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Evaluation of physical parameters of filter paper substrates for the determination of the ignition propensity of cigarettes

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National foreword

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TECHNICAL REPORT

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Evaluation of physical parameters of filter paper substrates for the determination of the ignition propensity of cigarettes

Évaluation des paramètres physiques des substrats de papier-filtre pour déterminer le potentiel incendiaire des cigarettes

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Foreword

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This document was prepared by Technical Committee ISO/TC 92, *Fire safety*, Subcommittee SC 1, *Fire initiation and growth*.

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

The ISO 12863 standard test method for cigarette ignition propensity specifies Whatman No. 2 (or an equivalent paper) as a suitable substrate. An expert group was established within ISO/TC 92/SC 1 in 2012 with the objective of defining a set of paper parameters that a substrate paper ought to meet. When testing cigarettes according to the ISO 12863 standard, it is recommended that the paper produce test results that:

— are statistically indistinguishable from the currently available substrate paper; and

— that provide no degradation of repeatability and reproducibility.

The study presented in this document used Whatman No. 2 filter papers that were produced after 2011, when Whatman moved the production facility from UK to China[1]. An in-depth analysis of the effect of this change on ignition propensity testing results was published in Reference [1].

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TECHNICAL REPORT **ISO/TR 5729:2021**

Evaluation of physical parameters of filter paper substrates for the determination of the ignition propensity of cigarettes

1 Scope

This document recollects and evaluates physical parameters of filter paper substrates for the determination of ignition propensity of cigarettes according to ISO 12863.

2 Normative references

The following 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 12863, *Standard test method for assessing the ignition propensity of cigarettes*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 12863 apply.

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

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

4 Parameters to specify filter papers for use as substrates in ignition propensity testing

The expert group reviewed previous activities related to cigarette ignition propensity standard development and the main scientific literature on substrate paper properties. Experts from the filter paper industry also shared commonly used filter paper parameters used for quality control and discussed the specifications of Whatman No. 2 outlined in ISO 12863.

It was agreed by the experts that paper weight alone is unlikely to represent sufficient specification.

A draft set of physical parameters was defined, comprising:

— basis weight (ISO 536);

— thickness (ISO 534);

— paper weight (ISO 12863);

— surface roughness (ISO 8791-2);

— air permeability (ISO 5636-5);

— ingredients: 100 % cotton fibre free of additives.

As detailed research into the influence of each filter paper parameter on the results of ignition propensity testing would be beyond the capabilities of the expert group, it was decided to proceed with a conservative approach, keeping all substrate paper physical parameters. Although this approach

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