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## **Fine-cut tobacco and smoking articles made from it — Methods of sampling, conditioning and analysis —**

Part 3:

### **Determination of total particulate matter of smoking articles using a routine analytical smoking machine, preparation for the determination of water and nicotine, and calculation of nicotine-free dry particulate matter**

*Tabac à rouler et objets confectionnés à partir de ce type de tabac —  
Méthodes d'échantillonnage, de conditionnement et d'analyse —*

*Partie 3: Dosage de la matière particulaire totale des objets à fumer au  
moyen d'une machine à fumer analytique de routine, préparation pour  
le dosage de l'eau et de la nicotine, et calcul de la matière particulaire  
anhydre et exempte de nicotine*



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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 2.

The main task of technical committees is to prepare International Standards. 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.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 15592-3 was prepared by Technical Committee ISO/TC 126, *Tobacco and tobacco products*.

This second edition cancels and replaces the first edition (ISO 15592-3:2003), which has been technically revised.

ISO 15592 consists of the following parts, under the general title *Fine-cut tobacco and smoking articles made from it — Methods of sampling, conditioning and analysis*:

- *Part 1: Sampling*
- *Part 2: Atmosphere for conditioning and testing*
- *Part 3: Determination of total particulate matter of smoking articles using a routine analytical smoking machine, preparation for the determination of water and nicotine, and calculation of nicotine-free dry particulate matter*

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## Introduction

Smokers make smoking articles by enclosing fine-cut tobacco in a suitable wrapper (sometimes incorporating a filter) either by hand or by using a rolling/tubing machine. The CORESTA work (see Annex A) and the scientific literature have shown that the quantity of tobacco, the type of wrapper chosen and the size of the articles made vary widely between consumers and between countries and even by the same consumer throughout the day. A wide variation of wrappers is available throughout the world and in some countries pre-made filter tubes are sold in combination with the tobacco.

When the article is smoked, the yield of tar and nicotine is determined by the construction of the article. This part of ISO 15592 has been developed to specify how articles are made in the laboratory, how they are smoked and how information relevant to a fine-cut tobacco sample can be given to the consumer. Fine-cut smoking articles made by consumers may therefore differ from the fine-cut smoking articles made for the purpose of testing described in this part of ISO 15592.

Four smoking articles are made using two masses of tobacco and two standard wrappers (see Annex B) with different properties. When these articles are smoked using a routine analytical smoking machine, the resultant data give a matrix of four points offering an indication of how the choice of wrapper and tobacco mass alter the tar and nicotine yields from the tobacco sample. A comparison of yields by choice of the same parameters of the matrix can provide a means of ranking brands.

It should be noted that because the use of fine-cut tobacco is so dependent on the way in which an individual makes a smoking article, a comparison of the smoke yield of any one of the matrix points with the single result from factory-manufactured cigarettes according to ISO 4387 is of limited value.

This part of ISO 15592 also gives further necessary procedures as follows.

If there is a need to classify a wrapper of unknown properties, this classification is made according to Annex C.

Fine-cut tobacco is sometimes sold with a statement that it may be used with a specified wrapper with or without a filter. The appropriate measurements are made according to Annex D.

A loose filter is incorporated in some fine-cut smoking articles at the time of making. The effect of the filter is determined according to Annex E.

ISO/TC 126/WG 7, which included experts both from the tobacco industry and from regulatory laboratories, was responsible for the planning, conduct and analysis of the data from a collaborative study by 20 laboratories to determine the repeatability and reproducibility of the method specified in this part of ISO 15592.