



**SLOVENSKI STANDARD**  
**kSIST FprEN ISO 17697:2016**  
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**Obutev - Preskusne metode za zgornje dele, podloge in vložke - Trdnost šiva  
(ISO/FDIS 17697:2016)**

Footwear - Test methods for uppers, lining and insoles - Seam strength (ISO/FDIS 17697:2016)

Schuhe - Prüfverfahren für Obermaterialien, Futter und Decksohlen - Nahtfestigkeit (ISO/FDIS 17697:2016)

Chaussures - Méthodes d'essai relatives aux tiges, doublures et premières de propreté - Résistance des piqûres (ISO/FDIS 17697:2016)

**Ta slovenski standard je istoveten z: FprEN ISO 17697**

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## Footwear — Test methods for uppers, lining and insoles — Seam strength

*Chaussures — Méthodes d'essai relatives aux tiges, doublures et  
premières de propreté — Résistance des piqûres*

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Please see the administrative notes on page iii



Reference number  
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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.**

**Negative votes shall be accompanied by the relevant technical reasons.**



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# Contents

	Page
<b>Foreword</b> .....	<b>iv</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>1</b>
<b>4 Apparatus and material</b> .....	<b>2</b>
4.1 Method A.....	2
4.2 Method B.....	3
<b>5 Sampling and conditioning</b> .....	<b>4</b>
5.1 Method A.....	4
5.2 Method B.....	4
<b>6 Test method</b> .....	<b>7</b>
6.1 Method A.....	7
6.1.1 Principle.....	7
6.1.2 Procedure.....	7
6.2 Method B.....	8
6.2.1 Principle.....	8
6.2.2 Procedure.....	8
<b>7 Expression of results</b> .....	<b>8</b>
7.1 Method A.....	8
7.2 Method B.....	9
<b>8 Test report</b> .....	<b>9</b>
8.1 Method A.....	9
8.2 Method B.....	9
<b>Bibliography</b> .....	<b>10</b>

## ISO/FDIS 17697:2015(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](http://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](http://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 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 17697 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 17697:2003), which has been technically revised.

# Footwear — Test methods for uppers, lining and insoles — Seam strength

## 1 Scope

This International Standard specifies two test methods for determining the seam strength of uppers, lining or insoles, irrespective of the material, in order to assess the suitability for the end use.

These methods are as follows.

- Method A: Needle perforations. For determining the force required to pull a row of needles through an upper material, in a direction perpendicular to the row.
- Method B: Stitched seams. For determining the breaking strength of stitched seams in shoe upper and lining materials. This method is applicable to seams cut from shoes or made up to simulate footwear constructions.

## 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 7500-1, *Metallic materials — Verification of static uniaxial testing machines — Part 1: Tension/compression testing machines — Verification and calibration of the force-measuring system*

ISO 17709, *Footwear — Sampling location, preparation and duration of conditioning of samples and test pieces*

ISO 18454, *Footwear — Standard atmospheres for conditioning and testing of footwear and components for footwear*

## 3 Terms and definitions

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

### 3.1

#### **seam strength**

breaking strength of a stitched seam as determined under specified conditions using a tensile testing machine

### 3.2

#### **upper**

materials forming the outer face of the footwear which is attached to the sole assembly and covers the upper dorsal surface of the foot

Note 1 to entry: In the case of boots, this also includes the outer face of the material covering the leg. Only the materials that are visible are included, no account should be made of underlying materials.

## ISO/FDIS 17697:2015(E)

### 3.3

#### **complete upper assembly**

finished upper, fully seamed, joined or laminated as appropriate, comprising the centre material and any lining(s) together with all components such as interlinings, adhesives, membranes, foams or reinforcements, but excluding toe puffs and stiffeners

Note 1 to entry: The complete upper assembly can be flat, 2-dimensional or comprise lasted upper in the final footwear.

## 4 Apparatus and material

The following apparatus and material shall be used.

### 4.1 Method A

**4.1.1 Tensile testing machine**, with a jaw separation rate of  $(100 \pm 10)$  mm/min, a force range appropriate to the specimen under test (this will usually be less than 500 N for footwear upper materials), capable of measuring forces to an accuracy greater than 2 % as specified by Class 2 in ISO 7500-1.

**4.1.2 Needle holding jig**, see [Figure 1](#), including the following.

**4.1.2.1 Two rectangular rigid plates**, each of minimum width 30 mm and maximum thickness 6 mm. Each of the two plates is drilled with 17 holes of diameter  $(1,1 \pm 0,1)$  mm. The holes shall be in a straight line parallel to and approximately 5 mm from one end of the plate. The holes should be evenly spaced so that the centres of the two extreme holes are  $(26,5 \pm 0,5)$  mm apart.

**4.1.2.2 One spacing plate**, of width similar to the drilled plates and of thickness  $(3,5 \pm 0,5)$  mm.

**4.1.2.3 Means of securing the spacing plate**, to the surface of one of the drilled plates such that the distance between the end of the spacing plate and the centre line of the row of holes in the other plate can be adjusted and set at  $(3,0 \pm 0,1)$  mm and  $(6,0 \pm 0,2)$  mm. The combination will be referred to as the lower plate.

**4.1.2.4 Means of securing the other drilled plate**, which will be referred to as the upper plate, to the exposed surface of the spacing plate so that the holes in both of the drilled plates are aligned.

The end of one of the plates furthest from the row of holes should have means of attachment to one of the jaws of the tensile testing machine so that the rows of holes are perpendicular to the axis of the machine.