

SVENSK STANDARD

SS-EN 13859-1:2014

Fastställt/Approved: 2014-05-07
Publicerad/Published: 2014-05-09
Utgåva/Edition: 3
Språk/Language: engelska/English
ICS: 01.040.91; 91.100.50

Flexibla tätskikt – Definitioner och karaktäriserande egenskaper – Del 1: Vattenavledande skikt av byggpapp, duk, folie

Flexible sheets for waterproofing – Definitions and characteristics of underlays – Part 1: Underlays for discontinuous roofing

This preview is downloaded from www.sis.se. Buy the entire standard via <https://www.sis.se/std-101792>

Standarder får världen att fungera

SIS (Swedish Standards Institute) är en fristående ideell förening med medlemmar från både privat och offentlig sektor. Vi är en del av det europeiska och globala nätverk som utarbetar internationella standarder. Standarder är dokumenterad kunskap utvecklad av framstående aktörer inom industri, näringsliv och samhälle och befrämjar handel över gränser, bidrar till att processer och produkter blir säkrare samt effektiviserar din verksamhet.

Delta och påverka

Som medlem i SIS har du möjlighet att påverka framtida standarder inom ditt område på nationell, europeisk och global nivå. Du får samtidigt tillgång till tidig information om utvecklingen inom din bransch.

Ta del av det färdiga arbetet

Vi erbjuder våra kunder allt som rör standarder och deras tillämpning. Hos oss kan du köpa alla publikationer du behöver – allt från enskilda standarder, tekniska rapporter och standardpaket till handböcker och onlinetjänster. Genom vår webbtjänst e-nav får du tillgång till ett lättnavigerat bibliotek där alla standarder som är aktuella för ditt företag finns tillgängliga. Standarder och handböcker är källor till kunskap. Vi säljer dem.

Utveckla din kompetens och lyckas bättre i ditt arbete

Hos SIS kan du gå öppna eller företagsinterna utbildningar kring innehåll och tillämpning av standarder. Genom vår närhet till den internationella utvecklingen och ISO får du rätt kunskap i rätt tid, direkt från källan. Med vår kunskap om standarders möjligheter hjälper vi våra kunder att skapa verklig nytta och lönsamhet i sina verksamheter.

Vill du veta mer om SIS eller hur standarder kan effektivisera din verksamhet är du välkommen in på www.sis.se eller ta kontakt med oss på tel 08-555 523 00.



Standards make the world go round

SIS (Swedish Standards Institute) is an independent non-profit organisation with members from both the private and public sectors. We are part of the European and global network that draws up international standards. Standards consist of documented knowledge developed by prominent actors within the industry, business world and society. They promote cross-border trade, they help to make processes and products safer and they streamline your organisation.

Take part and have influence

As a member of SIS you will have the possibility to participate in standardization activities on national, European and global level. The membership in SIS will give you the opportunity to influence future standards and gain access to early stage information about developments within your field.

Get to know the finished work

We offer our customers everything in connection with standards and their application. You can purchase all the publications you need from us - everything from individual standards, technical reports and standard packages through to manuals and online services. Our web service e-nav gives you access to an easy-to-navigate library where all standards that are relevant to your company are available. Standards and manuals are sources of knowledge. We sell them.

Increase understanding and improve perception

With SIS you can undergo either shared or in-house training in the content and application of standards. Thanks to our proximity to international development and ISO you receive the right knowledge at the right time, direct from the source. With our knowledge about the potential of standards, we assist our customers in creating tangible benefit and profitability in their organisations.

If you want to know more about SIS, or how standards can streamline your organisation, please visit www.sis.se or contact us on phone +46 (0)8-555 523 00



Europastandarden EN 13859-1:2014 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av EN 13859-1:2014.

Denna standard ersätter SS-EN 13859-1:2010, utgåva 2.

The European Standard EN 13859-1:2014 has the status of a Swedish Standard. This document contains the official version of EN 13859-1:2014.

This standard supersedes the Swedish Standard SS-EN 13859-1:2010, edition 2.

© Copyright/Upphovsrätten till denna produkt tillhör SIS, Swedish Standards Institute, Stockholm, Sverige. Användningen av denna produkt regleras av slutanvändarlicensen som återfinns i denna produkt, se standardens sista sidor.

© Copyright SIS, Swedish Standards Institute, Stockholm, Sweden. All rights reserved. The use of this product is governed by the end-user licence for this product. You will find the licence in the end of this document.

Uppllysningar om sakinnehållet i standarden lämnas av SIS, Swedish Standards Institute, telefon 08-555 520 00. Standarder kan beställas hos SIS Förlag AB som även lämnar allmänna uppllysningar om svensk och utländsk standard.

Information about the content of the standard is available from the Swedish Standards Institute (SIS), telephone +46 8 555 520 00. Standards may be ordered from SIS Förlag AB, who can also provide general information about Swedish and foreign standards.

Denna standard är framtagen av kommittén för Tätskikt och geosynteter, SIS/TK 177.

Har du synpunkter på innehållet i den här standarden, vill du delta i ett kommande revideringsarbete eller vara med och ta fram andra standarder inom området? Gå in på www.sis.se - där hittar du mer information.

EUROPEAN STANDARD

EN 13859-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 2014

ICS 91.100.50

Supersedes EN 13859-1:2010

English Version

Flexible sheets for waterproofing - Definitions and characteristics of underlays - Part 1: Underlays for discontinuous roofing

Feuilles souples d'étanchéité - Définitions et
caractéristiques des écrans souples - Partie 1 : Écrans
souples de sous-toiture pour couverture en petits éléments
discontinus

Abdichtungsbahnen - Definitionen und Eigenschaften von
Unterdeck- und Unterspannbahnen - Teil 1: Unterdeck- und
Unterspannbahnen für Dachdeckungen

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.

CEN members are the national standards bodies of 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 United Kingdom.



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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents	Page
Foreword.....	4
1 Scope	5
2 Normative references	5
3 Terms and definitions	6
4 Product characteristics	7
4.1 General.....	7
4.2 Dimensions, straightness and mass per unit area.....	7
4.3 Application related characteristics	7
4.4 Dangerous substances	8
5 Testing	9
5.1 Sampling.....	9
5.2 Test methods.....	9
6 Assessment and verification of the constancy of performance – AVCP.....	11
6.1 General.....	11
6.2 Type testing.....	11
6.3 Factory production control (FPC)	12
7 Product data sheet.....	16
8 Marking, labelling and packaging	16
Annex A (normative) Determination of tensile properties	18
A.1 General.....	18
A.2 Apparatus	18
A.3 Sampling.....	18
A.4 Preparation of test specimens	18
A.5 Procedure	18
A.6 Expression and evaluation of results.....	19
A.7 Test report	20
Annex B (normative) Determination of resistance to tearing	21
B.1 General.....	21
B.2 Apparatus	21
B.3 Sampling.....	21
B.4 Preparation of test specimens	21
B.5 Procedure	21
B.6 Expression and evaluation of results.....	22
B.7 Test report	22
Annex C (normative) Artificial ageing by exposure to UV and heat.....	23
C.1 General.....	23

C.2	Principle	23
C.3	Apparatus	23
C.4	Preparation of test specimens	23
C.5	Procedure	24
C.6	Expression of results	24
C.7	Test report	24
Annex D (normative) Product type determination and frequencies of testing for factory production control		26
Annex E (informative) Example of a product data sheet		28
Annex F (normative) Determination of the watertightness of seams		30
F.1	General	30
F.2	Terms and definitions	30
F.3	Procedure	30
F.4	Apparatus	30
F.5	Preparation of the test specimens	30
F.6	Procedure	31
F.7	Evaluation	31
F.8	Test report	31
Annex ZA (informative) Clauses of this European Standard addressing provisions of the EU Construction Products Regulation (CPR)		32
ZA.1	Scope and relevant characteristics	32
ZA.2	Procedures for AVPC of the flexible sheets for underlays	33
ZA.2.1	Systems of AVPC	33
ZA.2.2	Declaration of performance (DoP)	35
ZA.2.2.1	General	35
ZA.2.2.2	Content	36
ZA.2.2.3	Example of DoP	37
ZA.3	CE marking and labelling	39
Bibliography		42

Foreword

This document (EN 13859-1:2014) 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 13859-1:2010.

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

- a) the application-related characteristic 'emissivity' has been added;
- b) the wording and the Annex ZA have 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* (the present document);
- *Part 2: Underlays for walls*.

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 which are to be used under roof covering of discontinuous roofs. 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 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 13859-2:2014, *Flexible sheets for waterproofing — Definitions and characteristics of underlays — Part 2: Underlays for walls*

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 stated by the manufacturer to be met during testing, that can be a minimum or a maximum value according to statements made under 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 discontinuous roofing**
factory-made flexible sheets of plastics, bitumen, rubber or other suitable materials, which are used as underlay to coverings of sloping roofs (e.g. tiles, slates)
- 3.8 waterproofing**
action to prevent the passage of water from one plane to another

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 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*.