INTERNATIONAL STANDARD

ISO 3175-1

Third edition
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Textiles — Professional care, drycleaning and wetcleaning of fabrics and garments —

Part 1: Assessment of performance after cleaning and finishing

Textiles — Entretien professionnel, nettoyage à sec et nettoyage à l'eau des étoffes et des vêtements —

Partie 1: Évaluation de la résistance après le nettoyage et la finition

Reference number
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Contents

Page

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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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 voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 38, *Textiles*, Subcommittee SC 2, *Cleansing, finishing and water resistance tests*.

This third edition cancels and replaces the second edition (ISO 3175-1:2010), which has been technically revised.

The main changes compared to the previous edition are as follows:

— mention of "wetcleaning" beside "drycleaning" throughout the text;

— in Clause 3, modification of the definition of drycleanability and addition of an entry for wetcleanability;

— in 7.2, clarification of test specimen conditioning and the standard atmosphere;

— simplification of Table 1, by a focus on the means of assessment.

A list of all the parts in the ISO 3175 series can be found on the ISO website.

Introduction

Drycleaning is a process for cleaning textiles in an organic solvent that dissolves oils and fats and disperses particulate dirt substantially without the swelling and creasing associated with washing or wetcleaning. Small quantities of water may be incorporated in the solvent with the aid of a surfactant for the purpose of obtaining better soil and stain removal. Some moisture-sensitive articles are preferably drycleaned without the addition of water to the solvent. A surfactant is often used to assist with soil removal and reduce the risk of greying, but it should be borne in mind that surfactants contain varying amounts of water in their formulations. Drycleaning is normally followed by an appropriate restorative finishing procedure. In most cases, this comprises some form of steam treatment and/or hot pressing.

Professional wetcleaning is a process used by professionals for cleaning textiles in water using special technology (cleaning, rinsing and spinning), detergents and additives to minimize any adverse effects to the textile. It is followed by drying and restorative finishing procedures, in most cases by steam treatment and/or hot pressing.

Properties of the textile or garment may change progressively on drycleaning or wetcleaning and steaming and/or pressing. In some cases, a single treatment can give little indication of the extent of dimensional and other changes that can arise after repeated treatments and that can affect the useful life of the article. Generally, most of the potential changes become apparent after three to five of the drycleaning or the wetcleaning and finishing treatments specified in ISO 3175-2 to ISO 3175-4. These progressive changes should be borne in mind when the interested parties determine the number of repeat cycles which are given.

Textiles — Professional care, drycleaning and wetcleaning of fabrics and garments —

Part 1:
Assessment of performance after cleaning and finishing

1 Scope

This document specifies a method for assessing textile articles which have been tested according to ISO 3175-2 to ISO 3175-4.

Fabric and garment properties, which can change on drycleaning or wetcleaning and finishing, are identified and methods for assessing change using existing International Standards are given as appropriate. Other properties which are also important, but for which there are no International Standards providing methods of assessment, are indicated in Annex A (normative), together with advice on how to proceed on their assessment.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 105-A02, *Textiles — Tests for colour fastness — Part A02: Grey scale for assessing change in colour*

ISO 105-A03, *Textiles — Tests for colour fastness — Part A03: Grey scale for assessing staining*

ISO 105-F10, *Textiles — Tests for colour fastness — Part F10: Specification for adjacent fabric: Multifibre*

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

ISO 3175-2, *Textiles — Professional care, drycleaning and wetcleaning of fabrics and garments — Part 2: Procedure for testing performance when cleaning and finishing using tetrachloroethene*

ISO 3175-3, *Textiles — Professional care, drycleaning and wetcleaning of fabrics and garments — Part 3: Procedure for testing performance when cleaning and finishing using hydrocarbon solvents*

ISO 3175-4, *Textiles — Professional care, drycleaning and wetcleaning of fabrics and garments — Part 4: Procedure for testing performance when cleaning and finishing using simulated wetcleaning*

ISO 3759, *Textiles — Preparation, marking and measuring of fabric specimens and garments in tests for determination of dimensional change*

ISO 4920, *Textile fabrics — Determination of resistance to surface wetting (spray test)*

ISO 7768, *Textiles — Test method for assessing the smoothness appearance of fabrics after cleansing*

ISO 7769, *Textiles — Test method for assessing the appearance of creases in fabrics after cleansing*

ISO 7770, *Textiles — Test method for assessing the smoothness appearance of seams in fabrics after cleansing*

ISO 9867, *Textiles — Evaluation of the wrinkle recovery of fabrics — Appearance method*

ISO 12947-1, *Textiles — Determination of the abrasion resistance of fabrics by the Martindale method — Part 1: Martindale abrasion testing apparatus*

ISO 12947-2, *Textiles — Determination of the abrasion resistance of fabrics by the Martindale method — Part 2: Determination of specimen breakdown*

ISO 12947-3, *Textiles — Determination of the abrasion resistance of fabrics by the Martindale method — Part 3: Determination of mass loss*

ISO 12947-4, *Textiles — Determination of the abrasion resistance of fabrics by the Martindale method — Part 4: Assessment of appearance change*

ISO 16322-1, *Textiles — Determination of spirality after laundering — Part 1: Percentage of wale spirality change in knitted garments*

ISO 16322-2, *Textiles — Determination of spirality after laundering — Part 2: Woven and knitted fabrics*

ISO 16322-3, *Textiles — Determination of spirality after laundering — Part 3: Woven and knitted garments*

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1
composite test specimen
test specimen consisting of all component parts used in the finished item, and combined in a representative assembly

3.2
drycleanability
extent to which an article consisting of all component parts can be cleaned by means of immersion with agitation in an organic solvent commonly used for the purpose

Note 1 to entry: This process consists of cleaning, centrifugal extraction, drying and finishing in order to restore shape and appearance.

3.3
wetcleanability
extent to which an article consisting of all components parts can be cleaned by means of immersion with agitation in an aqueous solution in specialised equipment commonly used for the purpose

Note 1 to entry: This process consists of cleaning, centrifugal extraction, drying and finishing in order to restore shape and appearance.

4 Principle

At least two identical test specimens are obtained. The first test specimen is used as a control, and does not undergo any drycleaning or wetcleaning treatment. It is retained to indicate the original condition. The second test specimen is subjected to a drycleaning process using professional equipment involving a two-bath cleaning process, centrifugal extraction, tumble drying and appropriate finishing, or a wetcleaning process using professional equipment involving an aqueous solution, centrifugal extraction, drying process and appropriate finishing. An assessment of dimensional, colour and other changes is carried out after cleaning and finishing by comparing the second test specimen with the

first test specimen. The assessment determines whether or not the item is regarded as drycleanable or wetcleanable in the process selected.

If a retest in a mild process or in a very mild process is necessary, a third or fourth test specimen is required.

5 Apparatus and materials

5.1 **Drycleaning and finishing apparatus**, as specified in ISO 3175-2 and ISO 3175-3.

5.2 **Wetcleaning and finishing apparatus**, as specified in ISO 3175-4.

5.3 **Grey scales**, as specified in ISO 105-A02 and ISO 105-A03.

5.4 **Crease replicas**, as specified in ISO 7769.

5.5 **Surface wetting scales**, as specified in ISO 4920.

5.6 **Wrinkle recovery replicas**, as specified in ISO 9867.

6 Test specimens

6.1 For fabric piece goods, select specimens representative of the sample. Do not cut specimens from within 1 m of either end of the piece. Samples shall be cut to the size specified in ISO 3175-2, ISO 3175-3 or ISO 3175-4.

6.2 For made-up textiles, obtain at least two identical finished items or, alternatively, obtain at least two composite test specimens.

Testing can be an iterative procedure since alternative processes of varying sensitivity can be used, and it is advisable to obtain sufficient specimens for all the testing which might be required.

7 Procedure

7.1 Retain the first test specimen as a control to indicate the original overall appearance.

7.2 Condition all specimens, except the first, for at least 16 h in the standard atmosphere (20 °C, 65 % RH) for conditioning and testing textiles specified in ISO 139.

7.3 If required, mark and measure the test specimen for dimensional changes in accordance with ISO 3759.

7.4 If the test specimen is a garment, mark and measure different parts of the outer fabrics and linings separately.

7.5 Dryclean or wetclean and finish the specimen in accordance with one of the procedures specified in ISO 3175-2, ISO 3175-3 or ISO 3175-4, as agreed on between the interested parties.

7.6 Recondition the specimen in accordance with 7.2. If information on dimensional stability is required, measure again the test specimen(s) and record values in accordance with ISO 3759.