

Methods for determination of physical properties of tobacco and tobacco products —

Part 5: Draw resistance of cigarettes and pressure drop of filter rods

ICS 65.160

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National foreword

This British Standard reproduces verbatim ISO 6565:1999 and implements it as the UK national standard. It supersedes BS 5381-5:1983 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee AW/40, Tobacco and tobacco products, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this committee can be obtained on request to its secretary.

It should be noted that amendments to the definitions of pressure drop (3.1) and draw resistance (3.2) are currently in preparation within ISO. When the new definitions are available they will be incorporated into this British Standard by amendment.

Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the BSI Standards Catalogue under the section entitled “International Standards Correspondence Index”, or by using the “Find” facility of the BSI Standards Electronic Catalogue.

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Summary of pages

This document comprises a front cover, an inside front cover, the ISO title page, pages ii to iv, pages 1 to 14, an inside back cover and a back cover.

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**Tobacco and tobacco products — Draw
resistance of cigarettes and pressure drop
of filter rods — Standard conditions and
measurement**

*Tabac et produits du tabac — Résistance au tirage des cigarettes et perte
de charge des bâtonnets-filtres — Conditions normalisées et mesurage*



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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 6565 was prepared by Technical Committee ISO/TC 126, *Tobacco and tobacco products*, Subcommittee SC 1, *Physical and dimensional tests*.

This second edition cancels and replaces the first edition (ISO 6565:1983) of which it constitutes a technical revision.

Annexes A and B form a normative part of this International Standard. Annexes C and D are for information only.

Introduction

The draw resistance of cigarettes or the pressure drop of filter rods is a widespread and important concept both for product quality specifications and for analytical determinations by mechanical smoking.

Different procedures and apparatus are currently available for this determination. It has so far not been possible to standardize the complete description of the equipment to be used and the detailed procedure. Nevertheless, it has been possible to obtain broad consensus on the definitions to be adopted and the conditions that allow comparable determinations of this characteristic to be made. In order to achieve this, one of the main requirements is the use of transfer standards for the calibration of instruments (see annexes A and B).

In this International Standard, the results are given in pascals (Pa). For information, they are also given in millimetres of water (mmH₂O).

The values given previously in millimetres of water are converted into pascals (Pa) using the following correction factor:

$$1 \text{ mmH}_2\text{O} = 9,806 \text{ 7 Pa}$$

For practical use, the values have been rounded.

Tobacco and tobacco products — Draw resistance of cigarettes and pressure drop of filter rods — Standard conditions and measurement

1 Scope

This International Standard describes a method for the measurement of the draw resistance of cigarettes and pressure drop of filter rods, and specifies the standard conditions applicable to such measurements.

It is applicable to cigarettes, filter rods and, by extension, to cylindrical tobacco products similar to cigarettes.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the normative document indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 3402, *Tobacco and tobacco products — Atmosphere for conditioning and testing*.

ISO 10185, *Tobacco and tobacco products — Vocabulary*.

3 Terms and definitions

For the purposes of this International Standard, the terms and definitions given in ISO 10185 and the following apply.

3.1

pressure drop

difference in static pressure between the two ends of the test piece when it is traversed by an air flow under steady conditions in which the measured volumetric flow, under standard conditions, at the output end is 17,5 ml/s

3.2

draw resistance

pressure drop obtained when the flow is the result of an aspiration

NOTE This term is generally used for the mechanical smoking of cigarettes.

3.3

input end

that end of the test piece intended to be lit in the case of a cigarette

3.4

output end

that end opposite from the input end