INTERNATIONAL STANDARD

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Second edition
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Textiles — Determination of spirality after laundering —

Part 2: Woven and knitted fabrics

Textiles — Détermination du vrillage après lavage —

Partie 2: Étoffes tissées ou tricotées

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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).

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 of 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 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 second edition cancels and replaces the first edition (ISO 16322-2:2005), which has been technically revised. It also incorporates the Technical Corrigendum ISO 16322-2:2005/Cor 1:2007.

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

— in 9.2.1.1, the absolute value of Formula (1) has been specified;

— Figures 5 and 7 have been corrected.

A list of all parts in the ISO 16322 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Textiles — Determination of spirality after laundering —

Part 2: Woven and knitted fabrics

1 Scope

This document specifies three procedures (diagonal marking, inverted-T marking and mock-garment marking) to measure the spirality or torque of woven and knitted fabrics after domestic laundering.

The results obtained from different procedures will not always be comparable.

This document is not intended to measure the spirality of fabrics as manufactured, but rather the spirality after laundering.

NOTE Some fabric constructions, such as denim, can have spirality intentionally introduced during manufacturing. Fabrics made on circular knitting machines can have inherent nonverticality of wale alignment.

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

ISO 6330, *Textiles — Domestic washing and drying procedures for textile testing*

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
spirality
torque
<in textiles> fabric condition, wherein filling yarns or knitted courses are angularly displaced from a line perpendicular to the edge or side of a fabric or garment

4 Principle

Test specimens are cut, prepared, marked, and laundered according to specified procedures. Spirality is measured in millimetres, percentage of a marked distance, or angle of nonverticality.

5 Apparatus

5.1 Automatic washing machine, as described in ISO 6330, the type agreed upon between parties.

5.2 Automatic drying machine, as described in ISO 6330, and agreed upon between parties.

5.3 Calibrated ruler, at least 500 mm in length, with 1 mm graduated marks.

5.4 Conditioning rack.

5.5 Sewing machine.

5.6 T-square, at least 500 mm in length.

5.7 Marking template, of dimensions 380 mm × 380 mm, 680 mm × 380 mm or 580 mm × 510 mm.

6 Conditioning

Condition the fabric or garments in the standard atmosphere for testing in accordance with ISO 139, for a minimum of 4 h before cutting, sewing or measuring the fabric specimens.

7 Test specimen preparation and marking procedures

7.1 Procedure A — Diagonal marking

7.1.1 Test specimen preparation

Prepare three specimens for marking from appropriate locations across a fabric sample. Place a 380 mm × 380 mm template on single-layer fabric, aligned with selvedge or tubular fold line. Cut three specimens. Take each specimen with different length and width yarns or different wales and courses. Cut no test specimen from within 150 mm of laboratory sample edges.

7.1.2 Diagonal marking procedure

Mark two pairs of 250 mm benchmark sets parallel to the length, and two pairs of 250 mm benchmark sets perpendicular to the width, to make a square.

Draw a line through each of the four sets of adjacent benchmarks to denote the square formed.

Label the corners A, B, C and D in a clockwise direction starting at the lower left corner (see Figure 1).

7.2 Procedure B — Inverted-T marking

7.2.1 Test specimen preparation

This marking procedure is particularly suited to narrow-width fabrics.

Place a 680 mm × 380 mm template with the long dimension aligned with the selvedge, or folded edge if the samples are a tubular knit. Cut three specimens.

7.2.2 Inverted-T marking

Draw a line, YZ, across the width of the specimen 75 mm above the edge of the specimen.

Place benchmark A perpendicular to the YZ line midway along the horizontal line.

Using a T-square device, mark point B 500 mm above point A on the vertical line (see Figure 4).