SLOVENSKI STANDARD

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Hidroizolacijski trakovi – Polimerni in elastomerni trakovi za tesnjenje – Definicije in lastnosti

Flexible sheets for waterproofing - Plastic and rubber damp proof courses - Definitions and characteristics

Abdichtungsbahnen - Kunststoff- und Elastomer-Mauersperrbahnen - Definitionen und Eigenschaften

Feuilles souples d'étanchéité - Feuilles plastiques et élastomeres utilisées dans les murs contre les remontées d'humidité - Définitions et caractéristiques

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This European Standard was approved by CEN on 2 March 2006.

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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 Central Secretariat has the same status as the official versions.

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

Management Centre: rue de Stassart, 36 B-1050 Brussels

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Foreword

This European Standard (EN 14909:2006) 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of an identical text or by endorsement, at the latest by October 2006, and conflicting national standards shall be withdrawn at the latest by October 2006.

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of 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, 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.

Introduction

The purpose of damp proof courses is to prevent water rising up a wall from the ground, water moving from one part of a wall to another and to deflect water from an inner wall of a cavity wall construction to the exterior of the building. Damp proof courses may also be used in masonry chimneys and parapet walls to protect the inside of the building from water moving down from above.

They should be designed in conjunction with flashings and sheets for waterproofing, including roofing sheets and damp proof sheets, to ensure a continuous barrier and should deflect water to the exterior of a building so that it can drain away safely.

1 Scope

This European Standard specifies the characteristics of flexible sheets of plastics and rubber intended for use as damp proof courses for buildings. It specifies the requirements and test methods and provides for the evaluation of conformity of the products with the requirements of this European Standard.

This European Standard does not cover related products such as preformed cavity trays, coping and flashings.

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 495-5, *Flexible sheets for waterproofing - Determination of foldability at low temperature - Part 5: Plastic and rubber sheets for roof waterproofing*

EN 1296, *Flexible sheets for waterproofing - Bitumen, plastic and rubber sheets for roofing - Method of artificial ageing by long term exposure to elevated temperature*

EN 1848-2, *Flexible sheets for waterproofing - Determination of length, width, straightness and flatness - Part 2: Plastic and rubber sheets for roof waterproofing*

EN 1849-2, *Flexible sheets for waterproofing - Determination of thickness and mass per unit area - Part 2: Plastic and rubber sheets for roof waterproofing*

EN 1850-2, *Flexible sheets for waterproofing - Determination of visible defects - Part 2: Plastic and rubber sheets for roof waterproofing*

EN 1928, *Flexible sheets for waterproofing - Bitumen, plastic and rubber sheets for roof waterproofing - Determination of watertightness*

EN 1931, *Flexible sheets for waterproofing - Bitumen, plastic and rubber sheets for roof waterproofing - Determination of water vapour transmission properties*

EN 12310-1, *Flexible sheets for waterproofing - Part 1: Bitumen sheets for waterproofing - Determination of resistance to tearing (nail shank)*

EN 12311-2, *Flexible sheets for waterproofing - Determination of tensile properties - Part 2: Plastic and rubber sheets for roof waterproofing*

EN 12317-2, *Flexible sheets for waterproofing - Determination of the shear resistance of joints - Part 2: Plastic and rubber sheets for roof waterproofing*

EN 12691, *Flexible sheets for waterproofing - Bitumen, plastic and rubber sheets for roof waterproofing - Determination of resistance to impact*

EN 12730, *Flexible sheets for waterproofing - Bitumen and rubber sheets for roof waterproofing - Determination of resistance to static loading*

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

EN 13501-1:2002, *Fire classification of construction products and building elements - Part 1: Classification using test data from reaction to fire tests*

EN ISO 11925-2, *Reaction to fire tests - Ignitability of building products when subjected to direct impingement of flame - Part 2: Single-flame source test (ISO 11925-2:2002)*

3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in EN 13416:2001 and the following apply.

3.1
waterproofing
action to prevent the passage of water from one plane to another

3.2
plastics and rubber damp proof course
flexible sheets of plastics or rubbers or composites based on these materials whose function is to prevent liquid water passing from one part of the wall to another (see Introduction). In composite sheets the plastic or rubber is the functional component

3.3
ventilating or draining damp proof course
flexible sheets conforming to the definition in 3.2 but with the ability to provide a continuous void or structure to allow free movement of water vapour or liquid water between the underside of the damp proof course and any further construction

3.4
manufacturer's limiting value MLV
value stated by the manufacturer to be met during testing. The manufacturer's limiting value can be a minimum or a maximum value according to statements made under product characteristics of this standard

3.5
manufacturer's declared value MDV
value declared by the manufacturer accompanied by a declared tolerance

3.6
plastic or rubber sheet
factory-made flexible membrane made from a plastic or rubber which may include composites with other materials

3.7
sampling
procedure used to select or constitute a sample

3.8
sample
sheet from which a test piece is taken

3.9
test piece
part of the sample from which test specimens are taken

3.10
test specimen
piece of precise dimensions taken from the test piece

4 Product designation

The types of damp proof sheets covered by this European Standard are designated as follows:

TYPE A damp proof course;

TYPE V damp proof course – ventilating or draining.

5 Product characteristics

5.1 General

5.1.1 Where a tolerance is limited by this European Standard it does not have to be declared by the manufacturer.

5.1.2 When tested for purposes other than initial type testing or factory production control, the tests to determine product characteristics indicated in this standard shall be started within one month of delivery of the product from the manufacturer.

5.2 Deviation from test sample dimensions

Where the contours of the product make it impossible to obtain a test sample of the required dimensions, or otherwise render the test impracticable, testing may be carried out either on samples of different dimensions or if still impracticable on the equivalent flat sheet of the same thickness as the finished product. Any such deviations from the test method shall be recorded on the test report and the product data sheet.

5.3 Visible defects

The product shall be free of visible defects determined in accordance with EN 1850-2.

5.4 Dimensions and tolerances

The length, width and straightness shall be determined in accordance with EN 1848-2. The length and width shall lie within the declared tolerance of the manufacturer's declared value. The maximum deviation from straightness shall not exceed 75 mm per 10 m length or in proportion for other lengths (e.g. 37,5 mm per 5 m length).

5.5 Thickness and mass per unit area

The thickness and mass per unit area shall be determined in accordance with EN 1849-2.

Where a product is specified by mass per unit area, the mass shall lie within the declared tolerance of the manufacturer's declared value. Where it is not practicable to obtain a sample (see 5.2), a larger sample area shall be used and the deviation from the test method noted.

Where a product is specified by thickness, the thickness shall lie within the declared tolerance of the manufacturer's declared value. No single measurement shall lie outside the declared tolerance of the manufacturer's declared value.

5.6 Watertightness

The product shall be watertight as determined by EN 1928 Method A with a pressure of 2 kPa and shall give a pass result.

5.7 Resistance to impact

The resistance to impact shall be evaluated when subject to regulatory requirements, and may be evaluated when not subject to such requirements. It shall be determined in accordance with EN 12691 and shall be greater than or equal to the manufacturer's limiting value.

5.8 Durability

5.8.1 Against ageing/degradation

In order to verify the artificial ageing behaviour of the product, watertightness shall be determined after exposure in accordance with EN 1296 for a period of 12 weeks. The watertightness shall be determined in accordance with EN 1928 Method A at a pressure of 2 kPa and shall give a pass result.

5.8.2 Against alkali

The durability against alkali shall be evaluated when subject to regulatory requirements, and may be evaluated when not subject to such requirements. It shall be determined in accordance with Annex C. The elongation shall be determined in accordance with EN 12311-2 and the value after ageing shall be not less than 50 % of the initial elongation.

5.9 Resistance to low temperature

The resistance to folding at low temperature shall be evaluated when subject to regulatory requirements, and may be evaluated when not subject to such requirements. It shall be determined in accordance with EN 495-5 and shall be less than or equal to the manufacturer’s limiting value.

5.10 Resistance to tearing (nail shank)

Where required, the tear resistance (nail shank) shall be determined in accordance with EN 12310-1 and shall lie within the declared tolerance of the manufacturer's declared value.

5.11 Joint strength

Joint strength shall be evaluated when subject to regulatory requirements, and may be evaluated when not subject to such requirements. It shall be determined in accordance with EN 12317-2 and shall greater than or equal to the manufacturer's limiting value.

5.12 Water vapour transmission properties

Where required, water vapour transmission properties shall be determined in accordance with EN 1931 and shall lie within the declared tolerance of the manufacturer's declared value.

5.13 Resistance to static loading

The resistance to static loading shall be determined in accordance with EN 12730 and the results of the test shall be greater than or equal to the manufacturer’s limiting value.

5.14 Resistance to deformation under load for type V

The resistance of type V damp proof courses to deformation under load shall be determined in accordance with Annex B and the results shall be less than or equal to the manufacturer's limiting value of deformation at the defined load and the defined time.

5.15 Reaction to fire

Reaction to fire shall be evaluated when subject to regulatory requirements, and may be evaluated when not subject to such requirements. It shall be tested and classified in accordance with EN 13501-1:2002, Table 1. When tested according to EN ISO 11925-2, the products shall be tested under conditions of surface flame attack.

NOTE It is currently considered that the Euroclasses Classification system at Classes D and above requires investigation to determine its appropriateness to the products covered by this European Standard (the SBI test may be inappropriate for products covered by the standard). Pending results of such an investigation and discussions in the Fire Regulators Group, products covered by this European Standard are tested to EN ISO 11925-2.

If and when a new fire test scenario and test method are developed for the products, this European Standard will be amended to refer to them.

5.16 Dangerous substances

For products placed on the market within the European Economic Area see ZA.1. Outside the EEA products shall conform to any applicable provisions related to regulated dangerous substances valid in the place of use.

6 Evaluation of conformity

6.1 General

The compliance of the product with the requirements of this European Standard and with the stated values (including classes) shall be demonstrated by:

— initial type testing,

— factory production control by the manufacturer, including product assessment.

For the purposes of testing, products may be grouped into families, where it is considered that the results for a given characteristic from any one product within the family are representative for all other products within that family.

6.2 Initial type testing

6.2.1 General

Initial type testing shall be performed to show conformity with this European Standard. Tests previously performed in accordance with the provisions of this European Standard (same product, same characteristic(s), test method, sampling procedure, system of attestation of conformity etc.) may be taken into account. In addition, initial type testing shall be performed at the beginning of the production of a new product type (unless a member of the same family) or at the beginning of a new method of production (where this may affect the stated properties).

All characteristics in Clause 5 shall be subject to initial type testing, where required, see Table 1.

Whenever a change occurs in the product design, the raw material or supplier of the components, or the production process (subject to the definition of a family), which would change significantly one or more of the characteristics, the type tests shall be repeated for the appropriate characteristic(s).

The results of all initial type tests shall be held by the manufacturer for a period of at least ten years after the date of last production of the products to which they relate.

Table 1 — Compliance criteria for initial type testing

Property	Parameter	Test method	Clause in this European Standard	Compliance criteria (where required)
Visible defects	Visible defects	EN 1850-2	5.3	No visible defects
Length	Manufacturer's declared value	EN 1848-2	5.4	Within the declared tolerance of the MDV
Width	Manufacturer's declared value	EN 1848-2	5.4	Within the declared tolerance of the MDV
Straightness	75 mm/10 m	EN 1848-2	5.4	Pass
Thickness	Manufacturer's declared value	EN 1849-2	5.5	Within the declared tolerance of the MDV
Mass	Manufacturer's declared value	EN 1849-2	5.5	Within the declared tolerance of the MDV
Watertightness	Watertight at 2 kPa	EN 1928	5.6	Pass
Resistance to impact	Manufacturer's limiting value	EN 12691	5.7	Greater than or equal to MLV
Durability (artificial ageing)	Watertight at 2 kPa	EN 1296 test afterwards to EN 1928	5.8.1	Pass
Durability (alkali)	Elongation ≥ 50 % of initial value	Annex C	5.8.2	Pass
Resistance to low temperature	Manufacturer's limiting value	EN 495-5	5.9	Less than or equal to MLV
Resistance to tearing (nail shank)	Manufacturer's declared value	EN 12310-1	5.10	Within the declared tolerance of the MDV
Joint strength	Manufacturer's limiting value	EN 12317-2	5.11	Greater than or equal to MLV
Water vapour transmission properties	Manufacturer's declared value	EN 1931	5.12	Within the declared tolerance of the MDV
Resistance to static loading	Manufacturer's limiting value	EN 12730	5.13	Greater than or equal to MLV
Resistance to deformation under load for type V	Manufacturer's limiting value	Annex B	5.14	Greater than or equal to MLV
Reaction to fire	Euroclass	EN 13501-1	5.15	Classification fulfilled

6.2.2 Sampling

Samples shall be taken according to EN 13416. The minimum number of tests to show compliance for initial type testing shall be one for all characteristics, unless a given test method specifies otherwise.

6.3 Factory production control (FPC)

6.3.1 General

The manufacturer shall establish, document and maintain an FPC system to ensure that the products placed on the market conform to the stated performance characteristics. The FPC system shall consist of procedures, regular inspections and tests and/or assessments and the use of the results to control raw and other incoming materials or components, equipment, the production process and the product.

If a manufacturer claims compliance with FPC requirements by operating an EN ISO 9001 system, EN ISO 9001 shall be applied in full and shall be made specific to the requirements of this European Standard.