भारतीय मानक

Indian Standard

IS 16121 : 2023
ISO 3402 : 2023

तम्बाकू एवं तम्बाकू उत्पाद — अनुकूलन एवं परीक्षण के लिए वातावरण

(पहला पुनरीक्षण)

Tobacco and Tobacco Products — Atmosphere for Conditioning and Testing

(First Revision)

ICS 65.160

भारतीय मानक ब्यूरो
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December 2023 **Price Group 4**

Tobacco and Tobacco Products Sectional Committee, FAD 04

NATIONAL FOREWORD

This Indian Standard (First Revision) which is identical to ISO 3402 : 2023 ‘Tobacco and tobacco products — Atmosphere for conditioning and testing’ issued by the International Organization for Standardization (ISO) and was adopted by the Bureau of Indian Standards, after the draft finalized by the Tobacco and Tobacco Products Sectional Committee had been approved by the Food and Agriculture Division Council.

This standard was first published in 2013. This revision has been undertaken to align it with the latest edition of ISO 3402 : 2023. Apart from the editorial changes, the major changes introduced in this revision are as follows:

a) The terms and definitions have been harmonized with IS 16023 : 2021/ISO 4387 : 2019, and these terms have been consistently used throughout the document; and

b) Duration of conditioning has been revised for clarity; text describing long term storage has been removed since this document is not for storage of tobacco products.

The text of ISO Standard has been approved as suitable for publication as an Indian Standard without deviations. Certain conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

a) Wherever the words ‘International Standard’ appear referring to this standard, they should be read as ‘Indian Standard’; and

b) Comma (,) has been used as a decimal marker while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

In reporting the result of a test or analysis made in accordance with this standard, if the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 'Rules for rounding off numerical values (*second revision*)'.

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Introduction

The results of certain tests of tobacco, tobacco products, and specific materials used in the manufacture of tobacco products are affected by environmental conditions such as temperature and humidity. Therefore, standardization of the environmental conditions is required to assure comparable results for these tests.

Indian Standard

TOBACCO AND TOBACCO PRODUCTS — ATMOSPHERE FOR CONDITIONING AND TESTING

(First Revision)

1 Scope

This document specifies the atmosphere for the conditioning and testing of samples of tobacco and tobacco products.

It is primarily applicable to cigarettes; however, if not specified differently in other ISO standards, it can also be applied to tobacco, other tobacco products, and materials used in the manufacture of tobacco products for which prior conditioning is necessary. Standards for the conditioning and testing of other forms of tobacco, tobacco products, and materials can refer to all or part of this document.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions 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 https://www.electropedia.org/

3.1
conditioning
process of equilibrating a sample to a specified temperature and humidity prior to testing

Note 1 to entry: The conditioning occurs either in the laboratory or in a special enclosure.

Note 2 to entry: The period of time depends on the nature of the tobacco and tobacco product to be tested.

3.2
laboratory sample
Representative sample of tobacco and tobacco products intended for laboratory inspection or testing

3.3
test sample
tobacco and tobacco products taken at random from the *laboratory sample* (3.2) and which is representative of the laboratory sample

3.4
conditioning sample
tobacco and tobacco products selected from the *test sample* (3.3) for *conditioning* (3.1)

3.5
test portion
portion of tobacco and tobacco products prepared for a single determination and which is selected from the *test sample* (3.3) or *conditioning sample* (3.4), as appropriate

3.6
atmosphere
ambient conditions defined by one or more of the following parameters:

— temperature;

— relative humidity;

— pressure

3.7
conditioning atmosphere
atmosphere in which a *conditioning sample* (3.4) is kept before being subjected to a test

Note 1 to entry: It is characterized by specified values for temperature and relative humidity.

3.8
test atmosphere
atmosphere to which a test portion is exposed throughout the test

Note 1 to entry: It is characterized by specified values for temperature, relative humidity and pressure.

4 Atmosphere specifications

4.1 Conditioning atmosphere

The conditioning atmosphere shall be as follows:

— temperature (22 ± 1) °C;

— relative humidity (60 ± 3) %.

The specified tolerances listed above define the atmosphere immediately surrounding the conditioning sample. The atmosphere surrounding the conditioning sample shall be maintained at a mean temperature range of (22 ± 1) °C and a mean relative humidity range of (60 ± 3) %. The duration of the time interval for calculation of the mean values should be defined by the testing laboratory as appropriate for sample conditioning. The temperature and relative humidity shall be monitored during conditioning.

NOTE Short term excursions in the conditioning atmosphere due to opening of the doors of the conditioning environment, etc., are accepted as unavoidable.

4.2 Test atmosphere

The test atmosphere shall be as follows:

— temperature (22 ± 2) °C;

— relative humidity (60 ± 5) %.

The test atmosphere shall be maintained at a mean temperature range of (22 ± 2) °C and a mean relative humidity range of (60 ± 5) %. The duration of the time interval for calculation of the mean values should be defined by the testing laboratory as appropriate for sample testing. The temperature and relative humidity shall be monitored during testing.

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

NOTE Short term excursions in the test atmosphere due to opening of the doors of the testing environment, etc., are accepted as unavoidable.

5 Conditioning procedure

5.1 Duration of conditioning

Place the conditioning sample in the conditioning atmosphere specified in 4.1.

In current practice, conditioning for 48 h using a forced air flow is generally found to be sufficient for loose cigarettes. This conditioning time may be insufficient for certain samples such as cigarettes packed in bulk or when loose cigarettes are conditioned without forced air flow.

Transfer the test portions to the testing location in airtight containers (just large enough to contain the portions) unless the testing location and the conditioning location are adjoining.

The air flow shall be sufficient to condition loose cigarettes in the specified period. Excessive air flow can result in improper conditioning.

5.2 Checking of equilibrium

Equilibrium shall be considered to be attained when either

a) the relative variation of the mass of the conditioning sample is not greater than 0,2 % in 3 h, or

b) the conditioning sample placed in a closed container of a volume similar to that of the conditioning sample gives rise to a relative humidity in the container equal to that of the conditioning atmosphere.

Bureau of Indian Standards

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Review of Indian Standards

Amendments are issued to standards as the need arises on the basis of comments. Standards are also reviewed periodically; a standard along with amendments is reaffirmed when such review indicates that no changes are needed; if the review indicates that changes are needed, it is taken up for revision. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition by referring to the website-www.bis.gov.in or www.standardsbis.in.

This Indian Standard has been developed from Doc No.: FAD 04 (22437).

Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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