2i) has been replaced by the normatively referenced GB/T 6038.

---The mixing roll gap requirement for open mills has been increased [see 6.2.2.2b)] for ease of operation;

---A method for determining sulfidation properties has been added [see 6.2.2.2g) and 6.2.2.4.3f)], which facilitates operation;

---The normative reference GB/T 528 replaces ISO 37 (see 6.2.2.2h), 6.2.2.3.2k), 6.2.2.4.3g) and section 8.

[Chapter], to adapt to my country's technological conditions;

---ISO 23529 has been replaced by the normatively referenced GB/T 2941 [see 6.2.2.2i), 6.2.2.3.2l), and 6.2.2.4.2j].

---The description and warnings regarding the mixer (see 6.2.2.3 of ISO 2302:2020) have been removed, improving operability;

---ISO 6502-2 (see 6.2.2.2g), 6.2.2.3.2j), and 6.2.2.4.3f) have been replaced by the normatively referenced GB/T 9869.2.

7.1], added the normative reference GB/T 9869.3 [see 6.2.2.2g), 6.2.2.3.2j), 6.2.2.4.3f) and 7.2], and deleted [].

ISO 6502-1, to adapt to my country's technical conditions;

---Increased the feed capacity for the internal mixer (see 6.2.2.4.2) for easier use;

---The note specifying the conditions for preparing micro-mixer test pieces has been changed to a section (see Chapter 8) for easier operation;

---The sample preparation method used for Mooney viscosity has been added (see Chapter 10) to improve the test report.

The following editorial changes have been made to this document.

---The informative reference GB/T 14838 replaces ISO/T R9272, and the informative reference GB/T 6379.2 (see A.1) is added.

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the China Petroleum and Chemical Industry Federation.

This document is under the jurisdiction of the National Technical Committee on Standardization of Rubber and Rubber Products (SAC/TC35).

1 Scope

This document describes the physical and chemical testing methods for evaluating isobutylene-isoprene rubber (IIR) raw rubber, and specifies the evaluation methods for IIR vulcanization.

The standard materials, standard test formulas, equipment and operating procedures used for the characteristics.

This document applies to the evaluation of the physical and chemical properties of IIR.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

GB/T 528 Determination of tensile stress-strain properties of vulcanized rubber or thermoplastic rubber (GB/T 528-2009, ISO 37.

2005, IDT)

GB/T 1232.1 Determination of Mooney viscosity of uncured rubber using a disk shear viscometer - Part 1: Determination of Mooney viscosity (GB/T 1232.1-2016, ISO 289-1:2014, IDT) GB/T 2941 General procedures for specimen preparation and conditioning in physical testing of rubber (GB/T 2941-2025, ISO 23529.

2016, IDT)

GB/T 4498.1 Determination of ash content in rubber-Part 1: Muffle furnace method (GB/T 4498.1-2025, ISO 247-1.

2018, MOD)

GB/T 4498.2-2017 Determination of ash content in rubber-Part 2: Thermogravimetric analysis GB/T 6038 Rubber testing compound batching, mixing and vulcanizing equipment and operating procedures (GB/T 6038-2006, ISO 2393.

1994, MOD)

GB/T 9869.2 Determination of vulcanization properties of rubber using a vulcanizing apparatus - Part 2: Circular oscillating vulcanizing apparatus (GB/T 9869.2-2025, ISO 6502-2:2018, IDT) GB/T 9869.3 Determination of vulcanization properties of rubber using a vulcanizing apparatus - Part 3: Rotorless vulcanizing apparatus GB/T 9881 Rubber Terminology GB/T 15340-2025 Sampling and sample preparation methods for natural and synthetic raw rubber (ISO 1795:2017, IDT) GB/T 24131.1 Determination of volatile matter

content in raw rubber - Part 1: Hot roller method and oven method (GB/T 24131.1-2018, ISO 248-1:2011, MOD) GB/T 24131.2 Determination of volatile matter content in raw rubber - Part 2: Automatic analyzer with infrared drying unit - Heating loss

3 Terms and Definitions

The terms and definitions defined in GB/T 9881 apply to this document.