



SLOVENSKI STANDARD

SIST EN 12691:2006

01-maj-2006

Nadomešča:
SIST EN 12691:2001

Hidroizolacijski trakovi – Bitumenski, polimerni in elastomerni trakovi za tesnjenje streh – Določanje odpornosti proti udarcu

Flexible sheets for waterproofing - Bitumen, plastic and rubber sheets for roof waterproofing - Determination of resistance to impact

Abdichtungsbahnen - Bitumen-, Kunststoff- und Elastomerbahnen für Dachabdichtungen - Bestimmung des Widerstandes gegen stoßartige Belastung

Feuilles souples d'étanchéité - Feuilles d'étanchéité de toitures bitumineuses, plastiques et élastomeres - Détermination de la résistance au choc

Ta slovenski standard je istoveten z: EN 12691:2006

ICS:

91.060.20	Strehe	Roofs
91.100.50	Veziva. Tesnilni materiali	Binders. Sealing materials

SIST EN 12691:2006 en

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 12691

March 2006

ICS 91.100.50

Supersedes EN 12691:2001

English Version

**Flexible sheets for waterproofing - Bitumen, plastic and rubber
sheets for roof waterproofing - Determination of resistance to
impact**

Feuilles souples d'étanchéité - Feuilles d'étanchéité de
toitures bitumineuses, plastiques et élastomères -
Détermination de la résistance au choc

Abdichtungsbahnen - Bitumen-, Kunststoff- und
Elastomerbahnen für Dachabdichtungen - Bestimmung des
Widerstandes gegen stoßartige Belastung

This European Standard was approved by CEN on 12 January 2006.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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Foreword

This European Standard (EN 12691:2006) has been prepared by Technical Committee CEN/TC 254 “Flexible sheets for waterproofing”, 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 September 2006, and conflicting national standards shall be withdrawn at the latest by September 2006.

This European Standard supersedes EN 12691:2001.

In order to receive more precise test results a revision of the test procedure was necessary.

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

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Introduction

This European Standard is intended for characterisation and classification of bitumen, plastic and rubber sheets as manufactured or supplied before use. This test method relates exclusively to products or to their components where appropriate, and not to waterproofing membrane systems composed of such products and installed in the works.

This test is intended to be used in conjunction with European Standards "Definitions and characteristics" for bitumen sheets and for plastic and rubber sheets for roof waterproofing.

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1 Scope

This European Standard specifies a test for puncture by impact on sheets for roof waterproofing. Mechanical stress on waterproofing sheets ranges from static long-term loads to dynamic short-term loads. This method represents the dynamic category of load where puncture may be caused by impact.

This European Standard may also be applied for other purposes of waterproofing.

2 Normative references

The following referenced documents are indispensable for the application of this European Standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 13163:2001, *Thermal insulation products for buildings — Factory made products of expanded polystyrene (EPS) — Specification*

EN 13416:2001, *Flexible sheets for waterproofing — Bitumen, plastic and rubber sheets for roof waterproofing — Rules for sampling*

3 Terms and definitions

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

3.1

top surface

upper side of the sheet as used in-situ. It is usually the inside of the roll.

4 Principle

The test specimen is struck on the top surface of the sheet by a free falling drop mass with a puncturing tool.

The test specimen is lying on a hard support (method A) and if required additionally on a soft support (method B). After the impact the test specimen is tested for leakage.

5 Apparatus

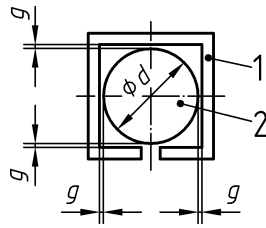
The testing is performed using a test apparatus, which enables vertically falling of the drop mass and consists of the parts indicated in 5.1 to 5.7 and can be used with a hard support (method A) or a soft support (method B).

5.1 Stand

The stand can be constructed for free falling of the drop mass or optionally for rail guided falling and should be at least as long (high) as the maximum drop height to be tested (for most practical purposes 2 m will be sufficient).

An example for a guide rail for the falling drop mass is given in Figure 1.

Dimensions in millimetres

**Key**

- 1 Guide rail (slitted square tube e.g.)
- 2 Drop mass
- d Diameter between 25 mm to 30 mm
- g Gap between 0,5 mm to 1 mm

Figure 1 — Guide rail and drop mass / cross section (example)**5.2 Drop mass and puncturing tool**

Cylindrical steel drop mass with a fixed puncturing tool. The weight of the drop mass including the puncturing tool shall be (500 ± 5) g; the diameter should be preferable between 25 mm to 30 mm.

The puncturing tool shall be made according to the following specifications:

- formed in steel material and firmly fixed to the drop mass;
- hardened to 50 HRC;
- spherical formed with a diameter of $(12,7 \pm 0,1)$ mm;
- shaft diameter of $(10 \pm 0,1)$ mm; shaft length about 40 mm.

See example in Figure 2.

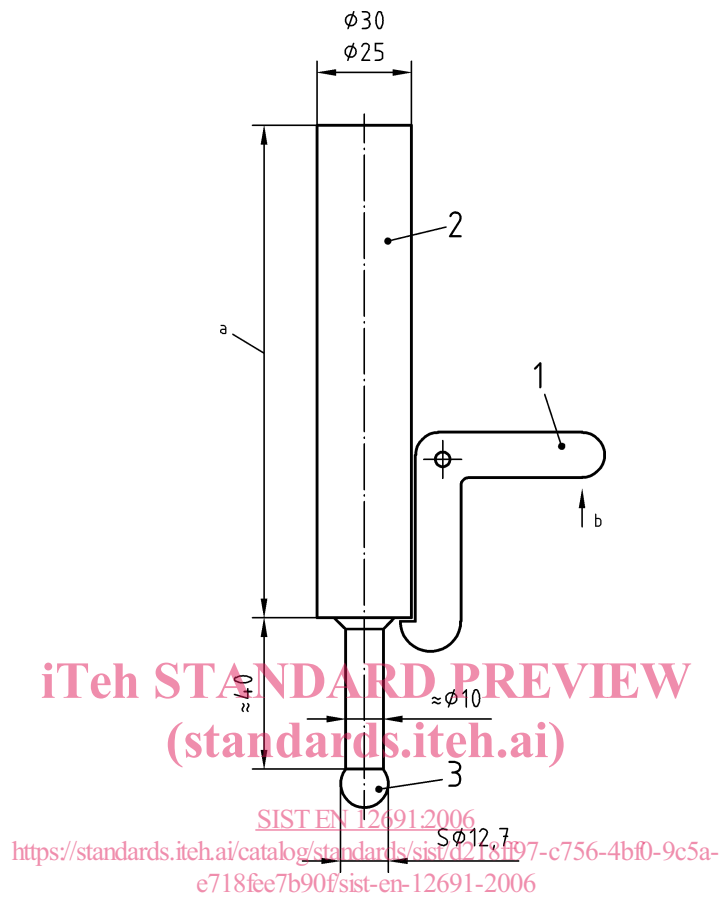
5.3 Release mechanism

Release mechanism (trigger) with a setting device for variable drop height from 200 mm to at least 2 000 mm in increments of:

- 50 mm between 200 mm and 500 mm;
- 100 mm between 500 mm and 1 000 mm;
- 250 mm for drop heights above 1 000 mm.

The drop height is measured from the bottom of the puncturing tool to the surface of the test specimen.

Dimensions in millimetres

**Key**

- 1 Release mechanism
- 2 Drop mass
- 3 Puncturing tool
- a Length according to total weight of (500 ± 5) g
- b Action: push to release

Figure 2 — Drop mass with puncturing tool and release (for guide rail) (example)

5.4 Ballast ring

Ballast ring in steel with mass of at least 2 000 g with inner diameter of approximately 100 mm (see Figure 3).

5.5 Support

5.5.1 Methods A and B

- a) For all products: substrate *Al* (see 5.5.2);
- b) For different products (only if required): substrate *EPS* (see 5.5.3).
Type of substrate has to be indicated with the test results.