
INTERNATIONAL STANDARD



139

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION · МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ · ORGANISATION INTERNATIONALE DE NORMALISATION

Textiles — Standard atmospheres for conditioning and testing

First edition — 1973-09-15

iTeh STANDARD PREVIEW
(standards.iteh.ai)

ISO 139:1973

<https://standards.iteh.ai/catalog/standards/sist/5a8aa3a1-ceb4-4eff-9d9e-0991b95dfbaa/iso-139-1973>

UDC 677.01 : 551.58

Ref. No. ISO 139-1973 (E)

Descriptors : textiles, controlled atmospheres, standardized atmospheres, tests, testing conditions, preparation, treatment.

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.

Prior to 1972, the results of the work of the Technical Committees were published as ISO Recommendations; these documents are now in the process of being transformed into International Standards. As part of this process, International Standard ISO 139 replaces ISO Recommendation R 139-1967 drawn up by Technical Committee ISO/TC 38, *Textiles*.

[ISO 139:1973](#)

The Member Bodies of the following countries approved the Recommendation :

Australia	Germany	New Zealand
Austria	Greece	Norway
Belgium	Hungary	Pakistan
Bulgaria	India	Poland
Burma	Ireland	Romania
Chile	Israel	Spain
Czechoslovakia	Italy	Sweden
Denmark	Japan	Switzerland
Finland	Mexico	United Kingdom
France	Netherlands	U.S.S.R.

No Member Body expressed disapproval of the Recommendation.

Textiles – Standard atmospheres for conditioning and testing

1 SCOPE AND FIELD OF APPLICATION

This International Standard defines the characteristics and use of standard atmospheres for conditioning and for determining the physical and mechanical properties of textiles.

2 BASIC DEFINITIONS

2.1 relative humidity : The ratio of the actual pressure of the water vapour in the atmosphere to the saturation vapour pressure at the same temperature. The ratio is usually expressed as a percentage.

2.2 standard temperate atmosphere : An atmosphere which has a relative humidity of 65 % and a temperature of 20 °C.

2.2.1 standard temperate atmosphere for testing : An atmosphere which has a relative humidity of 65 ± 2 % and a temperature of 20 ± 2 °C.

2.3 standard tropical atmosphere : An atmosphere which has a relative humidity of 65 % and a temperature of 27 °C.

2.3.1 standard tropical atmosphere for testing : An atmosphere which has a relative humidity of 65 ± 2 % and a temperature of 27 ± 2 °C.

NOTE – The adjectives “temperate” and “tropical” as used in this International Standard have been chosen for the limited use of the textile industry.

3 PRE-CONDITIONING

Before conditioning a textile, pre-conditioning may be required. If so, the textile shall be brought approximately

to equilibrium in an atmosphere having a relative humidity of between 10 and 25 % and a temperature not exceeding 50 °C.

These conditions may be obtained by heating air at 65 % relative humidity and 20 °C (the standard temperate atmosphere) to a temperature of 50 °C, or by heating air at 65 % relative humidity and 27 °C (the standard tropical atmosphere) to a temperature up to 50 °C.

4 CONDITIONING

Before a textile is tested to determine a physical or mechanical property, it shall be conditioned by placing it in the standard temperate atmosphere for testing, in such a way that the air flows freely through the textile, and keeping it there for the time required to bring it into equilibrium with the atmosphere.

Unless otherwise specified in the method of test, the textile should be considered to be in equilibrium when successive weighings, at intervals of 2 h, of the textile materials freely exposed to the moving air show no progressive change in mass greater than 0,25 %.

In tropical or sub-tropical countries, the standard tropical atmosphere for testing may be used.

5 TESTING

Except for special cases (for example wet tests), physical and mechanical tests of textiles are carried out in the conditioned state in the standard temperate atmosphere for testing. In tropical and sub-tropical countries, however, the standard tropical atmosphere for testing may be used.

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