SLOVENSKI STANDARD
SIST EN 495-5:2001

01-december-2001

Hidroizolacijski trakovi - Določevanje upogljivosti pri nizki temperaturi - 5. del: Polimerni in elastomerni trakovi za tesnjenje streh

Flexible sheets for waterproofing - Determination of foldability at low temperature - Part 5: Plastic and rubber sheets for roof waterproofing

Abdichtungsbahnen - Bestimmung des Verhaltens beim Falzen bei tiefen Temperaturen - Teil 5: Kunststoff- und Elastomerbahnen für Dachabdichtungen

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Feuilles souples d'étanchéité - Détermination de la pliabilité a basse température - Partie 5: Feuilles d'étanchéité de toiture plastiques et élastomeres

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Ta slovenski standard je istoveten z: **EN 495-5:2000**

ICS:

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

SIST EN 495-5:2001 **en**

2003-01.Slovenski inštitut za standardizacijo. Razmnoževanje celote ali delov tega standarda ni dovoljeno.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 495-5

November 2000

ICS 91.100.50

English version

Flexible sheets for waterproofing - Determination of foldability at low temperature - Part 5: Plastic and rubber sheets for roof waterproofing

Feuilles souples d'étanchéité - Détermination de la pliabilité à basse température - Partie 5: Feuilles d'étanchéité de toiture plastiques et élastomères

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This European Standard was approved by CEN on 18 October 2000.

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 Management Centre or to any CEN member.

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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 Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This European Standard 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 May 2001, and conflicting national standards shall be withdrawn at the latest by July 2002.

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association. This European Standard is considered to be a supporting standard to those application and product standards which in themselves support an essential safety requirement of a New Approach Directive and which make reference to this European Standard.

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.

Introduction

This European Standard is intended for characterisation of plastic and rubber sheets as manufactured or supplied before use. This test method relates 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 Standard "Definitions and Characteristics" for plastic and rubber sheets for roof waterproofing.

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1 Scope

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This European Standard specifies a method for the determination of the behaviour of plastic and rubber sheets for roofing to folding after exposure at a low temperature.

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 editions of the publication referred to apply (including amendments).

prEN 13416:1998 Flexible sheets for waterproofing – Bitumen, plastic and rubber sheets for roof waterproofing – Rules for sampling

EN 1849-2 Flexible sheets for waterproofing – Determination of thickness and mass per unit area – Part 2: Thermoplastic and elastomeric sheets

3 Terms and definitions

For the purpose of this standard, the following terms and definitions apply:

3.1
top surface
the upper side of the sheet, as used in situ. It is usually the inside of the roll

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3.2
bottom surface
the lower side of the sheet, as used in situ. It is usually the outside of the roll

3.3
overall thickness (e)
thickness of the sheet excluding any surface profile (see EN 1849-2)

4 Principle

The principle of the test is to place the looped test specimen in an adequate folding apparatus. Exposure of the looped test specimen to a specified low temperature for 1 h. Closure of the folding apparatus within 1 s and maintain this position for 1 s. Allow the test specimen to warm to room temperature and examination of the folded area under 6 x magnification.

5 Apparatus

The testing equipment consists of parts indicated in 5.1 to 5.3

5.1 Folding plates

Metal folding apparatus with adjustable parallel plates. Figure 1 gives an example of such an apparatus.

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5.2 Conditioning room

Cold chamber with air circulation, adjustable at temperatures down to – 45°C with an accuracy of ±2°C.

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5.3 Inspection tool

Magnifying glass with six times magnification.

6 Sampling

Samples shall be taken in accordance with prEN 13416:1998.

7 Preparation of test specimens

Take four test specimens of 100 mm x 50 mm, two in the longitudinal (L) direction and two in the transversal (T) direction of the sheet for each temperature interval.

Condition the test specimens, prior to testing, for at least 20 h in a standard atmosphere of (23 ± 2)°C and (50 ± 5) % relative humidity.

8 Procedure

8.1 Temperature

All operations of this procedure outside the cold chamber shall be performed at a temperature of (23 ± 5)°C.

8.2 Thickness

Measure the overall thickness of each test specimen according to EN 1849-2.

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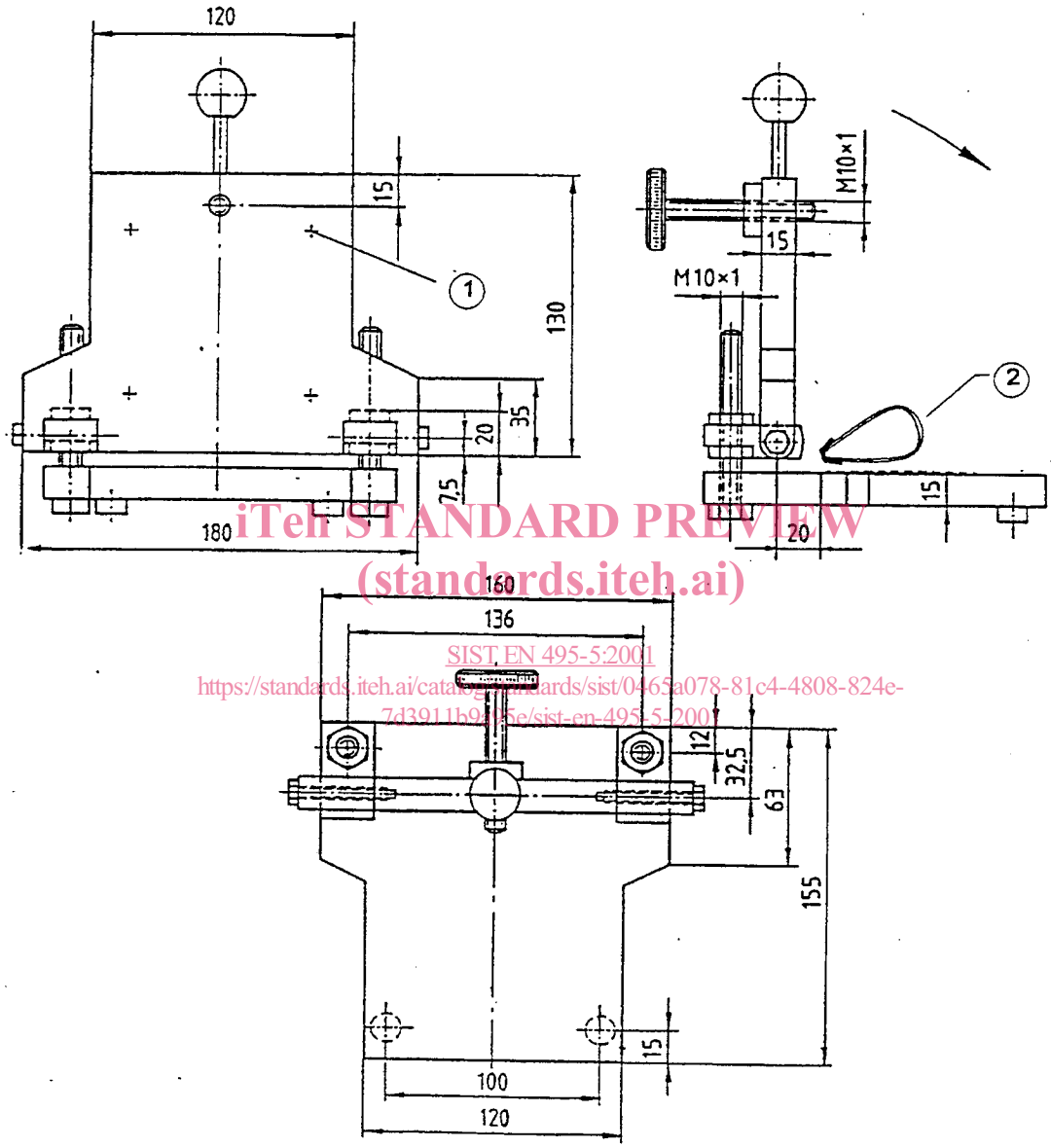
Dimensions in millimetres



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Key

1 - Measuring points
2 - Test specimen

Figure 1 - Example of folding apparatus

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8.3 Looping

Loop the test specimen lengthways and fix the ends together, for example with adhesive tape, see figure 1. Fold one L and one T test specimen so that the top surface of the sheet forms the outside of the loop. Similarly fold the other two L and T test specimens so that the top surface of the sheet forms the inside of the loop.

8.4 Plate distance

Adjust the distance between the plates of the folding apparatus at a value of three times the test specimen overall thickness (see 8.2). Check the distance between the plates in four points as indicated in Figure 1.

8.5 Position of test specimen

Place the looped test specimen in the apparatus with the taped edges parallel to hinge of the folding plate as indicated in Figure 1. Place the open folding apparatus with the test specimen in the cold chamber regulated at the specified temperature.

8.6 Folding

After 1 h exposure, close the folding apparatus from the vertical position through 90° to horizontal position within 1 s and maintain this position for 1 s. This closing procedure takes place in the cold chamber.

8.7 Conditioning

Remove the test specimen from the apparatus and allow warming to room temperature (23 ± 5)°C.

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8.8 Inspection

Examine the test specimen for cracks or fractures in the folded area with the six times magnifying glass.

8.9 Determination of cold folding temperature

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The folding procedure shall be repeated at 5°C steps until the test specimen experiences no cracks or fractures as defined in paragraph 8.8 on the scale: –40°C, –35°C, –30°C, –25°C, –20°C etc.

Fresh test specimens shall be used for each test temperature.

9 Expression of results

When applying the step by step procedure described in 8.9 the cold folding temperature of the sheet is the lowest 5°C temperature step where none of the test specimens have cracks or fractures.

10 Test report

The test report shall at least include the following information:

a) a reference to this European Standard (EN 495-5) and any deviation from it;
b) all details necessary to identify the product tested;
c) information on sampling in accordance with clause 6;
d) details of preparation of the test specimen in accordance with clause 7;
e) the test results in accordance with clause 9 ;
f) any peculiarities in the method employed or encountered during the test;
g) the date of the test(s).