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BS ISO 6565:2015



BSI Standards Publication

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

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This British Standard is the UK implementation of ISO 6565:2015. It supersedes BS ISO 6565:2011 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee AW/40, Tobacco and tobacco products.

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

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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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Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Test conditions	2
4.1 Test conditions common to cigarettes and filter rods.....	2
4.1.1 General.....	2
4.1.2 Air flow.....	2
4.1.3 Position.....	3
4.2 Conditions particular to cigarettes — Insertion of the test piece.....	3
4.3 Conditions particular to filter rods — Encapsulation.....	3
5 Instrument calibration	3
6 Procedure	3
6.1 Conditions common to vacuum and pressure instruments.....	3
6.2 Conditions particular to vacuum instruments.....	3
6.3 Conditions particular to pressure instruments (for filter rods only).....	4
7 Expression of results	4
8 Precision	4
8.1 Interlaboratory test.....	4
8.2 Repeatability.....	4
8.3 Reproducibility.....	5
9 Test report	5
Annex A (normative) Calibration of pressure drop transfer standards	6
Annex B (informative) Results of an interlaboratory trial	14
Annex C (informative) Comparison of draw resistance or pressure drop measurement: Critical flow orifice instruments versus constant mass flow instruments	18
Bibliography	20

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

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 126, *Tobacco and tobacco products*, Subcommittee SC 1, *Physical and dimensional tests*.

This fifth edition cancels and replaces the fourth edition (ISO 6565:2011), which has been technically revised.

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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 Annex A).

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

The values given previously in mmWG are converted into Pa using the following correction factor:

$$\text{— } 1 \text{ mmWG} = 9,806 7 \text{ Pa}$$

For practical use, the values have been rounded.

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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 documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

3 Terms and definitions

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

3.1

pressure drop

Δp

static pressure difference between the two ends of

- a test piece completely encapsulated in a measuring device such that no air can pass through the outer membrane (or wrapping),
- a pneumatic circuit, or
- a *pressure drop transfer standard* (3.6)

when it is traversed by an air flow under steady conditions in which the measured volumetric flow, under standard conditions, at the *output end* (3.4) is 17,5 ml/s, as defined in ISO 3402

Note 1 to entry: This is expressed in pascals (Pa) (or in mmWG).

3.2

draw resistance

Δp_D

negative pressure which has to be applied to the *output end* (3.4), under test conditions (see ISO 3402), in order to sustain a volumetric flow of 17,5 ml/s, exiting at the output end, when the cigarette is encapsulated in a measurement device to a depth of approximately 9 mm, as defined in ISO 3308

Note 1 to entry: Any ventilation zones and the tobacco rod are exposed to the atmosphere.

Note 2 to entry: The concept of draw resistance can also be subjectively judged when a cigarette is smoked by a consumer/taste panel. Under such circumstances, draw resistance is not measured objectively because the conditions of the formal definition are not met.