



SLOVENSKI STANDARD
kSIST FprEN ISO 17694:2016
01-marec-2016

Obutev - Preskusne metode za podloge in zgornje dele - Odpornosti proti upogibanju (ISO/FDIS 17694:2016)

Footwear - Test methods for uppers and lining - Flex resistance (ISO/FDIS 17694:2016)

Schuhe - Prüfverfahren für Obermaterialien und Futter - Dauerfaltverhalten (ISO/FDIS 17694:2016)

Chaussures - Méthodes d'essai pour les tiges et les doublures - Résistance à la flexion (ISO/FDIS 17694:2016)

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Footwear — Test methods for uppers and lining — Flex resistance

*Chaussures — Méthodes d'essai pour les tiges et les doublures —
Résistance à la flexion*

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Please see the administrative notes on page iii



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ISO/FDIS 17694:2015(E)

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ISO/CEN PARALLEL PROCESSING

This final draft has been developed within the European Committee for Standardization (CEN), and processed under the **CEN-lead** mode of collaboration as defined in the Vienna Agreement. The final draft was established on the basis of comments received during a parallel enquiry on the draft.

This final draft is hereby submitted to the ISO member bodies and to the CEN member bodies for a parallel two-month approval vote in ISO and two month formal vote in CEN.

Positive votes shall not be accompanied by comments.

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ISO/FDIS 17694:2015(E)

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).

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

ISO 17694 was prepared by the European Committee Standardization (CEN) Technical Committee CEN/TC 309, *Footwear*, in collaboration with ISO Technical Committee TC 216, *Footwear*, in accordance with the agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 17694:2003), which has been technically revised.

Footwear — Test methods for uppers and lining — Flex resistance

1 Scope

This International Standard specifies a test method for determining the flex resistance of uppers and linings irrespective of the material in order to assess the suitability for the end use.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 3696, *Water for analytical laboratory use — Specification and test methods*

ISO 5402-1:2011, *Leather — Determination of flex resistance — Part 1: Flexometer method*

ISO 17709¹⁾, *Footwear — Sampling location, preparation and duration of conditioning of samples and test pieces*

ISO 18454²⁾, *Footwear — Standard atmospheres for conditioning and testing of footwear and components for footwear*

3 Short description

Test specimens are cut from a shoe vamp or from material for shoes, folded and inserted in the test machine. The test simulates the damage caused by the inward folding of the vamp of the upper, but does not readily reproduce damage occurring on outward folds. It is carried out humid, dry or in a cold climate.

4 Terms and definitions

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

4.1

flex resistance

resistance of a material to crack or otherwise fail at flexing creases

4.2

surface

visible site of the material during the use at the shoe

Note 1 to entry: The visible site of the material can be by upper the grain site of the leather or the coated site of a coated textile, by lining the site of the material visible from the inside of the shoe.

5 Apparatus and material

The following apparatus and material shall be used.

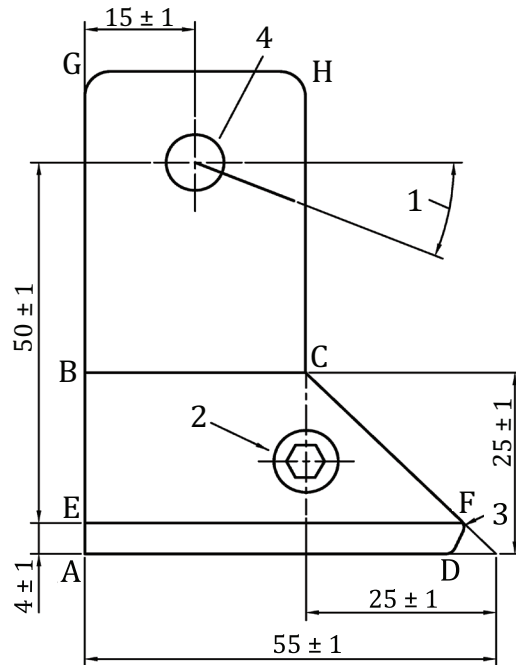
1) EN 13400 is equivalent to ISO 17709.

2) EN 12222 is equivalent to ISO 18454.

ISO/FDIS 17694:2015(E)

5.1 **Test machine**, in accordance with ISO 5402-1:2011, 4.1 including the following.

5.1.1 At least four **pairs of clamps**. The upper clamp consists of a pair of flat plates as shown in [Figure 1](#). The lower clamp is fixed and lies in the same vertical plane as the upper clamp.



Key

- 1 flexing angle $22^{\circ}30' \pm 0^{\circ}30'$
- 2 clamp tightening screw
- 3 2 mm radius
- 4 horizontal axle

Figure 1 — Upper clamp dimensions

5.1.2 **Means of applying a simple harmonic reciprocating action**, to repeatedly move the upper clamp through an angle of $22^{\circ}30' \pm 0^{\circ}30'$. The speed of oscillation shall be (100 ± 5) cycles/min.

The distance between the upper and lower clamp, when the upper clamp is in the horizontal position, shall be (25 ± 1) mm.

5.1.3 **Means of counting**, the total number of cycles.

5.2 **Press knife**, (70 ± 1) mm \times (45 ± 1) mm or similar for cutting test specimens.

5.3 **Optical magnifier**, with a magnification of approximately four to six times.

5.4 **For wetting test specimens.**

5.4.1 **Glass dish**, minimum of 100 mm diameter and 25 mm depth.

5.4.2 **Distilled or deionised water**, complying with Grade 3 of ISO 3696.