



ISO 13110

Cigarettes — Determination of menthol in total particulate matter from mainstream cigarette smoke with a smoking regime according to ISO 3308 (standard smoking regime) — Gas chromatographic method

Cigarettes — Dosage du menthol dans la matière particulaire totale du courant principal de la fumée de cigarette avec un régime de fumage selon l'ISO 3308 (régime de fumage normalisé) — Méthode par chromatographie en phase gazeuse

**Second edition
2025-08**

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This document was prepared by Technical Committee ISO/TC 126, *Tobacco and tobacco products*.

This second edition cancels and replaces the first edition (ISO 13110:2012), which has been technically revised.

The main changes are as follows:

- references have been included in the bibliography section for the studies in [9.1](#) and [9.2](#);
- the term “condensate” has been replaced with “total particulate matter of mainstream cigarette smoke”;
- [Clause 8](#) has been revised to be [subclause 9.1](#) and to include the statistical analysis methods used;
- [subclause 9.2](#) has been added to include the *r* and *R* estimates from the CORESTA 2020 collaborative study.

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Technical Committee ISO/TC 126 coordinated a collaborative study in 2010 for the determination of menthol in mainstream cigarette smoke under ISO 4387.

The Cooperation Centre for Scientific Research Relative to Tobacco (CORESTA) Routine Analytical Chemistry (RAC) Sub-Group conducted a collaborative study in 2019 that used the gas chromatographic method identified in this document for the determination of menthol in mainstream cigarette smoke under ISO 3308^[1] and ISO 4387. A CORESTA technical report was published in 2020 for this collaborative study involving 18 laboratories and four samples.^[2]

No machine smoking regimen can represent all human smoking behaviour:

- it is recommended that cigarettes also be tested under conditions of a different intensity of machine smoking than those specified in this document;
- machine smoking testing is useful to characterize cigarette emissions for design and regulatory purposes, but communication of machine measurements to smokers can result in misunderstandings about differences in exposure and risk across brands;
- smoke emission data from machine measurements may be used as inputs for product hazard assessment, but they are not intended to be nor are they valid as measures of human exposure or risks. Communicating differences between products in machine measurements as differences in exposure or risk is a misuse of testing using ISO standards.