

CORESTA RECOMMENDED METHOD N° 46

ATMOSPHERE FOR CONDITIONING AND TESTING CIGARS OF ALL SIZES AND SHAPES

(May 1998)

0. INTRODUCTION

Collaborative Studies by the Cigar Sub Group composed of members of the CORESTA Smoke & Technology Groups have been made on the conditioning of cigars of all sizes and shapes.

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 tests on cigars and materials used in the manufacture of cigars for which a prior conditioning is necessary. It is not applicable in the case of test methods for which particular test conditions are specified elsewhere.

2. DEFINITIONS

Note: Definitions 2.1, 2.2 and 2.3 are identical with ISO 558 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. 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.

Notes:

1. 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.
2. The conditioning can be done either in the laboratory or in a special enclosure termed "the conditioning chamber" or in the test chamber.
3. The chosen values and period of time depend on the nature of the sample to be tested.

2.3. Test Atmosphere

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

Note:

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 sample and on the test itself. For example, close control of the test atmosphere may not be necessary if the change of properties of the sample is insignificant in the test period.

3. REFERENCES

ISO 558: 1980

Conditioning and testing - Standard atmospheres - Definitions.

ISO 3402: 1991

Tobacco and tobacco products - Atmosphere for conditioning and testing.

CORESTA Recommended Method N° 21:1991

Atmosphere for conditioning and testing tobacco and tobacco products.

4. ATMOSPHERE

4.1. Conditioning Atmosphere

Temperature: $22^{\circ}\text{C} \pm 1^{\circ}\text{C}$

Relative Humidity: $(60 \pm 2)\%$

Note:

The Atmospheric pressure should be within the range $96 \text{ kPa} \pm 10 \text{ kPa}$. The pressure shall be measured and included in any test report.

The specified ranges listed above define the atmosphere immediately surrounding the sample. Therefore, the atmosphere surrounding the sample shall be maintained at a mean temperature of 22°C and a mean relative humidity of 60%.

4.2. Test Atmosphere

The test atmosphere shall be the same as the conditioning atmosphere; however the acceptable tolerances are wider.

Temperature: $22^{\circ}\text{C} \pm 2^{\circ}\text{C}$

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

5. CONDITIONING

5.1. Duration of Conditioning

In all cases it should be verified that equilibrium has been properly attained (5.2). It is recommended that the atmospheric relative humidity near the samples be verified by the use of a reference hygrometer.

Note:

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

5.2. Checking of Equilibrium

Equilibrium shall be considered to be attained either:

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

or

b) when the sample, placed in a closed container of volume similar to that of the sample, gives 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. This does not constitute an endorsement from CORESTA, equivalent instrumentation can be used.