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Rubber- or plastics-coated fabrics — Physical and mechanical tests — Determination of flex resistance by the flexometer method

Supports textiles revêtus de caoutchouc ou de plastique — Essais physiques et mécaniques — Détermination de la résistance à la flexion à l'aide d'un flexomètre

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: www.iso.org

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Foreword

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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 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 45, *Rubber and rubber products*, Subcommittee SC 4, *Products other than hoses*.

This second edition cancels and replaces the first edition (ISO 32100:2010), which has been technically revised:

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

— the list of apparatus has been updated;

— the procedure has been amended;

— in 7.12, an additional procedure has been added;

— the Bibliography has been updated.

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.

Rubber- or plastics-coated fabrics — Physical and mechanical tests — Determination of flex resistance by the flexometer method

1 Scope

This document specifies a test method for determining the flex resistance of rubber- or plastics-coated fabrics in the folded condition. The test method is applicable only to products which can be clamped in the test apparatus used and to products with which the fold made in the test specimen can be caused to move back and forth along the specimen during the test.

The appearance of the test specimen, after completion of either the flex number (see 3.1) or a specified number of flex cycles, is taken as a measure of the flex resistance in the folded condition.

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 2231, *Rubber- or plastics-coated fabrics — Standard atmospheres for conditioning and 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
flex number
number (agreed between the interested parties) of *flex cycles* (3.2) to which the test specimen is subjected, the specimen being subsequently examined using a magnifying lens with ×6 magnification to determine whether any damage or other visible change is observable

3.2
flex cycle
cycle comprising one forward and one backward (i.e. a complete to-and-fro) movement of the moveable clamp of the test apparatus

4 Principle

One end of a test piece is folded with the surface to be tested facing inwards and clamped in an upper (moveable) clamp and the other end of the test piece is folded with the surface to be tested facing outwards and clamped in a lower (fixed) clamp. The upper clamp is then moved in such a way that the fold is caused to run along the test piece. The test piece is examined periodically for damage or any other visible change.

5 Apparatus

5.1 Test machine, consisting of a movable upper clamp, a fixed lower clamp and a counter as described in 5.1.1 to 5.1.3 and as shown in Figure 1 as an example.

5.1.1 Upper clamp, consisting of a pivoting pair of flat plates of 4 mm thickness as shown in Figure 1. The small plate (H) has the basic shape of a trapezium but with a radius of 2 mm at the acute corner. It has a ledge (G) to support the folded test piece. The larger plate (I) has a shape as shown in figure 1. The clamp tightening screw (F) is tightening the plates together and also acts as a stop to prevent the test piece from being incorrectly positioned. The design of the clamp should ensure the two faces of the clamp remain parallel when clamping the test piece. The upper clamp is reciprocated by a motor about a horizontal axle, descending through an angle (A) of 22,5 ° ± 0,5 ° at a frequency of 100 cycles/min ± 5 cycles/min.

5.1.2 Lower clamp, fixed and lying directly beneath (planar to) the upper clamp and consisting of a pair of flat plates (B and C) to hold the test piece. The position of the lower clamp is such that the vertical distance (D) between the upper side of the ledge (G) of the upper clamp and the upper edge of the fixed lower clamp, when the upper clamp is horizontal, is 25,0 mm ± 0,5 mm.

5.1.3 Counter, to indicate the number of cycles.

5.2 Magnifier, with a magnification of 6 times.

5.3 Mandrel, having a diameter of 10 mm and minimum length of 70 mm.