

Textiles — Determination of the abrasion resistance of knitted footwear garments

The European Standard EN 13770:2002 has the status of a
British Standard

ICS 61.020

National foreword

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The UK participation in its preparation was entrusted to Technical Committee TCI/24, Physical testing of textiles, which has the responsibility to:

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Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 19 and a back cover.

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Textiles - Determination of the abrasion resistance of knitted footwear garments

Textiles - Détermination de la résistance à l'abrasion des articles chaussants tricotés

Textilien - Bestimmung der Scheuerbeständigkeit von gestrickter Fußbekleidung

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Foreword

This document EN 13370:2002 has been prepared by Technical Committee CEN/TC 248 "Textiles and textile products", the secretariat of which is held by BSI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by January 2003, and conflicting national standards shall be withdrawn at the latest by January 2003.

Annex A and annex D are normative.

Annex B, annex C, annex E and annex F are informative.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Introduction

This European Standard is composed of two tests.

The first test describes a method for the determination of the abrasion resistance of knitted footwear garments on samples stretched with a modified sample holder, on a Martindale abrasion machine.

The second test describes a testing device and a method for the determination of the abrasion resistance of knitted footwear garments in a stretched controlled state.

The test method is chosen before starting the test and recorded in the test report, since the results of the different methods cannot be compared with each other.

1 Scope

This European Standard specifies two test methods for the determination of abrasion resistance of knitted footwear garments, e.g. ankle socks, socks, and heavy tights. The test methods apply to any of these articles, irrespective of size, composition and structure.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 20139, *Textiles — Standard atmospheres for conditioning and testing (ISO 139:1973)*.

EN ISO 12947-1, *Textiles — Determination of the abrasion resistance of fabrics by the Martindale method — Part 1: Martindale abrasion testing apparatus (ISO 12947-1:1998)*.

3 Conditioning and testing atmosphere

The standard temperate atmosphere for conditioning and testing textiles as defined in EN 20139 shall be used.

4 Method 1 : Martindale abrasion machine method

4.1 Principle

Circular specimens of the hosiery are selected from the known wear areas of the socks, stretched over a flattened rubber surface and abraded against a reference abradant under a known pressure with a cyclic planar motion in the form of a Lissajous figure which is the resultant of two simple harmonic motions at right angles to each other. The resistance to abrasion is estimated by the number of cycles to either total breakdown or thinning of one component.

4.2 Apparatus and agents

4.2.1 Martindale abrasion machine as specified in EN ISO 12947–1.

4.2.2 Modified specimen holders for the evaluation of abrasion of knitted footwear garments (in accordance with annex A), consisting of a guide spindle, holder body, needle ring, holder nut and rubber sphere with flattened surfaces (20 mm being the test area).

4.2.3 Springloaded tightening block spanner which enables the tightening of the holder body and holder nut whilst ensuring the flat surface of the rubber sphere remains flat and horizontal.

4.2.4 Abradant and woven felt as specified in EN ISO 12947–1.