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

GB/T 22838.15-2025

Replacing GB/T 22838.15-2009

**Determination of physical characteristics for cigarettes and
filter rods - Part 15: Cigarettes - Determination of ventilation -
Definitions and measurement principles**

卷烟和滤棒物理性能的测定 第15部分：卷烟 通风的测定 定义和测量原理

(English Translation)

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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 Part 15 of GB/T 22838 "Determination of Physical Properties of Cigarettes and Filter Rods". GB/T 22838 has published the following...

part.

---Part 1: Cigarette Packaging and Labelling;

---Part 2: Length Photoelectric Method;

---Part 3: Circumferential Non-Contact Optical Methods;

---Part 4: Cigarette Quality;

---Part 5: Cigarette draw resistance and filter pressure drop;

---Part 6: Hardness;

---Part 7: Cigarette Dust Content;

---Part 8: Moisture Content;

---Part 9: Empty Cigarette Ends;

---Part 10: Bursting Mouth;

---Part 11: Cigarette Extinguishing;

---Part 12: Cigarette Appearance;

---Part 13: Filter Rod Roundness;

---Part 14: Filter Rod Appearance;

---Part 15: Definition and Measurement Principle of Cigarette Ventilation;

---Part 17: Measurement of tobacco shreds falling from the end of a cigarette using the vibration method.

This document replaces GB/T 22838.15-2009 "Determination of Physical Properties of Cigarettes and Filter Rods - Part 15: Determination of Cigarette Ventilation".

Compared with GB/T 22838.15-2009, the main technical changes in "Definitions and Measurement Principles" are as follows, except for structural adjustments and editorial modifications.

a) The terms and definitions for the components of the front-end and main ventilation have been removed (see 3.2 and 3.8 in the 2009 edition);

b) Modified total airflow, ventilation volume, total ventilation, filter ventilation, paper ventilation, cigarette butt ventilation, cigarette combustion section ventilation, and filter tipping paper.

Terms and definitions for ventilation, cigarette paper ventilation, and ventilation rate (see 3.4, 3.6, 3.6.1~3.6.7, 3.7, 3.3 and 3.5 in the 2009 edition).

3.7, 3.9~3.14);

c) Added input, output, filter ventilation rate, cigarette ventilation rate, total ventilation rate, ventilation rate standard bar, reference standard bar, and monitoring.

Refer to the terminology and definitions for the reference standard bar (see 3.2, 3.3, 3.7.1~3.7.3, 3.8~3.10);

d) The instrument calibration requirements have been changed (see 8.2, 9.2 in the 2009 edition);

e) The rounding method for representing the mean and standard deviation of ventilation rates in the results has been changed (see Chapter 9, Chapter 10 in the 2009 edition);

f) The results of interlaboratory comparison tests in Appendix E have been deleted (see Appendix E in the 2009 edition);

g) Added essential elements to the test report (see Chapter 11);

h) The adjustment time requirements and typical calibration procedures for the ventilation rate standard bar have been added (see A.3.2);

i) The pressure drop requirements introduced by the flow measurement device in series during ventilation flow testing and the measures to be taken when the requirements are not met are added [see A.3.2h];

j) The pressure drop compensation formula for ventilation flow rate testing has been modified (see A.3.4, 2009 version A.3.4);

k) The formula for calculating the ventilation rate has been changed (see A.3.5, 2009 edition of A.3.5);

l) Added repeatability and reproducibility data from the international joint experiment on ventilation rate standard bars (see A.3.6).

This document is modified to adopt ISO 9512:2019 "Determination of cigarette ventilation - Definition and measurement principle".

This document has undergone the following structural adjustments compared to ISO 9512:2019.

---Chapter 8 corresponds to Chapters 8 and 9 of ISO 9512:2019;

---Chapter 9 corresponds to Chapter 10 in ISO 9512:2019;

---Chapter 10 corresponds to Chapter 11 in ISO 9512:2019;

---Chapter 11 corresponds to Chapter 12 in ISO 9512:2019.

The technical differences between this document and ISO 9512:2019, and the reasons therefor, are as follows.

---The terminology and definitions for the front end (see section 3.2 of ISO 9512:2019) have been removed, and the terminology and definitions for the input and output ends have been added (see...).

3.2, 3.3), to enhance harmonization with GB/T 22838.5-2024;

---Added techniques for filter ventilation rate, cigarette ventilation rate, total ventilation rate, ventilation rate standard bar, reference standard bar, and monitoring reference standard bar.

Terms and definitions (see 3.7.1-3.7.3, 3.8-3.10) are used to clearly define and standardize the relevant terms and definitions of ventilation rate and ventilation rate standard bar.

concept;

---The total gas flow requirement has been changed (see 6.5, ISO 9512:2019 6.5) to align with the relevant requirements of YC/T 546;

---Added relevant content on ventilation rate standard bars (see 6.7, 6.8) to clarify the relevant requirements for ventilation rate standard bars;

---Added content related to instrument calibration (see 8.2) to clarify the relevant requirements for instrument calibration in high-altitude areas;

---The rounding method for representing the mean and standard deviation of ventilation rates in the results has been changed (see Chapter 9, ISO 9512:2019).

Chapter 10), to be consistent with the relevant requirements of GB/T 8170.

---Added content to the test report (see Chapter 11, Chapter 12 of ISO 9512:2019) to align with GB/T 22838.5-2024, in harmony.

The following editorial changes have been made to this document.

---To harmonize with existing standards, the standard title has been changed to "Determination of Physical Properties of Cigarettes and Filter Rods - Part 15: Cigarette Ventilation".

Definition and Principle of Measurement;

---Note 3.1 in ISO 9512:2019 has been removed;

---Note 2 in section 3.6 of ISO 9512:2019 has been modified;

---The note in Figure 1 of ISO 9512:2019 has been removed.

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 State Tobacco Monopoly Administration.

This document is under the jurisdiction of the National Tobacco Standardization Technical Committee (SAC/TC144).

Introduction

The physical properties of cigarettes and filter rods are important indicators for evaluating the quality of cigarette production and processing. GB/T 22838 "Physical Properties of Cigarettes and Filter Rods" the "Determination of" consists of the following 16 parts, depending on the detection object and detection method.

---Part 1: Cigarette Packaging and Labelling. The purpose is to specify the methods for determining cigarette packaging labelling and cigarette packaging.

---Part 2: Length Photoelectric Method. The purpose is to define a photoelectric method for measuring the length of cigarettes and filter rods.

---Part 3: Circumferential Non-Contact Optical Methods. The purpose is to define the non-contact optical determination of the circumference and ellipticity of cigarettes and filter rods.

method.

---Part 4: Cigarette Quality. The purpose is to specify the methods for determining cigarette quality.

---Part 5: Cigarette Draw Resistance and Filter Pressure Drop. The purpose is to specify the methods and standards for measuring cigarette draw resistance and filter pressure drop.