

Flexible sheets for waterproofing — Plastic and rubber vapour control layers — Definitions and characteristics

ICS 01.040.91; 91.100.50

National foreword

This British Standard is the UK implementation of EN 13984:2004+A1:2006. It supersedes BS EN 13984:2004 which is withdrawn.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to CEN text carry the number of the CEN amendment. For example, text altered by CEN amendment A1 is indicated by A1 A1.

The UK participation in its preparation was entrusted to Technical Committee B/546, Flexible sheets for water and water vapour control.

A list of organizations represented on this committee can be obtained on request to its secretary.

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This British Standard was published under the authority of the Standards Policy and Strategy Committee on 10 January 2005

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ISBN 978 0 580 62657 9

Amendments/corrigenda issued since publication

Date	Comments
30 April 2008	Implementation of CEN amendment A1:2006

English version

Flexible sheets for waterproofing - Plastic and rubber vapour control layers - Definitions and characteristics

Feuilles souples d'étanchéité - Feuilles plastiques et élastomères utilisées comme pare-vapeur - Définitions et caractéristiques

Abdichtungsbahnen - Kunststoff- und Elastomer-Dampfsperrbahnen - Definitionen und Eigenschaften

This European Standard was approved by CEN on 20 October 2004.

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Foreword

This document (EN 13984:2004) 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of an identical text or by endorsement, at the latest by June 2005, and conflicting national standards shall be withdrawn at the latest by September 2006.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.

This document is a general product standard for flexible sheets of plastics intended for vapour control layers, for use in buildings. This document is one of a series of product standards for factory made flexible sheets for use in buildings.

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, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Foreword to amendment A1

This document (EN 13984:2004/A1:2006) has been prepared by Technical Committee CEN/TC 254 “Flexible sheets for waterproofing”, the secretariat of which is held by BSI.

This Amendment to the European Standard EN 13984:2004 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by May 2007, and conflicting national standards shall be withdrawn at the latest by May 2007.

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1 Scope

This document specifies the characteristics of flexible sheets of plastic or rubber intended for use as water vapour control layers for buildings and applies to both reinforced and unreinforced products. It specifies requirements and test methods and provides for the evaluation of conformity of the products with the requirements of this document.

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 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 1928:2000, *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 roof 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 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 13859-1:2005, *Flexible sheets for waterproofing — Definitions and characteristics of underlays — Part 1: Underlays for discontinuous roofing*

EN ISO 9001, *Quality management systems — Requirements (ISO 9001:2000)*

EN ISO 11925-2, *Reaction to fire tests — Ignitability of building products subjected to direct impingement of flame — 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

water vapour control layers

flexible sheet of plastic or rubber or composites sheet whose function is to control the movement of water and/or water vapour through a wall, floor or roof

NOTE They may have different permeabilities to water vapour depending on the specific use. In composite sheets the plastic sheet is the functional component.

3.2

ventilating or draining vapour control layers

flexible sheets conforming to the definition in 3.1 but with the ability to provide a continuous void or structure to allow free movement of water vapour or liquid water between the sheet and any further construction

3.3

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 document

3.4

manufacturer's declared value, MDV

value declared by the manufacturer accompanied by a declared tolerance

3.5

plastic sheet

factory made flexible sheet made from a plastic elastomeric polymeric material and which may include composites with other materials

3.6

rubber sheet

factory made flexible sheet made from an elastomeric polymeric material and 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 vapour control layers covered by this document are designated as follows:

Type A: Vapour control layers;

Type B: Vapour control layers - non water tight;

Type V: Vapour control layers - ventilating or draining vapour control layer.

5 Product characteristics

5.1 General

5.1.1 Where a tolerance is limited by this document 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 document shall be started within 1 month of delivery from the manufacturer.

5.2 Visible defects

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

5.3 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 (MDV). 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).

5.4 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 the dimensions of any profile are comparable to the area to be measured, a larger sample area shall be used and the deviation from the test method noted.

Where a product is specified by thickness, the minimum 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.

5.5 Water tightness

Types A and V vapour control sheets shall be watertight as determined by EN 1928:2000 Method A with a pressure of 2 kPa.

5.6 Resistance to impact

A1 Where required, the resistance to impact shall be determined in accordance with EN 12691 and the result shall be greater than or equal to the manufacturer's limiting value. **A1**

5.7 Durability

5.7.1 After exposure to artificial ageing

The product shall be exposed to an elevated temperature of 70 °C for 12 weeks in accordance with EN 1296. The water vapour resistance of the aged product shall not change by more than ± 50 % of that of the un-aged product when tested to EN 1931.

5.7.2 Against alkali

Where required, plastic vapour control layers shall be tested in accordance with the method given in Annex C. The product passes if the elongation after 24 weeks is not less than 50 % of the initial value.

5.8 Resistance to tearing (nail shank)

For unreinforced sheets the tear resistance (nail shank) shall be determined in accordance with EN 12310-1 and shall be greater than or equal to the manufacturer's limiting value.

For reinforced sheets the tear resistance (nail shank) shall be determined in accordance with Annex B of prEN 13859-1:2000 and shall be greater than or equal to the manufacturer's limiting value.

5.9 Joint strength

Where required the joint strength shall be determined in accordance with EN 12317-2 and shall be greater than or equal to the manufacturer's limiting value.

5.10 Water vapour transmission properties

The water vapour resistance shall be determined in accordance with EN 1931 and shall lie within the declared tolerance of the manufacturer's declared value.

5.11 Tensile properties

The tensile properties of unreinforced sheets shall be determined in accordance with EN 12311-2 and shall be greater than or equal to the manufacturer's limiting value for the longitudinal and transverse directions of the sheet.

The tensile properties of reinforced sheets shall be determined in accordance with Annex A of prEN 13859-1:2000 and shall be greater than or equal to the manufacturer's limiting value for the longitudinal and transverse directions of the sheet.

5.12 Reaction to fire

Where required, the product 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 document (the SBI test may be inappropriate for products covered by the document). Pending results of such an investigation and discussions in the Fire Regulators Group, products covered by this document are tested to EN ISO 11925-2.

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