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BSI Standards Publication

ISO and Health Canada intense smoking parameters

Part 1: Results of an international
machine smoking study

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National foreword

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**TECHNICAL
REPORT**

**ISO/TR
19478-1**

First edition
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**ISO and Health Canada intense
smoking parameters —**

**Part 1:
Results of an international machine
smoking study**

Paramètres de fumage ISO et Santé Canada Intense —

Partie 1: Résultats d'une étude internationale de fumage sur machine



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Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
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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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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*.

ISO/TR 19478 consists of the following parts, under the general title *ISO and Health Canada Intense smoking parameters*:

- *Part 1: Results of an international machine smoking study*
- *Part 2: Examination of factors contributing to variability in the routine measurement of TPM, water and NFDPM smoke yields of cigarettes*

Introduction

ISO/TC 126 Working Group 10 (WG 10) was established by ISO/TC 126 in 2007 in response to a New Work Item Proposal by the British Standards Institute for the development of new regime for the machine smoking of cigarettes that was more intense than the then current ISO 3308:2000 and a subsequent questionnaire sent to TC 126 members. Twenty out of 26 members of TC 126 voted in favour of the following option:

“to install a Working Group 10 dealing with an ‘Intense Smoking Regime’ which shall start with the preparatory work. WHO is invited to participate with their technical experts. No draft Standard is expected to be presented by this group until the future method proposal of WHO has been taken into consideration.”

At its fifth meeting, in December 2009, WG 10 decided to undertake a collaborative study using both ISO 3308 and Health Canada Intense smoking regimes. A steering group was established and the laboratory work was carried out in 2010. A final report on the study was approved by WG 10 and this ISO Technical Report has been prepared at the request of WG 10 at its tenth meeting, in June 2012.

ISO and Health Canada intense smoking parameters —

Part 1: Results of an international machine smoking study

1 Scope

This part of ISO/TR 19478 comprises a description of the collaborative study undertaken by WG 10 during 2010 and 2011 and an analysis of the data generated in the study.

2 Abbreviated terms

| | |
|----------|--|
| C | Cochran |
| cig | Cigarette |
| CM | CORESTA monitor test piece |
| CO | Carbon monoxide |
| CORESTA | Centre de Coopération pour les Recherches Scientifiques Relative au Tabac |
| DG | Double Grubbs |
| FTC | Federal Trade Commission |
| G | Grubbs |
| HCI | Health Canada Intense (smoking machine regime) |
| NFDPM | Nicotine-free dry particulate matter |
| <i>r</i> | Repeatability |
| <i>R</i> | Reproducibility |
| SD | Standard deviation |
| TPM | Total particulate matter |
| Yield | Concentration of analyte measured in the smoke (normally per cigarette) when smoked in a prescribed manner |

3 Objectives

The objectives of the collaborative study organized by WG 10 are the following:

- To measure the mainstream smoke yields of nicotine-free dry particulate matter (NFDPM), nicotine and carbon monoxide (CO) from eight commercial cigarette products of different types, and two reference cigarettes/monitor test pieces (test articles) when smoked under both the ISO 3308 and the Health Canada Intense (HCI) (Health Canada, 1999) machine smoking regimes.
- To determine intra-laboratory and inter-laboratory variability for the measured smoke yields.