



ETA-Danmark A/S  
Göteborg Plads 1  
DK-2150 Nordhavn  
Tel. +45 72 24 59 00  
Fax +45 72 24 59 04  
Internet [www.etadanmark.dk](http://www.etadanmark.dk)

Authorized and notified according  
to Article 29 of the Regulation (EU)  
No 305/2011 of the European  
Parliament and of the Council of 9  
March 2011

MEMBER OF EOTA



## European Technical Assessment ETA-16/0182 of 2019/04/10

### I General Part

**Technical Assessment Body issuing the ETA and designated according to Article 29 of the Regulation (EU) No 305/2011: ETA-Danmark A/S**

**Trade name of the construction product:**

LIP Foliesystem Watertight covering kit

**Product family to which the above construction product belongs:**

Watertight covering kit for wet room floors and walls based on flexible sheets

**Manufacturer:**

LIP Bygningsartikler A/S  
Industrivej 16  
5580 Nørre Aaby  
Telephone +45 64 42 13 30  
Internet [www.lip.dk](http://www.lip.dk)

**Manufacturing plant:**

LIP Bygningsartikler A/S  
Industrivej 16  
5580 Nørre Aaby

**This European Technical Assessment contains:**

8 pages including 1 annex which form an integral part of the document

**This European Technical Assessment is issued in accordance with Regulation (EU) No 305/2011, on the basis of:**

Guideline for European Technical Approval ETAG No 022 Watertight covering kits for wet room floors and/or walls, Part 2: Kits based on flexible sheets, Edition March 2011 used as European Assessment Document (EAD).

**This version replaces:**

The ETA with the same number issued on 2018-04-24

Translations of this European Technical Assessment in other languages shall fully correspond to the original issued document and should be identified as such.

Communication of this European Technical Assessment, including transmission by electronic means, shall be in full (excepted the confidential Annex(es) referred to above). However, partial reproduction may be made, with the written consent of the issuing Technical Assessment Body. Any partial reproduction has to be identified as such.

## II SPECIFIC PART OF THE EUROPEAN TECHNICAL ASSESSMENT

### 1 Technical description of product and intended use

#### Technical description of the product

##### General

LIP Foliesystem is a flexible sheet membrane kit which serves as a watertight covering for wet room floors and walls beneath a wearing surface. The kit consists of the following components:

##### Primer

LIP Primer 54, which is a single component water based primer for various substrates. This primer is not intended to have a significant additional function in limiting the water vapour permeability of the kit.

##### Membrane

LIP Folie is a 3-ply waterproof membrane consisting of two outer layers of polypropylene non-wovens and an inner layer of modified low density polyethylene. The thickness of the membrane is 0,63 mm and the weight is 295 g/m<sup>2</sup>. The membrane is adhered to the substrate with 0,75 kg/m<sup>2</sup> LIP Folielim, LIP VS 30 membrane, LIP Multi Fliseklæb or LIP Multi Fliseklæb Let, and the joints in the sheet is adhered with 0,75 kg/m<sup>2</sup> LIP Folielim or with 80 ml/m/50 mm wide overlap LIP Skarvlim MSP

##### Reinforcement

The reinforcements are LIP ÅT Självhäftanderemsa, LIP Åt-Remsa and LIP prefabricated inner and outer corners LIP “Åt-innerhörn” and LIP “Åt-ytterhörn”, which are used in connection between the floor and the wall, in corners and around penetrations. Sealing around pipe penetrations is made with LIP “Rørmanchet”, which is a prefabricated collar made of thermoplastic elastomers. Sealing of floor gullies is made with LIP “Afløbsmanchet”, which is a butyl based self-adhering collar. The reinforcements are not intended to cover the entire floor and wall covering, but are used over joints and in corners and around pipe penetrations.

##### Adhesives

Adhesives covered by this ETA is: LIP Flydeklæb Let, LIP Naturstensklæb; LIP Multi Fliseklæb, LIP Multi Fliseklæb Let, LIP Super Trope Fliseklæb or LIP Hurtighærdende Fliseklæb.

##### Kit

The kit is constructed as follows:

- a layer of minimum 150 g/m<sup>2</sup> LIP Primer 54 (depending on substrate)
- reinforcement of in- and out going corners in walls, over joints or cracks in the substrate, around pipe

penetrations, floor gullies and along the connection between floor and wall with reinforcement LIP ÅT Självhäftanderemsa, LIP Åt-Remsa, LIP “Åt-innerhörn” and LIP “Åt-ytterhörn”, LIP “Elastik Rørmanchet” and LIP “Afløbsmanchet”.

- LIP Foliesystem adhered to the substrate with approx. 0,75 kg/m<sup>2</sup> LIP Folielim, LIP VS 30 membrane, LIP Flydeklæb Let, LIP Naturstensklæb, LIP Multi Fliseklæb or LIP Multi Fliseklæb Let and joints in the sheet adhered with 0,75 kg/m<sup>2</sup> LIP Folielim or with 80 ml/m/50 mm wide overlap LIP Skarvlim MSP
- a layer of ceramic tiles adhered to the kit with cement based tile adhesive (LIP Flydeklæb Let, LIP Naturstensklæb, LIP Multi Fliseklæb, LIP Multi Fliseklæb Let, LIP Super Trope Fliseklæb or LIP Hurtighærdende Fliseklæb.).

### 2 Specification of the intended use in accordance with the applicable EAD

The intended use of the covering kit is:

1. watertight covering for use beneath a wearing surface, normally in the form of tiles, on substrates of gypsum boards, fibre cement boards, cement bonded boards and concrete, i.e. moisture sensitive substrates, which are flexible and with jointing and susceptible to cracking

The kit can be used with the following types of floor gullies:

Circular and rectangular gullies made from stainless steel or plastic type PE, with flange for adhesion of the membrane or with clamping ring or with collar

2. Indoor applications, where the liquid applied kit is not exposed to temperatures (i.e. temperature of structure) below 5 °C and above 40 °C, in the following uses:

- Floor and wall surfaces with only occasional direct exposure to water, e.g. at a good distance from shower or bathtub.
- Floors and walls in shower areas or around bathtubs used for a few showers daily, e.g. in ordinary dwellings, multi-family houses and hotels
- Floor and wall surfaces with exposure to water more frequent or of longer duration than normally anticipated in dwellings, e.g. public wet rooms, schools and sport facilities.

The provisions made in this European Technical Assessment are based on an assumed intended working life of the kit of 25 years.

The indications given on the working life cannot be interpreted as a guarantee given by the producer or Assessment Body, but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

### 3 Performance of the product and references to the methods used for its assessment

Characteristic	Assessment of characteristic
<b>2.2 Safety in case of fire (BWR2)</b>	
Reaction to fire	No performance assessed
<b>2.3 Hygiene, health and the environment (BWR3)</b>	
Vapour permeability	<p>The sd value of the membrane at RH 100 → 75 % is 110 m</p> <p>The sd value of the membrane at RH 93 → 50 % is 75 m</p> <p>The values are for the flexible sheet alone, and the other components of the kit are not considered to have an adverse effect on these values.</p>
Moisture resistance	
Water tightness	<b>Watertight</b> according to EN 1928 method B
Crack bridging ability	<b>Assessment category 2:</b> Crack width 0,75 mm
Bond strength	<p>LIP Primer 54, LIP Foliesystem and 0,75 kg/m<sup>2</sup> LIP VS 30 membrane, LIP Folielim, LIP Multi Fliseklæb or LIP Multi Fliseklæb Let and tile adhesive LIP Flydeklæb Let, LIP Naturstensklæb, LIP Multi Fliseklæb, LIP Multi Fliseklæb Let, LIP Super Trope Fliseklæb and LIP Hurtighærdende Fliseklæb, on a concrete substrate all comply with <b>Assessment category 1:</b> Bond strength &gt; 0,2 MPa</p> <p>LIP Primer 54, LIP Foliesystem and 0,75 kg/m<sup>2</sup> LIP VS 30 membrane, LIP Folielim, LIP Multi Fliseklæb or LIP Multi Fliseklæb Let and tile adhesive LIP Flydeklæb Let, LIP Naturstensklæb, LIP Multi Fliseklæb, LIP Multi Fliseklæb Let, LIP Super Trope Fliseklæb and LIP Hurtighærdende Fliseklæb on substrates*) of gypsum boards, fibre cement boards, cement based board comply with <b>Assessment category 1:</b> Bond strength &gt; 0,2 MPa</p>
Scratching resistance	No performance assessed
Joint bridging ability	<p>LIP Primer 54, LIP Foliesystem and 0,75 kg/m<sup>2</sup> LIP VS 30 membrane or LIP Folielim or 80 ml/m/50 mm wide overlap LIP Skarvlim MSP</p> <p><b>Assesment category 2:</b> Watertight</p>
Water tightness around penetrations	<p>LIP Primer 54, LIP Foliesystem and 0,75 kg/m<sup>2</sup> LIP Folielim or 80 ml/m/50 mm wide overlap LIP Skarvlim MSP, LIP VS 30 membrane, LIP Multi Fliseklæb or LIP Multi Fliseklæb Let membrane and LIP reinforcement (see II.1)**) comply with <b>Assesment category 2:</b> Watertight</p>

Characteristic	Assessment of characteristic
Joint strength	The declared values are:  <b>Joint parallel to MD: 190 N</b> <b>Joint transverse to MD: 180 N</b>
Flexibility	<b>No cracking or other surface deterioration visible</b>
<b>2.7 Related aspects of durability and serviceability</b>	
Dimensional stability	The declared values are: <b>Longitudinal direction (MD): <math>\bar{X}_{AL} = -0,9\%</math></b> <b>Transverse direction (CMD): <math>\bar{X}_{AL} = 0,0\%</math></b>
Resistance to temperature	<b>Pass.</b> The tensile strength and the strain at maximum force of a sample of LIP Foliesystem were assessed before and after heat exposure. The deviation before and after ageing was considerably lower than 20% and therefore no further investigations are required to assess that the resistance to temperature.
Resistance to water	LIP Foliesystem and 0,75 kg/m <sup>2</sup> LIP LIP VS 30 membrane or LIP Folielim or 80 ml/m/50 mm wide overlap LIP Skarvlim MSP and tile adhesive LIP Flydeklæb Let, LIP Naturstensklæb, LIP Multi Fliseklæb, LIP Multi Fliseklæb Let, LIP Super Trope Fliseklæb and LIP Hurtighærdende Fliseklæb on a concrete substrate all comply with <b>Assessment category 1: Bond strength &gt; 0,2 Mpa</b>
Resistance to alkalinity	<b>Pass.</b> The tensile strength and the strain at maximum force of a sample of LIP Foliesystem were assessed before and after alkaline exposure. The deviation before and after ageing was considerably lower than 20% and therefore no further investigations are required to assess that the resistance to alkalinity.
Repairability	No performance assessed
Thickness	The thickness of the LIP Folie is assessed to be 0,57 mm The declared value is 0,63 mm
Applicability	Applicable
<b>2.8 Sustainable use of natural resources (BWR7)</b>	No performance assessed

\*) The assessment of the fitness for use of the kit on the generic description of the boards is based on test on the following specified substrates in addition to concrete according to EN 1323; Gyosum plaster board according to EN 520

\*\*) In accordance with the provisions of ETAG 022 part 2 – Annex A, the kit has been tested with three types of floor gullies all circular; one made from stainless steel with a flange for floors with a membrane and two in PP plastic, where one is with a clamping ring type KL/150

### Aspects related to the performance of the product

The European Technical Assessment is issued for the product on the basis of agreed data/information, deposited with ETA-Danmark, which identifies the product that has been assessed and judged. Changes to

the product or production process, which could result in this deposited data/information being incorrect, should be notified to ETA-Danmark before the changes are introduced. ETA-Danmark will decide whether or not such changes affect the ETA and consequently the

validity of the CE marking on the basis of the ETA and if so whether further assessment or alterations to the ETA, shall be necessary.

The performance of the watertight membrane kit results from the characteristic values and categories.

The supplementing statements of the manufacturer stated in the MTD for design and application of the watertight system for creating a watertight covering under wearing surface for floors and walls in indoor wet areas shall be considered

The performance of the watertight membrane can be assumed only, if the following aspects are considered:

- only those components which are specified components of the kit can be used,
- the appropriate tools shall be used and adjuvant, precautions shall be taken,
- inspecting the substrate surface for cleanliness and correct treatment,
- inspection in the process of establishing the kit and of the finished watertight membrane and documentation of the results.

The information as to the handling of waste products shall be observed.

It is the manufacturer's responsibility to make sure that all those who utilize the kit will be appropriately informed about the specific conditions according to this ETA and the not confidential parts of the MTD deposited to this ETA

#### **4 Attestation and verification of constancy of performance (AVCP)**

##### **4.1 AVCP system**

According to the decision 2003/655/EC of the European Commission as amended, the system(s) of assessment and verification of constancy of performance (see Annex V to Regulation (EU) No 305/2011) is 2+.

There is no declared fire performance, and hence the Decision 2003/655/EC of the European Commission with regard to reaction to fire is not relevant.

#### **5 Technical details necessary for the implementation of the AVCP system, as foreseen in the applicable EAD**

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited at ETA-Danmark prior to CE marking

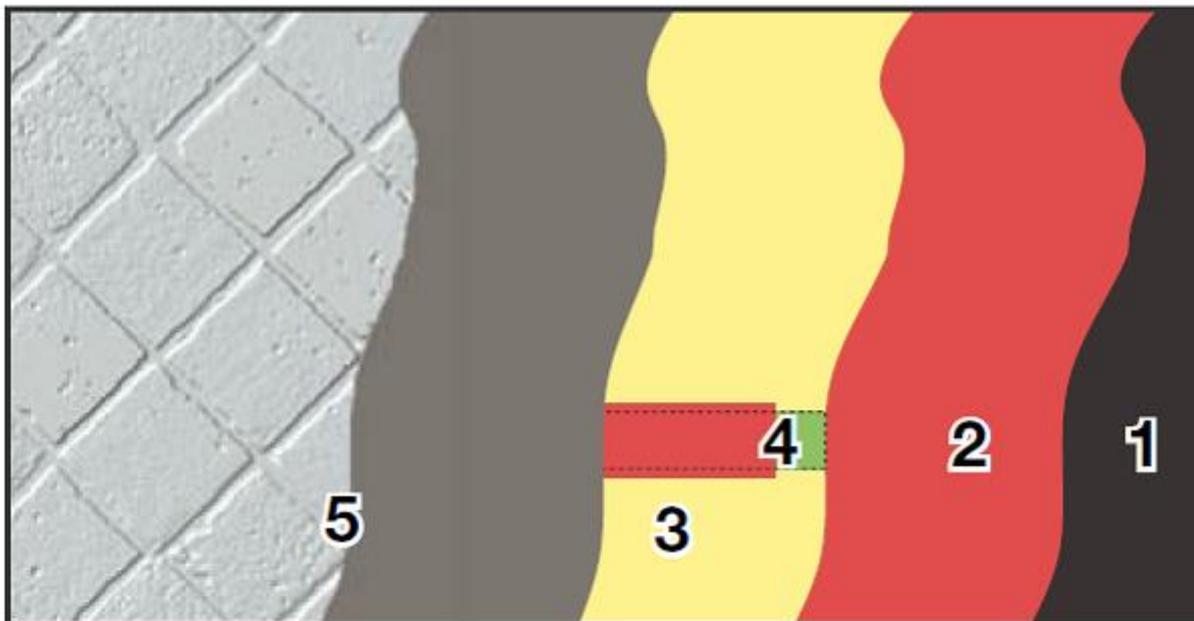
Issued in Copenhagen on 2019-04-10 by



Thomas Bruun  
Managing Director, ETA-Danmark

Principle components of the kit

1. Primer depedning on substrate
2. LIP Folielim, LIP VS 30 membrane, LIP Flydeklæb Let, LIP Naturstensklæb, LIP Multi Fliseklæb or LIP Multi Fliseklæb Let
3. LIP Foliessystem
4. LIP Reinforcement/LIP Folielim/ LIP Skarvlim MSP
5. Tile adhesive and tile



LIP Foliessystem wtertight covering kit	Annex 1
Principle build-up of the kit	of European Technical Assessment ETA-16/0182