INTERNATIONAL STANDARD

ISO 2231

Second edition
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Rubber- or plastics-coated fabrics — Standard atmospheres for conditioning and testing

Supports textiles revêtus de caoutchouc ou de plastique — Atmosphères normales de conditionnement et d'essai

Reference number
ISO 2231 : 1989 (E)

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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 2231 was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*.

This second edition cancels and replaces the first edition (ISO 2231 : 1975), clauses 3 and 4 of which have been technically revised (see clauses 5 and 6 in revised text). In addition, a new clause on pre-conditioning has been introduced (clause 4 in revised text).

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Introduction

Most coated fabrics contain a certain amount of moisture absorbed from the air with which they are in contact, and the amount of moisture depends on the quantity of water vapour in the air.

Certain properties, particularly mass and those concerned with the breaking of threads, are affected by the moisture content of the fabric. In order to standardize methods of test it is, therefore, important to control the moisture content of the material under test. This is done by conditioning test pieces in an atmosphere of controlled humidity before testing. For some other properties, the effect of the moisture content of the fabric is minimal, and it is only necessary to condition for temperature.

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Rubber- or plastics-coated fabrics — Standard atmospheres for conditioning and testing

1 Scope

This International Standard specifies the requirements for conditioning and methods of conditioning employed for rubber- or plastics-coated fabrics.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 554 : 1976, *Standard atmospheres for conditioning and/or testing — Specifications.*

3 Definitions

For the purposes of this International Standard, the following definitions apply.

3.1 reference atmosphere: A theoretical atmosphere to which values of characteristics determined under different atmospheric conditions can be related when the relevant conversion factors are known.

NOTE — The standard reference atmosphere is specified in ISO 554.

3.2 standard atmosphere for conditioning and for testing: Actual atmosphere in which tests are made.

3.3 method of conditioning: Characteristic atmosphere and time of exposure to it for a coated fabric in the accomplishment of a test.

3.4 standard condition: Condition reached by the coated fabric when it is in equilibrium with a standard atmosphere for conditioning and testing.

3.5 moisture equilibrium: Equilibrium reached by the coated fabric when, after free exposure to air in motion, there is no appreciable change in mass.

4 Pre-conditioning

When the textile substrate is of a highly hygroscopic material or where the method of test requires a high degree of accuracy, equilibrium (see 3.5) shall be approached from the dry side of the hysteresis curve by pre-conditioning the test pieces in an atmosphere having a relative humidity of not greater than 10 % and a temperature of between 60 °C and 70 °C.

NOTE — Air at 65 % relative humidity and 20 °C will, when heated at constant pressure to between 60 °C and 70 °C, have a relative humidity of approximately 5 %. Higher temperatures can lead to changes in some coatings.

5 Characteristics of test atmospheres

The use of one of the following atmospheres shall be fixed by the particular standard or specification for each test or material. The choice of one of these alternatives will depend on the prevalent usage in individual countries and the variant used shall be reported in the test report.

Atmosphere "A"

- temperature 20 °C ± 2 °C;
- relative humidity 65 % ± 5 % R.H.

Atmosphere "B"

- temperature 23 °C ± 2 °C;
- relative humidity 50 % ± 5 % R.H.

Atmosphere "C" (tropical)

- temperature 27 °C ± 2 °C;
- relative humidity 65 % ± 5 % R.H.

Atmosphere "D" (temperature control only)

- temperature 23 °C ± 2 °C.

Atmosphere "E" (tropical temperature control only)

- temperature 27 °C ± 2 °C.