
**Rubber, raw — Determination of
volatile-matter content —**

**Part 1:
Hot-mill method and oven method**

Caoutchouc brut — Détermination des matières volatiles —

Partie 1: Méthode par mélangeage à chaud et méthode par étuvage



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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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of 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 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 second edition cancels and replaces the first edition (ISO 248-1:2011), which has been technically revised.

The main changes compared to the previous edition are as follows:

- in [6.2.1](#), update of the tolerance temperature of the oven;
- in [6.3.1](#) and [6.3.2](#), update of the procedure: mass of the test sample, drying of the test portion, temperature, requirements on the aluminium tray;
- update of the formulae;
- in [Annex B](#), update of the homogenization procedure for natural rubber;
- in [Annex C](#), addition of the precision data from an ITP conducted in 2020 for natural rubber.

A list of all parts in the ISO 248 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Rubber, raw — Determination of volatile-matter content —

Part 1:

Hot-mill method and oven method

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.

IMPORTANT — Certain procedures specified in this document might involve the use or generation of substances, or the generation of waste, that could constitute a local environmental hazard. Reference should be made to appropriate documentation on safe handling and disposal after use.

1 Scope

This document specifies two methods for the determination of volatile-matter content in raw rubbers by using a hot mill or an oven.

These methods are applicable to the determination of the volatile-matter content in the “R” group of rubbers listed in ISO 1629. These are rubbers having an unsaturated carbon chain, for example natural rubber and synthetic rubbers derived at least partly from di-olefins. These methods can also be applicable to other raw rubbers, but in these cases it is necessary to demonstrate that the change in mass is due solely to loss of actual volatile matter and not to rubber degradation.

The hot-mill method is not applicable to natural rubber, to synthetic rubbers which are too difficult to handle on a hot mill or to synthetic rubbers in powder or chip form.

The two methods do not necessarily give identical results. Therefore, in the case of dispute, the oven method, procedure A, is the reference method.

NOTE The applicability of each test method to various types of rubber is summarized in [Annex A](#).

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 1795, *Rubber, raw natural and raw synthetic — Sampling and further preparative procedures*

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

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 1795 and the following apply.

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

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>