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Textiles — Determination of moisture drying rate

Textiles — Détermination du taux de séchage

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 38, *Textiles*.

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Introduction

In addition to traditional clothing, such as shirting made from cotton or polyester/cotton, speciality textile materials have been introduced to the market for use in sportswear, active wear, and leisurewear. The size of the market for this type of clothing has been growing and is expected to continue to grow as the global economy grows.

In a developing market, existing methods of evaluation for such specialist clothing are somewhat limited and new methods of test have not yet been developed to measure specific properties which form the basis of specialist claims.

This International Standard describes three new test methods for measuring the moisture drying rate of textile materials and which are intended to reflect the drying characteristics of the textile after it has become dampened with perspiration (sweat) due to the wearer being engaged in light sport or active living situations.

These test methods can also be applied to other textile materials for which moisture drying rates are required to be determined.

Although three test methods are described in this International Standard, the concerned parties should agree on the most appropriate method of test to be used.

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Textiles — Determination of moisture drying rate

1 Scope

This International Standard specifies a testing method for evaluating the moisture-drying properties of all types of textile fabric. The method is not suitable for determining a drying rate on textiles in other forms such as loose fibre or yarn.

2 Normative reference

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 139, *Textiles — Standard atmospheres for conditioning and testing*

ISO 3696, *Water for analytical laboratory use — Specification and test methods*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
drying rate (DR)
length of time required to dry a known mass of moisture from a textile fabric

Note 1 to entry: It is expressed in drying percent per unit time.

3.2
drying time (100 %)
time for which 100 % of applied water loss occurs

4 Principle

A specified quantity of moisture is applied to a specimen and the weight of moisture remaining on the specimen after a specific period of time is measured. The drying rate and/or specific drying rate is calculated by linear regression of time against residual moisture content.

Two methods of test are given — vertical drying (Method A) and horizontal drying (Method B).

In Method A1, a specimen is hung vertically on a frame which is suspended beneath a balance, while in Method A2 a specimen is placed on a top-pan balance. In both of these methods, the specimens are exposed to the test environment on both sides. In Method B, a specimen is laid flat in a dish which is placed on a top pan balance and the specimen is only exposed to the environment on its uppermost surface. The results obtained by the two vertical drying methods (A1 and A2) are comparable but the results obtained using the horizontal drying method (B) are not comparable with those obtained using either vertical drying method.

NOTE For the purposes of this test method, water is taken as being representative of all types of body fluids into which the textile fabric might come into contact. This includes perspiration, saliva, or urine.

The test procedures for each of the three separate test methods are given in this International Standard. It is for the interested parties to agree on the most appropriate method to be used.

Method B is particularly suited for textile fabrics with good surface wetting or capillary (wicking) properties.

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