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# Rubber, raw natural and raw synthetic — Sampling and further preparative procedures

*Caoutchouc, naturel brut et synthétique brut — Méthodes d'échantillonnage et de préparation ultérieure*

Reference number
ISO 1795:2017(E)

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# Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html

This document was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*, Subcommittee SC 3, *Raw materials (including latex) for use in the rubber industry*.

This fifth edition cancels and replaces the fourth edition (ISO 1795:2007), which has been technically revised. The main changes compared to the previous edition are as follows:

— the normative references in Clause 2 have been updated;

— in Clause 4, it has been clarified that the number of bales to be chosen at random represent the lot;

— in Clause 5, the note stating that the surface layer may be removed if it is contaminated with talc or a release agent, has been deleted;

— the title of 7.2.1 has been changed from "milling" to "homogenizing";

— in 7.3.1, a sentence has been added to specify to take directly the test samples from the laboratory sample when using thermogravimetric methods in ISO 248-2 for the determination of volatile-matter content.


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# Rubber, raw natural and raw synthetic — Sampling and further preparative procedures

**WARNING — Persons using this document should be familiar with normal laboratory practice. This document does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user to establish appropriate safety and health practices and to ensure compliance with any national regulatory conditions.**

## 1 Scope

This document specifies a method for the sampling of raw rubber in bales, blocks or packages and further procedures carried out on the samples to prepare test samples for chemical and physical tests.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 248-1, *Rubber, raw — Determination of volatile-matter content — Part 1: Hot-mill method and oven method*

ISO 248-2, *Rubber, raw — Determination of volatile-matter content — Part 2: Thermogravimetric methods using an automatic analyser with an infrared drying unit*

ISO 289-1, *Rubber, unvulcanized — Determinations using a shearing-disc viscometer — Part 1: Determination of Mooney viscosity*

ISO 1658, *Natural rubber (NR) — Evaluation procedure*

ISO 2393, *Rubber test mixes — Preparation, mixing and vulcanization — Equipment and procedures*

ISO 2930, *Rubber, raw natural — Determination of plasticity retention index (PRI)*

ISO 3951-2, *Sampling procedures for inspection by variables — Part 2: General specification for single sampling plans indexed by acceptance quality limit (AQL) for lot-by-lot inspection of independent quality characteristics*

ISO 23529, *Rubber — General procedures for preparing and conditioning test pieces for physical test methods*

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

NOTE All references to “bales” include blocks and packages of rubber in chip, powder or sheet form.

**3.1**
**lot**
assembly of bales of rubber bearing the same grade and lot marks

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**3.2**
**sample**
group of bales selected to represent the lot

**3.3**
**laboratory sample**
rubber taken from a bale of the sample to represent the bale

**3.4**
**combined laboratory sample**
quantity of rubber which represents the sample, prepared by blending together equal parts of each of the laboratory samples to give a homogeneous sample

**3.5**
**test sample**
rubber taken from the laboratory sample or the combined laboratory sample for testing, including the preparation of test pieces

**3.6**
**test piece**
rubber taken from a test sample in order to carry out a specific test

Note 1 to entry: Some standards use the synonymous term “test specimen”.

## 4 Method of selecting the sample

The greater the number of bales in the sample, the more representative is the sample of the lot, but in most cases practical considerations impose a limit on what is possible. The number of bales to be chosen at random, to represent the lot, shall be agreed between customer and supplier. If applicable, a statistical sampling plan chosen from ISO 3951-2 shall be used.

## 5 Method of taking the laboratory sample

The preferred method of taking a laboratory sample from each of the selected bales is the following.

Remove the outer wrapping sheets, polyethylene wrapping, bale coating or other surface material from the bale and make two cuts, without the use of lubricant, through the entire bale, normal to the bale faces of largest surface area, so that a cross-sectional slice is removed from the middle of the bale. For referee purposes, this preferred method shall be used.

Alternatively, a laboratory sample may be taken from any convenient part of the bale.

In each case, the total mass of the laboratory sample shall be between 350 g and 1 500 g, depending on the tests to be carried out. If the rubber is in chip or powder form, a similar quantity shall be taken at random from the package.

Unless the laboratory sample is used immediately, it shall be placed in a light-proof and moisture-proof container or package of not more than twice its volume until it is required.

## 6 Testing

**6.1** Each laboratory sample shall be tested and reported upon separately.

**6.2** For quality-control purposes, a combined laboratory sample (see 3.4) may be used for the determination of chemical properties and vulcanization characteristics.


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