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~~Tobacco Heating Systems~~ **heating systems** — Definitions and standard conditions for aerosol generation and collection — ~~—~~ **==**

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~~Part 1: electrically Heated Tobacco Products~~

Electrically heated tobacco products (eHTPs)

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Systèmes de chauffage du tabac — Définitions et conditions normalisées pour la génération et la collecte d'aérosol —

Partie 1: Produits de tabac chauffés électriquement (PTCe)

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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 document 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).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

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 126, *Tobacco and tobacco products*.

A list of all parts in the ISO 5501 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.

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Introduction

Tobacco heating systems (THS) are designed to heat a tobacco substrate, to produce a nicotine-containing aerosol without the combustion of the tobacco substrate. A THS is a combination of a heated tobacco product (HTP) and a tobacco heating device (THD). The HTP part of the THS is a product containing a tobacco substrate that is designed to be heated and not combusted.

With the emerging development and commercialisation of HTPs, there are a number of different approaches to heating the HTP, categorised as electrically, aerosol and carbon, HTPs; eHTP, aHTP and cHTP, respectively (see ISO/FDIS 6080).

This document has been developed to define and specify the requirements for an electrically heated tobacco product (eHTP) puffing regime in order to generate and collect aerosol for subsequent analytical measurement in a robust and reproducible manner.

No machine puffing regime can represent all human use behaviour, so dependent on the testing requirement it **may** be appropriate to test eHTPs differently according to their design, or under conditions of different intensity to reflect the range of human behaviour.

Machine testing is useful to characterize emissions for device development and regulatory purposes and may be used as inputs for product hazard assessment; however, it is not intended to be nor is it valid as a measure of human exposure or risk.

IMPORTANT NOTE This document is a reference document for ISO standards on tobacco heating systems (e.g. ISO 5501). Regulation and standardisation are independent from each other, and standardisation does not pre-empt regulation.

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Tobacco heating systems — ~~Routine analytical puffing machine~~ — Definitions and standard conditions — ~~for aerosol generation and collection~~ —

Part 1: Electrically heated tobacco products (eHTPs)

1 Scope

This document:

- defines the parameters and specifies the standard conditions for the routine analytical generation and collection of aerosol from electrically heated tobacco products (eHTPs);
- specifies technical requirements for the routine analytical puffing machine for eHTP generation and collection of aerosol, termed as “machine” in this document, conforming with the standard conditions stated within ~~Clause 4~~ Clause 4.

This document does not specify aerosol trapping nor subsequent sample preparation and analytical method of components in the trapped aerosol or the gas phase.

This document is also applicable to products other than those defined in ~~3.15~~ 3.15 if a specific method references this document.

~~NOTE — This standard is describing the terms and definitions that apply to tobacco heating systems. Any product that falls under those terms and definitions can be tested applying testing standards that are specifically addressing tobacco heating systems. This standard has therefore the purpose of choosing the right standard for tobacco heating systems testing.~~

2 Normative references

The following ~~document is~~ 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 3402, Tobacco and tobacco products — Atmosphere for conditioning and testing

ISO 6080, Tobacco heating systems — Vocabulary

3 Terms and definitions

For the purposes of this document, the following terms and definitions given in ISO 6080 and the following apply.

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

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

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3.1 conditioning temperature

temperature at which the electrically *heated tobacco products (eHTPs)* (3.15)(3.15) are kept before being subjected to test

3.2 test atmosphere

atmosphere to which the tobacco heating system (THS) (3.17) is exposed throughout the test

3.3 pressure drop

static pressure difference between the two ends of a pneumatic circuit when it is traversed by an air flow under steady conditions as described in ISO 7210

Note 1-to-entry:- Although the pressure drop of a device or a pneumatic circuit is defined for a specific set of reference parameters to describe its physical properties, the device could be used for measurements under conditions other than the reference parameters.

[SOURCE: ISO 20778:2018, 3.4]

3.4 puff duration

interval of time, measured in seconds, during which the port of the machine is pneumatically connected to the suction mechanism

[SOURCE: ISO 20778:2018, 3.6]

3.5 puff volume

volume leaving the eHTP and passing through the aerosol trap

3.6 puff frequency

number of puffs in a given time

[SOURCE: ISO 3308:2012, 3.10]

3.7 puff profile

flow rate measured over the time span of the puff at the port of the machine, typically depicted graphically as a function of time

[SOURCE: ISO 20778:2018, 3.11]

3.8 puff number

number of puffs collected from an eHTP

3.9 THS holder

device for connecting the THS to the port of the machine during aerosol generation and collection

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