



SLOVENSKI STANDARD
oSIST prEN ISO 20866:2016
01-april-2016

Obutev - Preskusne metode za notranjike - Odpornost proti razslojevanju (ISO/DIS 20866:2016)

Footwear - Test methods for insoles - Delamination resistance (ISO/DIS 20866: 2016)

Schuhe - Prüfverfahren für Brandsohlen - Schichtentrennwiderstand (ISO/DIS 20866:2016)

Chaussures - Méthodes d'essai applicables aux premières de montage - Résistance au délamination (ISO/DIS 20866:2016)

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Ta slovenski standard je istoveten z: prEN ISO 20866

ICS:

61.060 Obuvala Footwear

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DRAFT INTERNATIONAL STANDARD

ISO/DIS 20866

ISO/TC 216

Secretariat: AENOR

Voting begins on:
2016-01-28Voting terminates on:
2016-04-28

Footwear — Test methods for insoles — Delamination resistance

Chaussures — Méthodes d'essai applicables aux premières de montage — Résistance au délaminage

ICS: 61.060

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ISO/CEN PARALLEL PROCESSING

This 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.

This draft is hereby submitted to the ISO member bodies and to the CEN member bodies for a parallel five month enquiry.

Should this draft be accepted, a final draft, established on the basis of comments received, will be submitted to a parallel two-month approval vote in ISO and formal vote in CEN.

To expedite distribution, this document is circulated as received from the committee secretariat. ISO Central Secretariat work of editing and text composition will be undertaken at publication stage.



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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 20866 was prepared by Technical Committee ISO/TC 216, *Footwear*, Subcommittee SC , and by Technical Committee CEN/TC 309, *Footwear* in collaboration.

This second/third/... edition cancels and replaces the first/second/... edition (), [clause(s) / subclause(s) / table(s) / figure(s) / annex(es)] of which [has / have] been technically revised.

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Footwear — Test methods for insoles — Delamination resistance

1 Scope

This international standard specifies a test method for the determination of the delamination resistance of insoles, irrespective of the material.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 18454 Footwear. Standard atmospheres for conditioning and testing of footwear and components for footwear.

ISO 17709 Footwear -- Sampling, location, preparation and duration of conditioning of samples and test pieces.

ISO 5893 Rubber and plastic test equipment. Tensile, flexural and compression types (constant rate of traverse). Description.

3 Definitions

For the purposes of this International Standard, the following definition applies:

3.1

delamination resistance:

The force per unit area required to separate the internal structure of the insole material.

4 Apparatus and material

The following apparatus and material shall be used:

4.1 Tensile-testing machine (Dynamometer)

The tensile-testing machine shall comply with the requirements of ISO 5893, to an accuracy corresponding to grade B, with a constant rate of traverse of 25 mm/min \pm 5 mm/min.

4.2 Pairs of solid cylinders

ISO/WD 20866

Pairs of solid cylinders, each 38,92 mm \pm 0,02 mm in diameter, with provisions for attachment to the tensile-testing machine. The end faces of the cylinders shall be at right angles to their axes. The cylinders shall fit in the tensile-testing machine so that the line of action passes through the axis of the two cylinders. One pair of cylinders is required for each test piece.

4.3 Collars

Collars, with internal diameters of 39,00 mm \pm 0,03 mm, to keep the cylinders and test pieces coaxial during assembly.

4.4 Circular knife

Circular knife, to cut a circular test piece of diameter 38,0 mm \pm 1,0 mm. The inner surface of the knife shall be angled outward from the cutting edge at approximately 5° to the vertical so that when the test piece is cut it passes through the knife without damage to the edge of the test piece.

4.5 Press

Press, or similar apparatus, capable of exerting a force of 5,00 kN \pm 0,25 kN on the assembly of cylinders and test piece.

4.6 Vernier calipers

Vernier calipers, capable of measuring to an accuracy of 0,1 mm.

4.7 Polymer adhesive

Polymer adhesive, solvent-based, chloroprene rubber type.

NOTE Suitable adhesives are most chloroprene rubber sole-attaching adhesives and commercially available chloroprene rubber impact adhesives sold for household use.

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5 Sampling and conditioning

Using the circular knife described in 4.4, cut out three test pieces of diameter 38,0 mm \pm 1,0 mm, from the shoe insoles, cut insoles or from the component as supplied.

If the test pieces are taken from the shoe insoles or cut insoles, sampling must be done according to ISO 17709.

Condition the test pieces according to ISO 18454, for a minimum of 24 h.

If a wet test is required cut out three additional test pieces.

6 Test methods

6.1 Measure the diameter of each test piece to the nearest 0,1 mm with the vernier calipers (see 4.6). Clean the end faces of the cylinders (see 4.2) to remove all traces of insole material and adhesive from previous tests and remove all traces of grease.

6.2 Assemble each pair of cylinders with one of the test pieces using the following procedure: Coat the end faces of a pair of cylinders and both surfaces of a test piece with adhesive (see 4.7), and allow to dry for 20 min. Place the collar (see 4.3) over the end of one cylinder, place the test piece in the collar and press it lightly on to the cylinder face. Insert the end face of the other cylinder into the collar and press lightly on to test piece.

Place the assembly of cylinders, test piece and collar into the press (see 4.5), exert a force of 5,00 kN \pm 0,25 kN to press the cylinders on to the test piece with the collar in position.

6.3 Remove the collars and leave the test assemblies in the conditioning atmosphere, according to ISO 18454, for 24 h before proceeding further with the determination.

6.4 Fit the first test assembly into the tensile-testing machine and run the machine at a cross-head speed giving a cylinder separation speed of $25 \text{ mm/min} \pm 5 \text{ mm/min}$. Record the maximum force obtained.

6.5 Repeat the procedure for the other two test assemblies. Reject the result of any test in which the test piece shows failure of adhesion of the adhesive film either to the insole material or to a cylinder and repeat the procedure on a further test piece.

6.6 For the test specimens that are to be tested wet:

6.6.1 Follow the procedure in 6.1 to 6.3 to procedure three test assemblies

6.6.2 Soak the three test assemblies in distilled water for $(6,0 \pm 0,5)$ hours.

6.6.3 Remove each test assembly from the water, and immediately carry out the procedure described in 6.4 to 6.5

7 Expression of results

7.1 Dry test

Divide the mean of the three maximum recorded forces by the mean of the areas (one surface) of the three test pieces. Express the result, in megapascals¹⁾, as the delamination resistance of the insole material.

7.2 Wet test

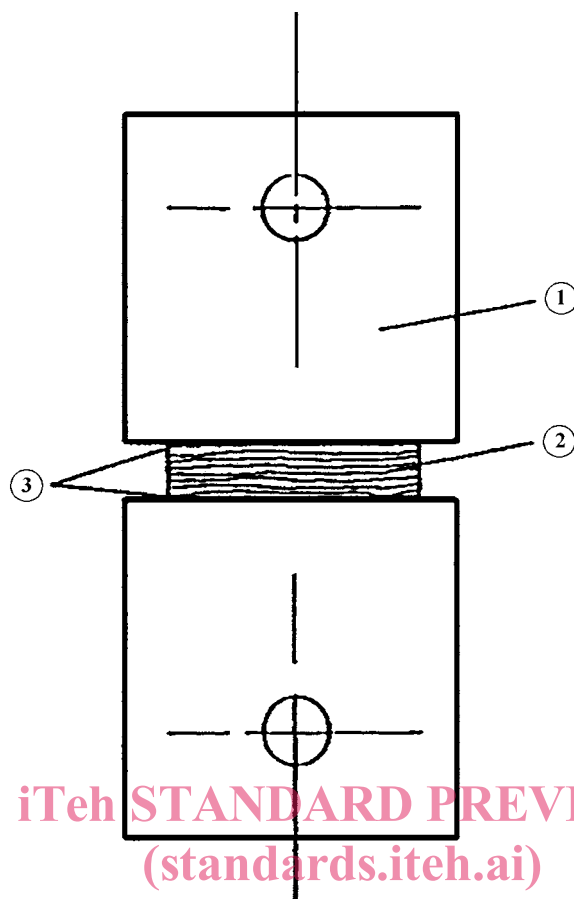
Divide the mean of the three maximum recorded forces obtained in the wet test assemblies by the mean of the areas (one surface) of the three test pieces. Express the result in megapascals¹⁾, as the delamination resistance of the wet insole material.

8 Test report

The test report shall include the following information:

- a) the result, expressed in accordance with clause 7;
- b) the nature and full identification of the sample;
- c) a description of the sampling procedure, where relevant;
- d) reference to the method of test;
- e) details of any deviation from the standard test procedure;
- f) the date of testing.
- g) standard atmospheric conditions observed during the test

1) 1 megapascal (Mpa) = 1 N/mm^2



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- 1 Specimen holder
- 2 Test specimen
- 3 Cementing assembly

Figure 1 — Device for measuring delamination resistance.