BS EN 13859-2:2014

BSI Standards Publication

Flexible sheets for waterproofing — Definitions and characteristics of underlays

Part 2: Underlays for walls

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National foreword

This British Standard is the UK implementation of EN 13859-2:2014. It supersedes BS EN 13859-2:2010 which is withdrawn.

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

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

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Compliance with a British Standard cannot confer immunity from legal obligations.

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Abdichtungsbahnen - Definitionen und Eigenschaften von Unterdeck- und Unterspannbahnen - Teil 2: Unterdeck- und Unterspannbahnen für Wände

This European Standard was approved by CEN on 16 February 2014.

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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

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Contents

Page

Foreword

This document (EN 13859-2:2014) has been prepared by Technical Committee CEN/TC 254 “Flexible sheets for waterproofing”, the secretariat of which is held by NEN.

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of an identical text or by endorsement, at the latest by October 2014 and conflicting national standards shall be withdrawn at the latest by October 2014.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 13859-2:2010.

The main technical changes that have been made in this new edition are as follows:

a) application related characteristic emissivity has been added;

b) wording and Annex ZA has been adapted to the CPR.

EN 13859, Flexible sheets for waterproofing — Definitions and characteristics of underlays, is composed of the following parts:

— Part 1: Underlays for discontinuous roofing;

— Part 2: Underlays for walls (the present document).

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 Regulation (EU) No. 305/2011.

For relationship with Regulation (EU) No. 305/2011, 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, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This European standard specifies the characteristics of flexible sheets for underlays for walls which are to be used in walls behind outside wall coverings in order to avoid penetration of wind and water from outside. It specifies the 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 documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 1107-1, *Flexible sheets for waterproofing - Part 1: Bitumen sheets for roof waterproofing - Determination of dimensional stability*

EN 1107-2, *Flexible sheets for waterproofing - Determination of dimensional stability - Part 2: Plastic and rubber sheets for roof waterproofing*

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 1297, *Flexible sheets for waterproofing - Bitumen, plastic and rubber sheets for roof waterproofing - Method of artificial ageing by long term exposure to the combination of UV radiation, elevated temperature and water*

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

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

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

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 12114, *Thermal performance of buildings - Air permeability of building components and building elements - Laboratory test method*

EN 12310-1:1999, *Flexible sheets for waterproofing - Part 1: Bitumen sheets for waterproofing - Determination of resistance to tearing (nail shank)*

EN 12311-1, *Flexible sheets for waterproofing - Part 1: Bitumen sheets for roof waterproofing - Determination of tensile properties*

EN 13111, *Flexible sheets for waterproofing - Underlays for discontinuous roofing and walls - Determination of resistance to water penetration*

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

EN 13501-1:2007+A1:2009, *Fire classification of construction products and building elements - Part 1: Classification using data from reaction to fire tests*

EN 15976, *Flexible sheets for waterproofing - Determination of emissivity*

EN ISO 11925-2, *Reaction to fire tests - Ignitability of products subjected to direct impingement of flame - Part 2: Single-flame source test (ISO 11925-2:2010)*

EN ISO 12572, *Hygrothermal performance of building materials and products - Determination of water vapour transmission properties (ISO 12572:2001)*

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

3.2
manufacturer's limiting value
MLV
value that is stated by the manufacturer to be met during testing and that can be a minimum or a maximum value according to statements made under the product characteristics of this document

3.3
sample
sheet from which a test piece is taken

3.4
sampling
procedure used to select or constitute a sample

3.5
test piece
part of the sample from which test specimens are taken

3.6
test specimen
piece of precise dimensions taken from the test piece

3.7
underlays for walls
factory made flexible sheets of plastics, bitumen, rubber or other suitable materials, which are used behind external wall coverings

4 Product characteristics

4.1 General

The arithmetic mean value calculated from a number of test results shall lie within the tolerance declared for the characteristic. 95 % of the individual results shall lie within the declared tolerance unless otherwise specified in this document.

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.

4.2 Dimensions, straightness and mass per unit area

The dimensions, straightness and mass per unit area shall comply with the values declared by the manufacturer (see Annex D) in accordance with 5.2.1. The tolerances required are indicated in Table 1.

Table 1 — Tolerances on length, width, straightness and mass per unit area

Characteristic	Tolerance
Length	−0 %
Width	−0,5 % to +1,5 %
Straightness	Maximum deviation from straightness: 30 mm per 10 m length or in proportion for other lengths (e.g. 15 mm per 5 m length)
Mass per unit area	Shall lie within the declared tolerance of the MDV

4.3 Application related characteristics

4.3.1 Reaction to fire

Where required, the reaction to fire shall be determined in accordance with 5.2.2.

4.3.2 Resistance to water penetration

4.3.2.1 Class *W1*

The product shall be classified as resistant to water penetration Class *W1* if it passes the resistance to water penetration test in accordance with 5.2.3. If the product fails the test of resistance to water penetration indicated in 5.2.3, it shall be tested in accordance with 4.3.2.2.

4.3.2.2 Class *W2*

A product failing to pass the test indicated in 5.2.3 shall be tested in accordance with 5.2.4. If the measured mean volume of water passing through the specimens tested is less than 100 ml, the product shall be classified as resistant to water penetration Class *W2*.

4.3.2.3 Class *W3*

If the product fails the test indicated in 4.3.2.2, e.g. the measured mean volume passing the specimens exceeds 100 ml, it shall be classified as resistant to water penetration Class *W3*.

Untested products shall also be classified as resistant to water penetration Class *W3*.

4.3.3 Water vapour transmission properties

The product shall be tested in accordance with 5.2.5 and the results shall lie within the declared tolerance of the manufacturer's declared value. Other measuring methods shall also be allowed if the correlation with 5.2.5 is proved and recorded. If the water vapour diffusion-equivalent air layer thickness s_d is above or equal to 0,2 m the product shall be tested in accordance with 5.2.5.1. If the s_d value is below 0,2 m the product shall be tested in accordance with 5.2.5.2. If the s_d value is below 0,1 m the standard deviation s shall also be recorded in the test report.

4.3.4 Resistance to penetration of air

The product shall be tested in accordance with 5.2.6. The test result shall be given as air permeability, expressed in m^3 air per m^2, hour at 50 Pascals pressure difference ($m^3/(m^2 \times h \times 50\ Pa)$). The value of air permeability shall be equal to or lower than the manufacturer's limiting value.

4.3.5 Tensile properties

The product shall be tested in accordance with 5.2.7 and the results shall lie within the declared tolerance of the manufacturer's declared values for tensile strength and the maximum and/or minimum values for elongation for both longitudinal and transverse directions.

4.3.6 Resistance to tearing

The resistance to tearing of underlays shall be tested in accordance with 5.2.8 and the results shall lie within the declared tolerance of the manufacturer's declared value in both (longitudinal and transverse) directions.

4.3.7 Dimensional stability

The dimensional stability shall be determined in accordance with 5.2.9.

The shrinkage or lengthening shall be equal to or less than the manufacturer's limiting value.

4.3.8 Flexibility at low temperature (pliability)

Where appropriate, the flexibility at low temperature (pliability) determined in accordance with 5.2.10 shall be equal to or less than the manufacturer's limiting value.

4.3.9 Artificial ageing behaviour

The product shall be tested in accordance with 5.2.11. The mean values of tensile strength and elongation of the test specimens before and after artificial ageing shall be declared on the product data sheet by the manufacturer. The resistance to water penetration of artificially aged materials shall pass the same class declared by the manufacturer as defined in 4.3.2.

For walls which do not exclude UV exposure, e.g. with open joints, the artificial ageing by UV shall be extended over a period of 5 000 h.

NOTE "UV-exposed" means that there are designed open joints in the wall covering which allow the penetration of daylight to reach the product.

4.3.10 Emissivity

If required, the emissivity shall be determined in accordance with 5.2.12.

4.4 Dangerous substances

National regulations on dangerous substances my require verification and declaration on release, and sometimes content, when construction products covered by this standard are placed on those markets.

In the absence of European harmonised test methods, verification and declaration on release / content should be done taking into account national provisions in the place of use.

NOTE An informative database covering European and national provisions on dangerous substances is available at the Construction web site on EUROPA accessed through: http://ec.europa.eu/enterprise/construction/cpd-ds/.

5 Testing

5.1 Sampling

Samples shall be taken in accordance with EN 13416.

5.2 Test methods

5.2.1 Determination of dimensions, straightness and mass per unit area

The length, width, straightness and mass per unit area of underlays shall be determined in accordance with EN 1848-1 and EN 1849-1 for bitumen sheets and in accordance with EN 1848-2 and EN 1849-2 for all other sheets.

5.2.2 Determination of reaction to fire

Where required, the product shall be tested and classified in accordance with EN 13501-1:2007+A1:2009, Table 1. When tested according to EN ISO 11925-2, the products shall be tested under conditions of surface flame attack (surface exposure).

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 (EN 13823) 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 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.

The underlays, where no limitation in the application is requested, shall be tested free hanging (without substrate) only. The classification obtained shall be applied to all unsupported and supported end use applications.

If the intended use of the underlay is solely limited to being supported on a specific substrate, e.g. wood, mineral wool, polyurethane, it should be tested in the end use application in accordance with EN 13238.

5.2.3 Determination of resistance to water penetration Class *W1*

The resistance to water penetration Class *W1* shall be determined in accordance with EN 1928:2000, Method A, with the modifications that:

— the water column shall be 200 mm;

— using water dyed with 0,05 % eosin (instead of a moisture indicating mixture of sugar and methylene blue);

— one layer of laboratory filter paper with a mass per unit area of 80 g/m^2;

— test period: 2 h (instead of 24 h);

— three test specimens are used.

5.2.4 Determination of resistance to water penetration Class *W2*

The resistance to water penetration Class *W2* shall be determined in accordance with EN 13111 using three test specimens.

5.2.5 Determination of water vapour transmission properties

5.2.5.1 Determination of water vapour transmission properties using EN 1931

The water vapour transmission properties shall be determined in accordance with EN 1931 using five test specimens.

5.2.5.2 Determination of water vapour transmissions properties using EN ISO 12572

The water vapour transmission properties shall be determined in accordance with EN ISO 12572 using the set of conditions C and using five test specimens.

5.2.6 Determination of resistance to penetration of air

The product shall be tested in accordance with EN 12114.

The test area A, in m^2, shall be $0{,}5\ m^2 \leq A \leq 1{,}0\ m^2$, the maximum pressure difference shall be $\Delta p_{max} = 100$ Pa.

5.2.7 Determination of tensile properties

The tensile properties of foldable products shall be tested in accordance with EN 12311-1 and the modifications indicated in Annex A. Unfoldable products shall be tested in accordance with EN 12311-1 without these modifications.

5.2.8 Determination of resistance to tearing (nail shank)

The resistance to tearing of foldable products shall be tested in accordance with EN 12310-1 and the modifications indicated in Annex B. Unfoldable products shall be tested in accordance with EN 12310-1 without these modifications.

5.2.9 Determination of dimensional stability

The dimensional stability shall be tested in accordance with EN 1107-1 for bitumen sheets and in accordance with EN 1107-2 for all other materials.

5.2.10 Determination of flexibility at low temperature (pliability)

The flexibility at low temperature shall be tested in accordance with EN 1109.

5.2.11 Determination of resistance to artificial ageing

The product shall be tested in accordance with Annex C.

5.2.12 Determination of emissivity

The product shall be tested in accordance with EN 15976.

6 Assessment and verification of the constancy of performance – AVCP

6.1 General

The compliance of flexible sheets for waterproofing as underlays for walls with the requirements of this standard and with the declared values (including classes) shall be demonstrated by:

— determination of the product type;

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

The manufacturer shall always retain the overall control and shall have the necessary means to take responsibility for the product.

NOTE The assignment of tasks to the notified bodies and the manufacturer is shown in Annex ZA, Table ZA.3.1, ZA.3.2 and ZA.3.3.

6.2 Type Testing

6.2.1 General

All performances related to characteristics included in this standard shall be determined when the manufacturer intends to declare the respective performances unless the standard gives provisions for declaring them without performing tests. (e.g. use of previously existing data, CWFT and conventionally accepted performance).

Assessment previously performed in accordance with the provisions of this standard, may be taken into account provided that they were made to the same or a more rigorous test method, under the same AVCP system on the same product or products of similar design, construction and functionality, such that the results are applicable to the product in question.

NOTE Same AVCP system means testing by an independent third party, under the responsibility of a notified product certification body.

For the purposes of assessment, the manufacturer's products may be grouped into families, where it is considered that the results for one or more characteristics from any one product within the family are representative for those same characteristics for all products within that same family.

Products may be grouped in different families for different characteristics.

Reference to the assessment method standards should be made to allow the selection of a suitable representative sample.

In addition, the determination of the product type shall be performed for all characteristics included in the standard for which the manufacturer declares the performance (see Table D.1):

— at the beginning of the production of a new or modified underlays for walls (unless a member of the same product range), or

— at the beginning of a new or modified method of production (where this may affect the stated properties); or

— they shall be repeated for the appropriate characteristic(s), whenever a change occurs in the underlays for walls design, in the raw material or in the supplier of the components, or in the method of production (subject to the definition of a family), which would affect significantly one or more of the characteristics.

Where components are used whose characteristics have already been determined, by the component manufacturer, on the basis of assessment methods of other product standards, these characteristics need not be re-assessed. The specifications of these components shall be documented.

Products bearing regulatory marking in accordance with appropriate harmonised European specifications may be presumed to have the performances declared in the DoP, although this does not replace the responsibility on the underlays for walls manufacturer to ensure that the underlays for walls as a whole is correctly manufactured and its component products have the declared performance values.

6.2.2 Test reports

The results of the determination of the product type shall be documented in test reports. All test reports shall be retained by the manufacturer for at least 10 years after the last date of production of the underlays for walls to which they relate.

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 comply with the declared performance of the 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. All the elements, requirements and provisions adopted by the manufacturer shall be documented in a systematic manner in the form of written policies and procedures.

This production control system documentation shall ensure a common understanding of conformity evaluation and enable the achievement of the required product characteristics and the effective operation of the production control system to be checked. Factory production control therefore brings together operational techniques and all measures allowing maintenance and control of the compliance of the product with this European standard.

6.3.2 Requirements

6.3.2.1 General

The manufacturer is responsible for organising the effective implementation of the FPC system. Tasks and responsibilities in the production control organisation shall be documented and this documentation shall be kept up-to-date.

The responsibility, authority and the relationship between personnel that manages, performs or verifies work affecting product conformity, shall be defined. This applies in particular to personnel that needs to initiate actions preventing product non-conformities from occurring, actions in case of non-conformities and to identify and register product conformity problems. Personnel performing work affecting product conformity shall be competent on the basis of appropriate education, training, skills and experience for which records shall be maintained.

In each factory the manufacturer may delegate the action to a person having the necessary authority to:

— identify procedures to demonstrate conformity of the product at appropriate stages;

— identify and record any instance of non-conformity;

— identify procedures to correct instances of non-conformity.

The manufacturer shall draw up and keep up-to-date documents defining the factory production control. The manufacturer's documentation and procedures should be appropriate to the product and manufacturing process. The FPC system should achieve an appropriate level of confidence in the conformity of the product. This involves:

a) the preparation of documented procedures and instructions relating to factory production control operations, in accordance with the requirements of the technical specification to which reference is made;

b) the effective implementation of these procedures and instructions;

c) the recording of these operations and their results;

d) the use of these results to correct any deviations, repair the effects of such deviations, treat any resulting instances of non-conformity and, if necessary, revise the FPC to rectify the cause of non-conformity.

Where subcontracting takes place, the manufacturer shall retain the overall control of the product and ensure that he receives all the information that is necessary to fulfill his responsibilities according to this European Standard.

If the manufacturer has part of the product designed, manufactured, assembled, packed, processed and/or labeled by subcontracting, the FPC of the subcontractor may be taken into account, where appropriate for the product in question.

The manufacturer who subcontracts all of his activities may in no circumstances pass these responsibilities on to a subcontractor.

NOTE Manufacturers having an FPC system, which complies with EN ISO 9001 and which addresses the requirements of this European standard are recognised as satisfying the FPC requirements of the Regulation (EU) No 305/2011.

6.3.2.2 Equipment

6.3.2.2.1 Testing

All weighing, measuring and testing equipment shall be calibrated and regularly inspected according to documented procedures, frequencies and criteria.

6.3.2.2.2 Manufacturing

All equipment used in the manufacturing process shall be regularly inspected and maintained to ensure use, wear or failure does not cause inconsistency in the manufacturing process. Inspections and maintenance shall be carried out and recorded in accordance with the manufacturer’s written procedures and the records retained for the period defined in the manufacturer's FPC procedures.

6.3.2.3 Raw materials and components

The specifications of all incoming raw materials and components shall be documented, as shall the inspection scheme for ensuring their compliance. In case supplied kit components are used, the attestation of conformity level of the component shall be that given in the appropriate harmonised technical specification for that component.

6.3.2.4 Design process

The factory production control system shall document the various stages in the design of products, identify the checking procedure and those individuals responsible for all stages of design. During the design process itself, a record shall be kept of all checks, their results, and any corrective actions taken.

This record shall be sufficiently detailed and accurate to demonstrate that all stages of the design phase, and all checks, have been carried out satisfactorily.

6.3.2.5 Controls during manufacturing process

The manufacturer shall plan and carry out production under controlled conditions.

6.3.2.6 Product testing and evaluation

The manufacturer shall establish procedures to ensure that the stated values of the characteristics he declares, are maintained. The characteristics, and the means of control, are given in Table D.1.

6.3.2.7 Non-complying products

The manufacturer shall have written procedures which specify how non-complying products shall be dealt with. Any such events shall be recorded as they occur and these records shall be kept for the period defined in the manufacturer's written procedures.

6.3.2.8 Corrective action

The manufacturer shall have documented procedures that instigate action to eliminate the cause of non-conformities in order to prevent recurrence.

6.3.2.9 Handling, storage and packaging

The manufacturer shall have procedures providing methods of product handling and shall provide suitable storage areas preventing damage or deterioration.

6.3.3 Product specific requirements

The FPC system shall:

— address this European Standard; and

— ensure that the products placed on the market comply with the declared performance characteristics.

The FPC system shall include a product specific FPC, which identifies procedures to demonstrate compliance of the product at appropriate stages, i.e.:

a) the controls and tests to be carried out prior to and/or during manufacture according to a frequency laid down in the FPC test plan, and/or

b) the verifications and tests to be carried out on finished products according to a frequency laid down in the FPC test plan on basis of Table D.1.

If the manufacturer uses only finished products, the operations under b) shall lead to an equivalent level of compliance of the product as if FPC had been carried out during the production.

If the manufacturer carries out parts of the production himself, the operations under b) may be reduced and partly replaced by operations under a). Generally, the more parts of the production that are carried out by the manufacturer, the more operations under b) may be replaced by operations under a).

In any case the operation shall lead to an equivalent level of compliance of the product as if FPC had been carried out during the production.

NOTE Depending on the specific case, it can be necessary to carry out the operations referred to under a) and b), only the operations under a) or only those under b).

The operations under a) refer to the intermediate states of the product as on manufacturing machines and their adjustment, and measuring equipment etc. These controls and tests and their frequency shall be chosen based on product type and composition, the manufacturing process and its complexity, the sensitivity of product features to variations in manufacturing parameters etc.

The manufacturer shall establish and maintain records that provide evidence that the production has been sampled and tested. These records shall show clearly whether the production has satisfied the defined acceptance criteria and shall be available for at least three years.

These records shall be available for inspection.

Where the product fails to satisfy the acceptance measures, the provisions for non-complying products shall apply, the necessary corrective action shall immediately be taken and the products or batches not complying shall be isolated and properly identified.

Once the fault has been corrected, the test or verification in question shall be repeated.

The results of controls and tests shall be properly recorded. The product description, date of manufacture, test method adopted, test results and acceptance criteria shall be entered in the records under the signature of the person responsible for the control/test.

With regard to any control result not meeting the requirements of this European standard, the corrective measures taken to rectify the situation (e.g. a further test carried out, modification of manufacturing process, throwing away or putting right of product) shall be indicated in the records.

Individual products or batches of products and the related manufacturing documentation shall be completely identifiable and retraceable.

6.3.4 Initial inspection of factory and of FPC

Initial inspection of factory and of FPC shall be carried out when the production process has been finalised and in operation. The factory and FPC documentation shall be assessed to verify that the requirements of 6.3.2 and 6.3.3 are fulfilled.

During the inspection it shall be verified:

a) that all resources necessary for the achievement of the product characteristics required by this European standard are in place and correctly implemented, and

b) that the FPC-procedures in accordance with the FPC documentation are followed in practice, and

c) that the product complies with the Initial Type Testing/Type Testing samples, for which compliance with this European standard has been verified.

All locations where final assembly or at least final testing of the relevant product is performed, shall be assessed to verify that the above conditions a) to c) are in place and implemented. If the FPC system covers more than one product, production line or production process, and it is verified that the general requirements are fulfilled when assessing one product, production line or production process, then the assessment of the general requirements does not need to be repeated when assessing the FPC for another product, production line or production process.

All assessments and their results shall be documented in the initial inspection report.

6.3.5 Continuous surveillance of FPC

Surveillance of the FPC shall be undertaken once per year. The surveillance of the FPC shall include a review of the FPC test plan(s) and production processes(s) for each product to determine if any changes have been made since the last assessment or surveillance. The significance of any changes shall be assessed.

Checks shall be made to ensure that the test plans are still correctly implemented and that the production equipment is still correctly maintained and calibrated.

The records of tests and measurement made during the production process and to finished products shall be reviewed to ensure that the values obtained still correspond with those values for the samples submitted to Initial Type Testing/Type Testing and that the correct actions have been taken for non-compliant devices.

6.3.6 Procedure for modifications

If modifications are made to the product, production process or FPC system that could affect any of the product characteristics required by this standard, then all the characteristics for which the manufacturer declares performance, which may be affected by the modification, shall be subject to the determination of the product type, as described in 6.2.1.

Where relevant, a re-assessment of the factory and of the FPC system shall be performed for those aspects, which may be affected by the modification.

All assessments and their results shall be documented in a report.

7 Product data sheet

The characteristics of the product, determined in accordance with the test methods specified in this document, shall be listed in a technical data sheet. The technical data sheet shall also give the following information:

a) product trade name and manufacturer's name;

b) origin/source of manufacture or traceable code;

c) method of application;

d) results of tests according to intended end use system where relevant;

e) certification mark, if any;

f) consumer information, e.g. restrictions concerning use and storage and safety precautions during installation and disposal;

g) description of the product (e.g. type and number of carriers, type of coating, mass or thickness, type of surfacing).

An example of a product data sheet is shown in Annex E.

8 Marking, labelling and packaging

The following information shall be indicated on each roll and/or in the accompanying technical or commercial documentation:

a) production date or identification number;

b) product trade name;

c) length and width;

d) thickness or mass;

e) labelling according to national regulations related to dangerous substances and/or health and safety.

NOTE Where ZA.3 covers the same information as required by this clause, the requirements of this clause are met.

Annex A
(normative)

Determination of tensile properties

A.1 General

The tensile properties of foldable products shall be tested in accordance with EN 12311-1 with the following modifications.

A.2 Apparatus

A.2.1 Tensile testing machine in accordance with EN 12311-1.

A.3 Sampling

Test samples shall be taken in accordance with EN 13416.

A.4 Preparation of test specimens

For the purpose of a complete tensile test, two sets of test specimens shall be prepared: one set of five for the longitudinal direction and one set of five for the transverse direction.

Test specimens shall be cut from a test piece not closer than 100 mm to the edge of the sheet, with the aid of a template, or die cutter, to provide rectangular test specimens measuring (100,0 ± 0,5) mm wide by a length of at least 200 mm ++ (2 × gripping length), the longer direction being the test direction.

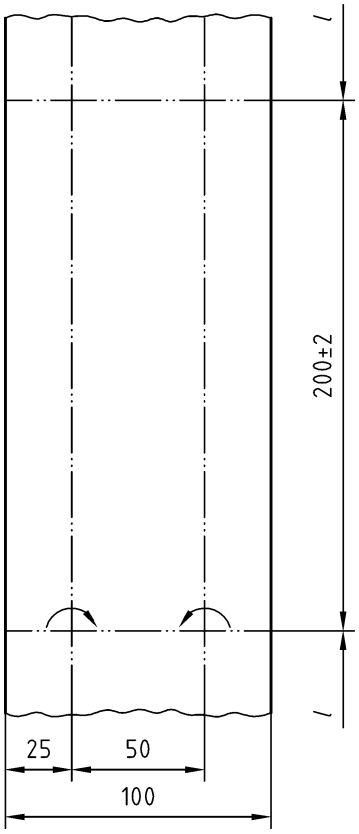
Any non-permanent surface layer or provisional protection sheet shall be removed.

Test specimens shall be conditioned for at least 20 h at a temperature of (23 ± 2) °C and relative air humidity in the range 30 % to 70 % before testing.

A.5 Procedure

The 100 mm wide test specimen shall be folded and joined in the middle as shown in Figure A.1 and tightly clamped in the tensile test machine taking care that the axes of the specimen and grips are correctly aligned. The clear distance between grips shall be (200 ± 1) mm. The test specimen shall be arranged concentrically. A pre-load of maximum 5 N shall be applied before the start of the test to take out any slack in the test specimen. The folded edges shall meet in the middle of the sheet without overlapping. The tolerance of the deviation from the middle shall not exceed ± 1 mm.

Dimensions in millimetres



Key

l gripping length

Figure A.1 — Folding of a test specimen

A.6 Expression and evaluation of results

Determine from the force and distance recorder, or from the data registered, the maximum force and the corresponding elongation calculated from the separation of the tensile testing machine grips (or extensometer) and expressed as a percentage of the original gauge length.

Disregard any test result where the test specimen breaks within 10 mm from the grips or when it slips by more than the permitted limit within the grips of the tensile test machine, and retest with a replacement test specimen.

The measured values of tensile force x_{mi}, of the test specimens with a width of 100 mm, which are folded twice, shall be transformed to the measured values of the property x_i as indicated in Formula (A.1):

$$x_i = x_{mi} \times 0,5 \qquad \text{(A.1)}$$

where

$x_{m1}, x_{m2} \ldots x_{mn}$ are the measured values of the test specimens;

$x_1, x_2 \ldots x_n$ are the measured values of the property;

n is the number of specimens specified in this document.

The maximum tensile force x_i, expressed in Newtons per 50 mm (N/50 mm), and corresponding elongation, shall be noted, together with the direction of the test specimen.

List the individual values of tensile force and elongation for the five test specimens in each direction, and calculate the mean value and standard deviation, noting the test direction.

The mean values of tensile force shall be rounded to the nearest 5 N and the mean values of elongation shall be rounded to the nearest 1 %.

In the case of sheets with composite reinforcements which give rise to two or more distinct peaks on the force/elongation curve, the force and elongation of the two greatest peaks shall be recorded.

A.7 Test report

The test report shall contain at least the following information:

a) all details necessary to identify the product tested;

b) a reference to this document and any deviation from it;

c) information of sampling in accordance with 5.1;

d) details of the preparation of the test specimens in accordance with A.4;

e) the test results in accordance with A.6 indicating the test direction;

f) the date of the test(s).

Annex B
(normative)

Determination of resistance to tearing

B.1 General

The resistance to tearing of foldable products shall be tested in accordance with EN 12310-1 with the following modifications.

B.2 Apparatus

B.2.1 Tensile testing machine in accordance with EN 12310-1.

The width of the grips shall not be less than 50 mm.

B.3 Sampling

Test samples shall be taken in accordance with EN 13416.

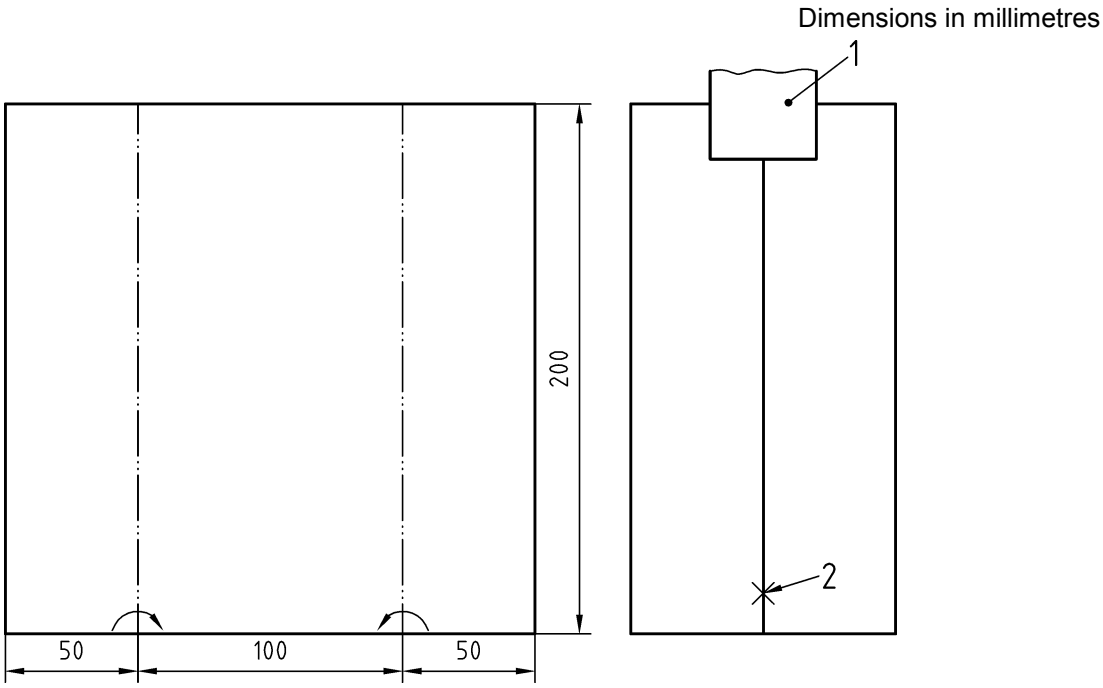
B.4 Preparation of test specimens

For a complete tear test, two sets of test specimens shall be prepared: one set of five for the longitudinal direction and one set of five for the transverse direction.

The test specimens shall be (200,0 ± 1,0) mm wide by at least 200 mm long.

B.5 Procedure

The 200 mm wide test specimen shall be folded as shown in Figure B.1 and is inserted between the arms of a close fitting stirrup, and a (2,5 ± 0,1) mm diameter sharpened nail shank is pushed through locating holes in the stirrup arms such that the shank pierces one layer of the specimen along the centre line at a distance of (50 ± 5) mm from the free end inside the stirrup. A diagrammatic representation of the test apparatus is indicated in EN 12310 1:1999, Figure 1. In this figure the sample thickness (e) is the thickness of the folded sample.



Key

1 upper grips

2 nail position

Figure B.1 — Folding and inserting of a test specimen

B.6 Expression and evaluation of results

The resistance to tearing of the specimen is the maximum tensile force recorded during the test. The maximum force shall be taken from the continuously recorded force.

List the individual values for each set of five test specimens, and calculate the mean value and the standard deviation, noting the test direction.

B.7 Test report

The test report shall include at least the following information:

a) all details necessary to identify the product tested;

b) a reference to this document and any deviation from it;

c) information of sampling in accordance with B.3;

d) details of preparation of the test specimens in accordance with B.4;

e) the test results in accordance with B.6, indicating the test direction;

f) the date of the test(s).

Annex C
(normative)

Artificial ageing by exposure to UV and heat

C.1 General

The artificial ageing shall be tested in accordance with EN 1297 and EN 1296 with the following modifications.

C.2 Principle

The test method consists of exposing test specimens to continuous UV irradiation at elevated temperature without wetting with water followed by long term exposure to heat. Resistance to water penetration and tensile strength and elongation shall be determined after artificial ageing.

C.3 Apparatus

C.3.1 Apparatus for exposure to UV-A irradiation and elevated temperature

An apparatus indicated in EN 1297 not using water spraying shall be used.

C.3.2 Apparatus for exposure to heat

C.3.2.1 Ventilated oven.

A ventilated oven in accordance with EN 1296 shall be used. The oven shall be equipped with frames capable of holding the test specimens in a vertical position without stressing them during the testing. The air flow shall be steady, laminar and the air speed should not exceed 0,05 m/s. Higher air speeds may have an effect on the performance of the product. If higher air speeds are applied, this shall be recorded in the test report.

C.4 Preparation of test specimens

C.4.1 Dimensions of test specimens

Test specimens shall have the size required for the tests in 5.2.3, 5.2.4 and 5.2.7.

C.4.2 Number of specimens

For the determination of tensile properties, two sets of five test specimens for the longitudinal direction and two sets of five test specimens for the transverse direction shall be prepared. One set of the test specimens for the longitudinal and one set for the transverse direction shall be exposed to artificial ageing. The tensile properties of the other two sets of test specimens shall be tested in unexposed condition.

For the determination of resistance to water penetration, the test specimens specified in 5.2.3 and 5.2.4 shall be prepared and exposed to artificial ageing.

C.4.3 Conditioning of test specimens

The test specimens as received from the manufacturer shall be exposed in the UV apparatus. They shall then be transferred to the ventilated oven for long term exposure to heat. After exposure the specimens shall be conditioned as defined in the document for the follow up test methods described in C.5.3.

C.5 Procedure

C.5.1 Exposure to UV irradiation and elevated temperature

Modifying EN 1297 for the purpose of this document, the following test conditions shall be applied: a Black Standard Temperature (BST) of $50\,^{+3}_{0}$ °C and UV light exposure over a period of 336 h.

NOTE This corresponds to a total UV radiant exposure of 55 MJ/m^2.

C.5.2 Exposure to heat

Following C.5.1, the test specimens shall be transferred to the ventilated oven (see C.3.2) for an exposure duration of 90 d at (70 ± 2) °C.

C.5.3 Testing of resistance to water penetration and tensile properties after artificial ageing

Testing shall be carried out in accordance with 4.3.2 and 4.3.5.

C.6 Expression of results

Examine visually unexposed and exposed test specimens and record any occurred effects.

Report the resistance to water penetration according to 4.3.2 after exposure. Calculate and report the mean values of tensile strength and elongation at maximum force according to 4.3.5 before and after exposure.

C.7 Test report

The test report shall contain at least the following information:

a) all details necessary to identify the product tested:

   1) product designation, manufacturer or supplier;

   2) production code number;

   3) type of product (product code, if applicable);

   4) packing;

   5) the form in which the product arrived at the laboratory;

   6) other information as appropriate, e.g. thickness, finish;

b) a reference to this document and any deviation from it;

c) information about preparation of test specimens (C.4):

   1) pre-test history and sampling, e.g. who sampled and where;

   2) conditioning;

   3) deviation from C.4 and C.5, if any;

   4) general information relating to the test, including total exposure time;

5) events which may have affected the results;

d) Information about test apparatus (C.3):

1) type and model of the machine fitted with UV-A lamps and temperature control;

2) type of UV lamp used, including the relative spectral energy distribution of the lamp;

e) results:

1) all visual observations;

2) mean values of tensile strength and elongation at maximum force of material not exposed;

3) mean values of tensile strength and elongation at maximum force of material after exposure;

4) resistance to water penetration after exposure;

f) date of the test.

Annex D
(normative)

Product type determination and frequencies of testing for factory production control

The characteristics to be type tested and the minimum test frequencies of testing for factory production control are given in Table D.1.

Table D.1 — Type testing and minimum frequencies of testing for factory production control

Product characteristic	Subclause	Product type determination[b]	Minimum frequencies[a] of testing per			
			shift	week	month	year
Length, width, straightness	4.2	+	Once per 40 shifts	–	–	–
Mass per unit area	4.2	+	Once per shift	–	–	–
Reaction to fire[b, e]	4.3.1	+	–	–	–	Once per 3 years
Resistance to water penetration — Class *W1*	4.3.2	+	Once per 40 shifts	–	–	–
— Class *W2*		+	Once per 40 shifts	–	–	–
— Class *W3*		–	–	–	–	–
Water vapour transmission properties	4.3.3	+	Once per 40 shifts	–	–	–
Resistance to penetration of air	4.3.4	+	–	–	–	Once per year
Tensile properties[c]	4.3.5	+	Once per 10 shifts	–	–	–
Resistance to tearing[c]	4.3.6	+	Once per 40 shifts	–	–	–
Dimensional stability[c]	4.3.7	+	–	–	–	Once
Flexibility at low temperature	4.3.8	+	–	–	–	Once
Artificial ageing behaviour [d]	4.3.9	+	–	–	–	Once per 2 years
Emissivity	4.3.10	+		–	–	–

[a] The minimum testing frequencies shall be understood as the minimum for each production unit/line under stable conditions.

[b] Product type determination to demonstrate conformity with the requirements of this document or when starting new production or a changed product.

[c] Supporting the requirement on resistance to water penetration.

[d] As a combined durability test according to EN 1296, EN 1297, EN 12310-1, EN 12311-1, EN 1928 and EN 13111.

[e] If required.

Annex E
(informative)

Example of a product data sheet

General information

— Date and reference of this technical data sheet

— Product trade name

— Manufacturer/supplier

— Origin/source of manufacturing

— Type of application

— Method of application

— Product performance[1)] (see Table E.1)

— Certification mark, if relevant

— Consumer information[2)]

1) See ZA.3, which limits the information to be given in association with CE marking.

2) E.g. restrictions concerning use and storage and safety precaution during installation and disposal.

Table E.1 — Information from testing

Characteristic	Test method	Unit	Expression of result[a]	Value[b]
Length	5.2.1	m	MLV	–
Width	5.2.1	m	MDV	–
Straightness	5.2.1	-	pass/fail	-
Mass per unit area	5.2.1	g/m^2	MDV	–
Reaction to fire	5.2.2	-	EN 13501-1 (see Note in 5.2.2)	–
Resistance to water penetration	5.2.3 or 5.2.4	-	Class *W1*, *W2* or *W3*	–
Water vapour transmission properties	5.2.5	m	MDV	–
Resistance to penetration of air	5.2.6	(air permeability) $m^3/(m^2 \times h \times 50\ PA)$	MLV	–
Tensile properties: maximum tensile force	5.2.7	N/50 mm	MDV	–
Tensile properties: elongation	5.2.7	%	MDV	–
Resistance to tearing (nail shank)	5.2.8	N	MDV	–
Dimensional stability	5.2.9	%	MLV	–
Flexibility at low temperature	5.2.10	°C	MLV	–
Artificial ageing by long term exposure to the combination of UV radiation and elevated temperature and heat in accordance with Annex C	5.2.11 Elongation	%	MDV	–
	5.2.11 Tensile strength	N/50 mm	MDV	–
	5.2.11 Resistance to water penetration	–	Class *W1*, *W2* or *W3*	–
Emissivity	5.2.12	–	MDV	–

a MLV: manufacturer's limiting value according to 3.2; MDV: manufacturer's declared value according to 3.1.

b To be completed by the manufacturer.

– Not relevant.

Annex ZA
(informative)

Clauses of this European Standard addressing provision of the Construction Products Regulation (CPR)

ZA.1 Scope and relevant characteristics

This European Standard has been prepared under Mandate M/102 amended by M/126, M/130 and M/137 flexible sheets for waterproofing given to CEN by the European Commission and the European Free Trade Association.

If this European standard is cited in the Official Journal of the European Union (OJEU), the clauses of this standard, shown in this annex, are considered to meet the provisions of the relevant mandate, under the Regulation (EU) No. 305/2011.

This annex deals with the CE marking of the flexible sheets for underlays for walls intended for the uses indicated in Table ZA.1 and shows the relevant clauses applicable.

This annex has the same scope as in Clause 1 of this standard related to the aspects covered by the mandate and is defined by Table ZA.1.

Table ZA.1 — Relevant clauses for flexible sheets for underlays for walls and the intended use

Product: Flexible sheets for underlays for walls **Intended use:** In walls of buildings			
Essential characteristics	**Subclauses in this and other European Standard(s) related to essential characteristics**	**Regulatory classes**	**Notes**
Reaction to fire	4.3.1	A1 to F	declared class
Watertightness	4.3.2	–	Technical Class W1, W2 or W3 (MDV)
Water vapour resistance	4.3.3	–	MDV
Tensile properties	4.3.5	–	MDV
Resistance to tearing	4.3.6	–	MDV
Flexibility at low temperature (pliability)	4.3.8	–	MLV
Durability: Artificial ageing behaviour, concerning — resistance to water penetration — tensile properties	4.3.9	–	Technical Class W1, W2 or W3 (MDV) MDV
Dangerous substances	4.4	–	–

The declaration of the product performance related to certain essential characteristics is not required in those Member States (MS) where there are no regulatory requirements on these essential characteristics for the intended use of the product.

In this case, manufacturers placing their products on the market of these MS are not obliged to determine nor declare the performance of their products with regard to these essential characteristics and the option “No performance determined” (NPD) in the information accompanying the CE marking and in the declaration of performance (see ZA.3) may be used for those essential characteristics.

ZA.2 Procedures for AVPC of the flexible sheets for underlays

ZA.2.1 Systems of AVPC

The AVCP system(s) of the flexible sheets for underlays indicated in Table ZA.1, established by EC Decision(s) 95/204/EC of 14/06/1995, 99/90/EC of 3/02/1999 (OJ L 29) and 2001/596/EC (OJ L 209) of 8/01/2001 are shown in Table ZA.2 for the indicated intended use(s) and relevant level(s) or class(es) of performance.

Table ZA.2 — Systems AVCP

Product	**Intended use(s)**	**Level(s) or class(es) of performance**	**AVCP system**
Wall underlays	in buildings	–	3
Wall underlays	for uses subject to reaction to fire regulations	A1([1]), A2([1]), B([1]), C([1]) A1([2]), A2([2]), B([2]),C([2]), D and E (A1 to E) ([3]) and F	1 3 4
System 1: See Regulation (EU) No. 305/2011 (CPR) Annex V, 1.2 System 3: See Regulation (EU) No. 305/2011 (CPR) Annex V, 1.4 System 4: See Regulation (EU) No. 305/2011 (CPR) Annex V, 1.5			
([1]) Products/materials for which a clearly identifiable stage in the production process results in an improvement of the reaction to fire classification (e.g. an addition of fire retardants or a limiting of organic material). ([2]) Products/materials not covered by footnote (1). ([3]) Products/materials that do not require to be tested for reaction to fire (e.g. products/materials of Class A1 according to Commission Decision 96/603/EC, as amended).			

The AVCP of the flexible sheets for underlays in Table ZA.1 shall be according to the AVCP procedures indicated in Tables ZA.3.1 to ZA.3.3 resulting from application of the clauses of this or other European Standard indicated therein. The content of tasks of the notified body shall be limited to those essential characteristics as provided for, if any, in Annex III of the relevant mandate and to those that the manufacturer intends to declare.

Table ZA.3.1 — Assignment of AVCP tasks for flexible sheets for underlays for walls under system 3 and system 1 for reaction to fire classes A1([1]), A2([1]), B([1]), C([1])

Tasks		Content of the task	AVCP clauses to apply
Tasks for the manufacturer	Determination of the product-type on the basis of type testing (including sampling), type calculation, tabulated values or descriptive documentation of the product	Essential characteristics of Table ZA.1 relevant for the intended use, which are declared, except reaction to fire and watertightness	6.2
	Factory production control (FPC)	Parameters related to essential characteristics of Table ZA.1 relevant for the intended use which are declared	6.3
	Further testing of samples taken at factory according to the prescribed test plan	Essential characteristics of Table ZA.1 relevant for the intended use, which are declared	6.3
Tasks for a notified testing laboratory	Determination of the product-type on the basis of type testing (based on sampling carried out by the manufacturer), type calculation, tabulated values or descriptive documentation of the product	Watertightness and water vapour resistance of Table ZA.1	6.2
Tasks for the notified product certification body	Determination of the product-type on the basis of type testing (including sampling), type calculation, tabulated values or descriptive documentation of the product	Reaction to fire classes A1 ([1]), A2([1]), B([1]) or C([1]) of Table ZA.1	6.2
	Initial inspection of factory and of FPC	Parameters related to essential characteristics of Table ZA.1, relevant for the intended use, which are declared, namely reaction to fire. Documentation of the FPC	6.3, 6.3.4
	Continuous surveillance, assessment and approval of FPC	Parameters related to essential characteristics of Table ZA.1, relevant for the intended use, which are declared, namely reaction to fire. Documentation of the FPC	6.3, 6.3.5

Table ZA.3.2 — Assignment of AVCP tasks for flexible sheets for underlays for walls under system 3 and system 3 for reaction to fire classes A1([2]), A2([2]), B([2]), C([2]), D and E

Tasks		Content of the task	AVCP clauses to apply
Tasks for the manufacturer	Determination of the product-type on the basis of type testing (including sampling), type calculation, tabulated values or descriptive documentation of the product	Essential characteristics of Table ZA.1 relevant for the intended use, which are declared, except reaction to fire and watertightness	6.2
	Factory production control (FPC)	Parameters related to essential characteristics of Table ZA.1 relevant for the intended use	6.3
Tasks for a notified testing laboratory	Determination of the product-type on the basis of type testing (based on sampling carried out by the manufacturer), type calculation, tabulated values or descriptive documentation of the product	Watertightness, water vapour resistance and reaction to fire classes A1([2]), A2([2]), B([2]), C([2]), D or E of Table ZA.1	6.2

Table ZA.3.3 — Assignment of AVCP tasks for flexible sheets for underlays for walls under system 3 and system 4 for reaction to fire classes (A1 to E) ([3]) and F

Tasks		Content of the task	AVCP clauses to apply
Tasks for the manufacturer	Determination of the product-type on the basis of type testing (including sampling), type calculation, tabulated values or descriptive documentation of the product	Essential characteristics of Table ZA.1 relevant for the intended use, which are declared, except watertightness	6.2
	Factory production control (FPC)	Parameters related to Essential Characteristics of Table ZA.1 relevant for the intended use	6.3
Tasks for a notified testing laboratory	Determination of the product-type on the basis of type testing (based on sampling carried out by the manufacturer), type calculation, tabulated values or descriptive documentation of the product	Watertightness and water vapour resistance of Table ZA.1	6.2

ZA.2.2 Declaration of performance (DoP)

ZA.2.2.1 General

The manufacturer draws up the DoP and affixes the CE marking on the basis of the different AVCP systems set out in Annex V of the Regulation (EU) No 305/2011:

a) *In case of products under system 1:*

1) the factory production control and further testing of samples taken at the factory according to the prescribed test plan, carried out by the manufacturer; and

2) the certificate of constancy of performance issued by the notified product certification body on the basis of determination of the product type on the basis of type testing (including sampling), type calculation, tabulated values or descriptive documentation of the product; initial inspection of the manufacturing plant and of factory production control and continuous surveillance, assessment and evaluation of factory production control.

b) *In case of products under system 3:*

1) the factory production control carried out by the manufacturer; and

2) the determination of the product-type on the basis of type testing (based on sampling carried out by the manufacturer), type calculation, tabulated values or descriptive documentation of the product, carried out by the notified testing laboratory.

c) *In case of products under system 4:*

1) the factory production control carried out by the manufacturer; and

2) the determination by the manufacturer of the product-type on the basis of type testing, type calculation, tabulated values or descriptive documentation of the product.

ZA.2.2.2 Content

The model of the DoP is provided in Annex III of the Regulation (EU) No 305/2011.

According to this Regulation, the DoP shall contain, in particular, the following information:

— the reference of the product-type for which the declaration of performance has been drawn up;

— the AVCP system or systems of the construction product, as set out in Annex V of the CPR;

— the reference number and date of issue of the harmonised standard which has been used for the assessment of each essential characteristic;

— where applicable, the reference number of the Specific Technical Documentation used and the requirements with which the manufacturer claims the product complies.

The DoP shall in addition contain:

a) the intended use or uses for the construction product, in accordance with the applicable harmonised technical specification;

b) the list of essential characteristics, as determined in the harmonised technical specification for the declared intended use or uses;

c) the performance of at least one of the essential characteristics of the construction product, relevant for the declared intended use or uses;

d) where applicable, the performance of the construction product, by levels or classes, or in a description, if necessary based on a calculation in relation to its essential characteristics determined in accordance with the Commission determination regarding those essential characteristics for which the manufacturer shall declare the performance of the product when it is placed on the market or the Commission determination regarding threshold levels for the performance in relation to the essential characteristics to be declared;

e) the performance of those essential characteristics of the construction product which are related to the intended use or uses, taking into consideration the provisions in relation to the intended use or uses where the manufacturer intends the product to be made available on the market;

f) for the listed essential characteristics for which no performance is declared, the letters "NPD" (No Performance Determined).

Regarding the supply of the DoP, Article 7 of the Regulation (EU) No 305/2011 applies.

The information referred to in Article 31 or, as the case may be, in Article 33 of Regulation (EC) No 1907/2006, (REACH) shall be provided together with the DoP.

ZA.2.2.3 Example of DoP

The following gives an example of a filled-in DoP for flexible sheet for underlays for walls:

DECLARATION OF PERFORMANCE

No. 00001-DoP-2013/05/12

1) Unique identification code of the product-type:

Flexible sheet for underlays for walls

Polypropylene Spunbond poly 25 m x 1,5 m x 0,5 mm (inst. with 10 cm overlap)

2) Type, batch or serial number or any other element allowing identification of the construction product as required under Article 11(4):

Flexible sheet for underlay for walls

Polypropylene Spunbond poly 25 m x 1,5 m x 0,5 mm (inst. with 10 cm overlap)

3) Intended use or uses of the construction product, in accordance with the applicable harmonised technical specification, as foreseen by the manufacturer:

In walls of buildings

4) Name, registered trade name or registered trade mark and contact address of the manufacturer as required under Article 11(5):

AnyCo SA,

PO Box 21

B-1050 Brussels, Belgium

Tel. +32 987 654 321

Fax: +32 123 456 789

Email: anyco.sa@provider.be

5) Where applicable, name and contact address of the authorised representative whose mandate covers the tasks specified in Article 12(2):

Anyone Ltd

Flower Str. 24

West Hamfordshire

UK-589645 United Kingdom

Tel. +44 987 654 321

Fax: +44 123 456 789

e-mail: anyone.ltd@provider.uk

6) System or systems of assessment and verification of constancy of performance of the construction product as set out in CPR, Annex V:

System 1 and system 3

7) In case of the declaration of performance concerning a construction product covered by a harmonised standard:

Certificate of constancy or performance No. xxx issued by notified product certification body No. xxx for reaction to fire.

Notified testing laboratory No. xxx performed the product type determination (for watertightness).

8) Declared performance

Table Z.4—Declared Performance

Essential characteristics	Performance	Harmonised technical specification
Reaction to fire	Class E	EN 13859-2:2014
Resistance to water penetration: — before artificial ageing — after artificial ageing	Class W1 Class W1	
Water vapour resistance	S_d = (0,1 ± 0,02) m	
Tensile strength in longitudinal direction: — before artificial ageing — after artificial ageing	(700 ± 30) N/50 mm (650 ± 20) N/50 mm	
Tensile strength in transverse direction: — before artificial ageing — after artificial ageing	(500 ± 30) N/50 mm (450 ± 20) N/50 mm	
Elongation in longitudinal direction: — before artificial ageing — after artificial ageing	(30 ± 5) % (25 ± 5) %	
Elongation in transverse direction: — before artificial ageing — after artificial ageing	(25 ± 5) % (20 ± 5) %	
Tear resistance: — before artificial ageing — after artificial ageing	(500 ± 30) N (400 ± 30) N	
Flexibility at low temperature (pliability):	NPD	
Dangerous substances	X less than 0,2 ppm	

9) The performance of the product identified in points 1 and 2 is in conformity with the declared performance in point 8. This declaration of performance is issued under the sole responsibility of the manufacturer identified in point 4.

Signed for and on behalf of the manufacturer by:

……

(name and function)

…….…… ……..…….. (place and date of issue) (signature)

ZA.3 CE marking and labelling

The CE marking symbol shall be in accordance with the general principles set out in Article 30 of Regulation (EC) No 765/2008 and shall be affixed visibly, legibly and indelibly:

— to the flexible sheet for underlays for walls

or

— to a label attached to it.

Where this is not possible or not warranted on account of the nature of the product, it shall be affixed:

— to the packaging

or

— to the accompanying documents.

The CE marking shall be followed by:

— the last two digits of the year in which it was first affixed,

— the name and the registered address of the manufacturer, or the identifying mark allowing identification of the name and address of the manufacturer easily and without any ambiguity,

— the unique identification code of the product-type

— the reference number of the declaration of performance (see example of DoP)

— the level or class of the performance declared (see example of declaration)

— the dated reference to the harmonised technical specification applied

— the identification number of the notified body, (only for products under systems 1 and 3),

— the intended use as laid down in the harmonised technical specification applied.

The CE marking shall be affixed before the construction product is placed on the market. It may be followed by a pictogram or any other mark notably indicating a special risk or use.

Figure ZA.1 gives an example of the information related to products subject to AVCP under each of the different systems to be given on the accompanying documents.

CE 5678 910	*CE marking, consisting of the "CE"-symbol* *Identification number of the product certification body and of the notified testing laboratory*
AnyCo Ltd, PO Box 21, B-1050, Brussels, Belgium **13** 00001-DoP-2013/05/12	*Name or identifying mark and registered address of the producer* *Last two digits of the year in which the marking was affixed* *EC Certificate number*
EN 13859-2:2014 **Flexible sheet for underlays for walls** Polypropylene Spunbond poly 25 m × 1,5 m × 0,5 mm For use in walls of buildings (installation with 10 cm overlap) **Reaction to fire:** Class E **Resistance to water penetration:** — before artificial ageing: Class *W1* — after artificial ageing: Class *W1* **Water vapour resistance:** S_d = (0,1 ± 0,02) m — **Tensile strength in longitudinal direction:** before artificial ageing: (700 ± 30) N/50 mm — after artificial ageing: (650 ± 20) N/50 mm — **Tensile strength in transverse direction:** before artificial ageing: (500 ± 30) N/50 mm — after artificial ageing: (450 ± 20) N/50 mm — **Elongation in longitudinal direction:** before artificial ageing: (30 ± 5) % — after artificial ageing: (25 ± 5) % — **Elongation in transverse direction:** before artificial ageing: (25 ± 5) % — after artificial ageing: (20 ± 5) % **Tear resistance:** — longitudinal direction: (500 ± 30) N — transverse direction: (400 ± 30) N **Flexibility at low temperature (pliability):** NPD **Dangerous substance X:** Less than 0,2 ppm	*No. of European Standard applied, as referenced in OJEU* *Unique identification code of the product-type* *Intended use of the product as laid down in the European standard applied* *Level or class of the performance declared*

Figure ZA.1 — Example CE marking information of products under AVCP systems 1 and 3

Bibliography

[1] EN 13238, *Reaction to fire tests for building products - Conditioning procedures and general rules for selection of substrates*

[2] EN 13823, *Reaction to fire tests for building products - Building products excluding floorings exposed to the thermal attack by a single burning item*

[3] EN ISO 9001, *Quality management systems - Requirements (ISO 9001:2008)*

[4] Council Directive 89/106/EEC of 21 December 1988 on the approximation of laws, regulations and administrative provisions of the Member States relating to construction products

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