Cooperation Centre for Scientific Research Relative to Tobacco

Cigar Smoking Methods Sub-Group

CORESTA Recommended Method No. 46

ATMOSPHERE FOR CONDITIONING AND TESTING CIGARS OF ALL SIZES AND SHAPES

June 2018
Title:
ATMOSPHERE FOR CONDITIONING AND TESTING CIGARS OF ALL SIZES AND SHAPES

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Note: This document will be periodically reviewed by CORESTA

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CORESTA RECOMMENDED METHOD N° 46

ATMOSPHERE FOR CONDITIONING AND TESTING CIGARS
OF ALL SIZES AND SHAPES

(June 2018)

0. INTRODUCTION

Collaborative Studies have been performed regarding the conditioning of cigars of all sizes and shapes by the Cigar Smoking Methods Sub-Group composed of members of the CORESTA Smoke Science & Product Technology Study Groups.

It has been found that CORESTA Recommended Method N° 21, concerning the atmosphere for conditioning and testing of tobacco and tobacco products, is not appropriate for cigars.

1. FIELD OF APPLICATION

This CORESTA Recommended Method specifies an atmosphere for conditioning and testing samples of cigars of all sizes and shapes.

It is applicable to the testing of cigars and materials used in the manufacture of cigars for which a prior conditioning is necessary. It does not apply to specific test methods for which particular test conditions are specified.

2. DEFINITIONS

NOTE: Definitions 2.1, 2.2 and 2.3 are identical with ISO 3402 which are reproduced here for completeness of this Recommended Method.

2.1 Atmosphere

Ambient conditions defined by one or more of the parameters:

- temperature
- relative humidity
- pressure

2.2 Conditioning Atmosphere

The atmosphere in which a sample is kept before being subjected to test.

NOTE 1: It is characterised by specified values for one or more of the parameters, temperature, relative humidity and pressure, which are kept within the prescribed tolerances for a given period of time.

NOTE 2: The term "conditioning" refers to the operation as a whole designed to bring a sample, before testing, into a specified condition in relation to temperature and humidity, by keeping it for a given period of time in the conditioning atmosphere.

NOTE 3: The conditioning can be done either in the laboratory or in a special enclosure termed "the conditioning chamber" or in the test chamber.
NOTE 4: The chosen values and period of time depend on the nature of the sample or test piece to be tested.

2.3 Test Atmosphere

The atmosphere to which a sample or test piece is exposed throughout the test.

NOTE 1: It is characterized by specified values for one or more of the following parameters: temperature, relative humidity and pressure, which are kept within the specified tolerances.

NOTE 2: The test may be carried out either in the laboratory or in a special chamber termed the “test chamber”, or in the conditioning chamber, the choice depending on the nature of the test piece and on the test itself. For example, close control of the test atmosphere may not be necessary if the change in properties of the test piece is insignificant over the test period.

3. ATMOSPHERE

3.1 Conditioning Atmosphere

The conditioning atmosphere shall be as follows:

Temperature: $22 \pm 1 ^\circ C$

Relative Humidity: $(60 \pm 3) \%$

NOTE: The specified tolerances listed above define the atmosphere immediately surrounding the test piece. Therefore, the atmosphere surrounding the test piece shall be maintained at a mean temperature of $22 ^\circ C$ and a mean relative humidity of $60 \%$.

3.2 Test Atmosphere

The test atmosphere shall be the same as the conditioning atmosphere but wider tolerances are permissible as follows:

Temperature: $22 \pm 2 ^\circ C$

Relative Humidity: $(60 \pm 5) \%$

The atmospheric pressure shall be measured and included in the test report if it is outside the range 86 kPa to 106 kPa.

4. CONDITIONING

4.1 Duration of Conditioning

In all cases it should be verified that equilibrium has been properly attained (5.2).

NOTE: For information, in current practice a duration of 72 h is generally found to be the minimum conditioning time needed for cigars using a forced air flow.

4.2 Checking of Equilibrium

Equilibrium shall be considered to be attained either:

a) when the relative variation of the mass of the sample or test piece is not greater than 0,1 % in 24 h;

or
b) the sample or the test pieces, placed in a closed container of a volume similar to that of the sample or the test pieces, give(s) rise to a relative humidity in the container equal to that of the conditioning atmosphere.

NOTE: Suitable apparatus for the measurement of relative humidity in the container is available from Rotronic and Novasina. This does not constitute an endorsement from CORESTA, equivalent instrumentation can be used.

5. BIBLIOGRAPHY

ISO 3402 Tobacco and tobacco products - Atmosphere for conditioning and testing

CORESTA Recommended Method N° 21 Atmosphere for conditioning and testing tobacco and tobacco products