

**Skodon – Provningsmetoder för ovanläder, foder
och inläggssulor – Nötningshållfasthet**

**Footwear – Test methods for uppers, lining and
insoles – Abrasion resistance**

Europastandarden EN 13520:2001 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av EN 13520:2001.

The European Standard EN 13520:2001 has the status of a Swedish Standard. This document contains the official English version of EN 13520:2001.

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Footwear - Test methods for uppers, lining and insoles - Abrasion resistance

Chaussures - Méthodes d'essai des tiges, de la doublure et
des premières de propreté - Résistance à l'abrasion

Schuhe - Prüfverfahren für Schäfte, Futter und
Deckbrandsohlen - Abriebfestigkeit

This European Standard was approved by CEN on 16 November 2001.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 309 "Footwear", the secretariat of which is held by AENOR.

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of an identical text or by endorsement, at the latest by June 2002, and conflicting national standards shall be withdrawn at the latest by June 2002.

This European Standard is based on European Standard EN 344:1992 "Requirements and test methods for safety, protective and occupational footwear for professional use".

Annex A is normative.

This standard includes a Bibliography;

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, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

EN 13520:2001 (E)

1 Scope

This standard specifies a test method for determining the resistance of uppers, linings and insoles irrespective of the material, to wet and dry abrasion, in order to assess the suitability for the end use.

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 12222, *Footwear - Standard atmospheres for conditioning and testing of footwear and components for footwear.*

3 Terms and definitions

For the purposes of this European Standard, the following term and definition apply.

3.1 abrasion resistance uppers, linings and insoles
surface resistance shown by an upper, lining or insole test piece when rubbed with an abrasant fabric in a Martindale machine

4 Apparatus and material

The following apparatus and material shall be used:

4.1 Abrasion machine, with one or more test stations each including the following:

4.1.1 Circular specimen carrier with a clamping ring which grips the test specimen around its edge leaving an exposed raised flat circular portion of area $645 \text{ mm}^2 \pm 5 \text{ mm}^2$.

4.1.2 Horizontal abrasant table of sufficient size to incorporate a square central test area of side 88 mm. Typically, the abrasant tables are circular and of minimum diameter 125 mm.

4.1.3 Means of holding the exposed flat portion of the test specimen carrier (4.1.1) in contact with the abrasant table (4.1.2) whilst allowing the test specimen carrier to rotate freely in the plane of the abrasant table.

4.1.4 Means of producing relative movement between the specimen carrier (4.1.1) and the abrasant table (4.1.2) which forms a Lissajous figure occupying an area of $60 \text{ mm} \pm 1 \text{ mm} \times 60 \text{ mm} \pm 1 \text{ mm}$ (see Figure 1). Each Lissajous figure requires 16 elliptical motions (revolutions) of the test specimen carrier and the speed of operation of the tester shall be $5 \text{ rad/s} \pm 0,4 \text{ rad/s}$ ¹⁾.

4.1.5 Means of maintaining a constant pressure of $12 \text{ kPa} \pm 0,2 \text{ kPa}$ between the specimen carrier (4.1.1) and the abrasant table (4.1.2). The corresponding mass of the test specimen carrier and associated fitments is $795 \text{ g} \pm 5 \text{ g}$.

4.1.6 The parallelism of the abrasant table (4.1.2) and the test specimen holder (4.1.1) shall be maintained within $\pm 0,05 \text{ mm}$ throughout each Lissajous figure. A dial gauge fitted in place of the specimen carrier can be used to verify the parallelism of the abrasant table.

1) $1 \text{ rad} \approx 0,16 \text{ rev.}$