INTERNATIONAL STANDARD ISO 2231

Fabric coated with rubber or plastics — Standard atmospheres for conditioning and testing

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FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation
of national standards institutes (ISO Member Bodies). The work of developing
International Standards is carried out through ISO Technical Committees. Every
Member Body interested in a subject for which a Technical Committee has been set
up 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.

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.

International Standard ISO 2231 was drawn up by Technical Committee
ISO/TC 45, *Rubber and rubber products*, and circulated to the Member Bodies in
June 1971.

It has been approved by the Member Bodies of the following countries :

Australia	Hungary	Portugal
Austria	India	Romania
Ceylon	Ireland	South Africa, Rep. of
Chile	Israel	Spain
Czechoslovakia	Italy	Switzerland
Egypt, Arab Rep. of	Korea, Rep. of	Turkey
France	Netherlands	United Kingdom
Germany	New Zealand	U.S.A.
Greece	Poland	U.S.S.R.

The Member Body of the following country expressed disapproval of the document
on technical grounds :

Sweden

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0 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.

1 SCOPE AND FIELD OF APPLICATION

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

2 DEFINITIONS

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

NOTE — The standard reference atmosphere is specified in ISO/R 554, *Standard atmospheres for conditioning and/or testing — Standard reference atmosphere — Specifications.*

Conversion factors are not available to relate the values of the properties of coated fabrics to reference atmosphere conditions.

2.2 standard atmosphere for conditioning and for testing : Actual atmosphere in which tests are to be made.

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

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

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

3 CHARACTERISTICS OF TEST ATMOSPHERES

Two standard atmospheres, "A" and "B", are defined. The use of one or the other shall be fixed by the particular standard or specification for each test or material.

For each atmosphere, two alternative atmospheres for use in temperate countries and one for use in tropical countries are specified. 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.

3.1 Atmosphere "A"

Atmosphere "A" is defined by two of its characteristics :

— temperature 20 ± 2 °C,

— relative humidity 65 ± 5 %;

or

— temperature 23 ± 2 °C,

— relative humidity 50 ± 5 %.

For tropical countries only, atmosphere "A" is defined by the same two characteristics :

— temperature 27 ± 2 °C,

— relative humidity 65 ± 5 %.

3.2 Atmosphere "B"

Atmosphere "B" is defined by one of its characteristics :

— temperature 20 ± 2 °C;

or

— temperature 23 ± 2 °C.

For tropical countries only, atmosphere "B" is defined by the same characteristic :

— temperature 27 ± 2 °C.

4 METHODS OF CONDITIONING

Two standard methods of conditioning, "A" and "B", are defined. The use of one or the other shall be fixed by the particular standard or specification for each test or material.

4.1 Method of conditioning "A"

The test pieces shall be freely exposed to the standard atmosphere "A" until they are in equilibrium. Equilibrium with the standard atmosphere is deemed to have been reached when successive weighings, at intervals of 2 h, of

the test pieces freely exposed to the moving air, differ by less than 0,1 %.

For fabrics coated on one side only, a minimum of 16 h exposure is recommended.

For fabrics coated on both sides, a minimum of 24 h is recommended.

4.2 Method of conditioning "B"

The test pieces shall be freely exposed to the standard atmosphere "B" for a period of 3 h.