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Flexibla tätskikt – Fuktspärrar av bitumen – Definitioner och karaktäriserande egenskaper

Flexible sheets for waterproofing – Bitumen damp proof courses – Definitions and characteristics

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English Version

Flexible sheets for waterproofing - Bitumen damp proof courses - Definitions and characteristics

Feuilles souples d'étanchéité - Feuilles bitumineuses contre les remontées capillaires dans les murs - Définitions et caractéristiques

Abdichtungsbahnen - Bitumen-Mauersperrbahnen - Definitionen und Eigenschaften

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Foreword

This document (EN 14967:2006) 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of an identical text or by endorsement, at the latest by November 2006, and conflicting national standards shall be withdrawn at the latest by November 2006.

This document 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 document.

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 bitumen 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 document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 1109, *Flexible sheets for waterproofing — Bitumen sheets for roof waterproofing — Determination of flexibility at low temperature*

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 1847, *Flexible sheets for waterproofing — Plastic and rubber sheets for roof waterproofing — Methods for exposure to liquid chemicals, including water*

EN 1848-1, *Flexible sheets for waterproofing — Determination of length, width and straightness — Part 1: Bitumen sheets for roof waterproofing*

EN 1849-1, *Flexible sheets for waterproofing — Determination of thickness and mass per unit area — Part 1: Bitumen sheets for roof waterproofing*

EN 1850-1, *Flexible sheets for waterproofing — Determination of visible defects — Part 1: Bitumen 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 12317-1, *Flexible sheets for waterproofing — Part 1: Bitumen sheets for roof waterproofing — Determination of shear resistance of joints*

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

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 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 document, 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
waterproofing sheet
factory-made flexible sheet including any carriers, facings, surface texture and/or backing

3.3
bitumen damp proof course
flexible sheets of bitumen or composites based on these materials whose function is to prevent liquid water passing from one part of the wall to another. In composite sheets the bitumen is the functional component

3.4
carrier
material incorporated into or onto the factory-made waterproofing sheet to ensure its stability and/or mechanical resistance

3.5
surfacing
material applied to the surfaces of waterproofing sheets as an anti-sticking substance on one or both surfaces of the damp proof course

3.6
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 European Standard

3.7
manufacturer's declared value (MDV)
value declared by the manufacturer accompanied by a declared tolerance

3.8
oxidised bitumen
straight run petroleum bitumen or a fluxed bitumen which has been hardened and rendered less temperature susceptible by blowing with air at high temperature with or without the use of a catalyst

3.9
elastomeric bitumen
petroleum bitumen and/or oxidized bitumen modified by the addition of thermoplastic rubbers

3.10
plastomeric bitumen
petroleum bitumen and/or oxidized bitumen modified by the addition of polyolefin or polyolefin copolymer compound

3.11
sampling
procedure used to select or constitute a sample

3.12
sample
sheet from which a test piece is taken

3.13
test piece
part of the sample from which test specimens are taken

3.14
test specimen
piece of precise dimensions taken from the test piece

4 Product types

For bitumen damp proof courses there are no product types.

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 European Standard shall be started within 1 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 1850-1.

5.4 Dimensions and tolerances

The length, width and straightness shall be determined in accordance with EN 1848-1. The length and width shall be greater than or equal to the manufacturer's limiting value (MLV). The maximum deviation from straightness shall not exceed 20 mm per 10 m length, or in proportion for other lengths (e.g. 10 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 1849-1.

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.

If a product is specified by thickness, the thickness shall lie within the 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

Watertightness shall be determined by Method A or B of EN 1928 using a pressure of 2 kPa and shall give a pass result.

5.7 Resistance to impact

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 the result shall be greater than or equal to the manufacturer's limiting value.

5.8 Durability

5.8.1 Against artificial 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 or B at a pressure of 2 kPa and shall give a pass result.

5.8.2 Against chemicals

Information about the chemical resistance of bitumen is given in Annex A. Where the product is likely to come into contact with a "not stable in all cases" substance, the resistance shall be evaluated according to EN 1847, the test parameters being declared with the result, and subsequently tested according to EN 1928, giving a pass result.

NOTE Experience has shown that water has little or no effect upon the in-service performance of reinforced bitumen sheets.

5.9 Flexibility at low temperatures (pliability)

The flexibility 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 1109 and shall be less than or equal to the manufacturer's limiting value.

NOTE This test does not give results corresponding to the application conditions in practice. Results should be used only to compare products of similar thickness and construction.

5.10 Resistance to tearing (nail shank)

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

5.11 Joint strength

Where required, the joint strength shall be determined in accordance with EN 12317-1 and the results shall lie within the declared tolerance of the manufacturer's declared value.

5.12 Water vapour transmission properties

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

5.13 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 according 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.

5.14 Dangerous substances

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

Bitumen sheets covered by this European Standard shall not contain asbestos or coal tar constituents. The manufacturer shall disclose on the product wrapper and in the health and safety data sheets the use of any additive or constituent considered hazardous.

6 Evaluation of conformity

6.1 General

The compliance of a bitumen damp proof course 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).