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MEMBER OF EOTA



## European Technical Assessment ETA-16/0182 of 2023/05/15

### 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 27

**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:**

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**This European Technical Assessment contains:**

9 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:**

EAD 030436-00-0503 Watertight covering kits based on flexible sheets for wet room floors and or walls

**This version replaces:**

The ETA with the same number issued on 2022-10-31

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## II SPECIFIC PART OF THE EUROPEAN TECHNICAL ASSESSMENT

### 1 Technical description of product

#### General

LIP Foliesystem 27 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, see technical data sheet. 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-woven and an inner layer of modified low-density polyethylene. The average thickness of the membrane is 0,65 mm and the weight is 277-316 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 745 Adhesive.

Joint in the sheet are adhered with 0,25 l/m<sup>2</sup> LIP Folielim or with 80 ml/m/50 mm wide overlap LIP Skarvlim MSP.

The dimensional stability of the membrane is:

Extension break longitudinal DIN EN ISO 527-3:

70% ≥ 50%

Extension break lateral DIN EN ISO 527-3:

95% ≥ 70%

#### 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 Multi Let 544, LIP 527 Fliseklæb, LIP Trope Fliseklæb and LIP Hurtighærdende Fliseklæb or LIP XXL.

#### Kit

The kit is constructed as follows:

- LIP Primer 54 is to be used for highly porous substrates or as an adhesive promotor for non-porous materials (amount 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 27 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, LIP Multi Fliseklæb Let, LIP 745 Adhesive, Multi Let 544 or 527 Fliseklæb, 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 Multi Let 544, LIP 527 Fliseklæb, LIP Trope Fliseklæb, LIP Hurtighærdende Fliseklæb or LIP XXL).

## **2 Specification of the intended use(s) in accordance with the applicable European Assessment Document (hereinafter 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>	
Content, emission and/or release of dangerous substances*	No performance assessed
Vapour permeability	<p>The <math>s_d</math> value of the membrane at RH 100 → 75 % is 110 m</p> <p>The <math>s_d</math> 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>
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 27 and 0,75 kg/m<sup>2</sup> LIP VS 30 membrane, LIP Folielim, LIP Multi Flisekløb, LIP Multi Flisekløb Let or LIP 745 Adhesive and tile adhesive LIP Flydekløb Let, LIP Naturstenskløb, LIP Multi Flisekløb, LIP Multi Flisekløb Let, LIP Multi Let 544, LIP 527 Flisekløb, LIP Trope Flisekløb and LIP Hurtighærdende Flisekløb, on a concrete substrate all comply with</p> <p><b>Assessment category 1:</b> Bond strength &gt; 0,2 MPa</p> <p>LIP Primer 54, LIP Foliesystem 27 and 0,75 kg/m<sup>2</sup> LIP VS 30 membrane, LIP Folielim, LIP Multi Flisekløb or LIP Multi Flisekløb Let and tile adhesive LIP Flydekløb Let, LIP Naturstenskløb, LIP Multi Flisekløb, LIP Multi Flisekløb Let, LIP Multi Let 544, LIP 527 Flisekløb, LIP Trope Flisekløb and LIP Hurtighærdende Flisekløb on substrates of gypsum boards, fibre cement boards, cement based board comply with</p> <p><b>Assessment category 1:</b> Bond strength &gt; 0,2 MPa</p> <p>LIP Primer 54, LIP Foliesystem 27 and 0,75 kg/m<sup>2</sup> LIP VS 30 membrane, LIP 745 Adhesive and tile adhesive LIP Flydekløb Let, LIP Naturstenskløb, LIP Multi Flisekløb, LIP Multi Flisekløb Let, LIP Trope Flisekløb and LIP Hurtighærdende Flisekløb on substrates of gypsum boards, fibre cement boards, cement based board comply with</p> <p><b>Assessment category 2:</b> Bond strength &gt; 0,3 MPa</p> <p>LIP Primer 54, LIP Foliesystem 27 and tile adhesive LIP XXL on substrates of gypsum boards, fibre cement boards, cement based board comply with</p> <p><b>Assessment category 3:</b> Bond strength ≥ 0,5 Mpa</p>

Characteristic	Assessment of characteristic
Scratching resistance	Not relevant
Water tightness around penetrations	LIP Primer 54, LIP Foliesystem 27 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 and LIP reinforcement comply with <b>Assesment category 2: Watertight</b>
Resistance to temperature	<b>Pass.</b> The tensile strength and the strain at maximum force of a sample of LIP Foliesystem 27 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 27 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 and tile adhesive LIP Flydeklæb Let, LIP Naturstensklæb, LIP Multi Fliseklæb, LIP Multi Fliseklæb Let, Multi Let 544, LIP 527 Fliseklæb, LIP Trope Fliseklæb and LIP Hurtighærdende Fliseklæb on a concrete substrate all comply with <b>Assessment category 1: Bond strength &gt; 0,2 Mpa</b>  LIP Primer 54, LIP Foliesystem 27 and tile adhesive LIP XXL on substrates <sup>*)</sup> of gypsum boards, fibre cement boards, cement based board comply with <b>Assessment category 3: Bond strength ≥ 0,5 MPa</b>
Resistance to alkalinity	<b>Pass.</b> The tensile strength and the strain at maximum force of a sample of LIP Foliesystem 27 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.
Resistance to mechanical wear	Not relevant
Joint strength	<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>2.4 Safety in use (BWR4)</b>	
Slipperiness	Not relevant
Cleanability	Not relevant
Thickness	The thickness of the LIP Folie is assessed to be 0,58-0,76 mm

<sup>\*)</sup>In addition to the specific clauses relating to dangerous substances contained in this European Technical Assessment, there may be other requirements applicable to the products falling within its scope (e.g., transposed European legislation and national laws, regulations and administrative provisions). In order to meet the provisions of the Construction Products Regulation, these requirements need also to be complied with, when and where they apply.

### **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 Assessment and verification of constancy of performance (hereinafter AVCP) system applied, with reference to its legal base**

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

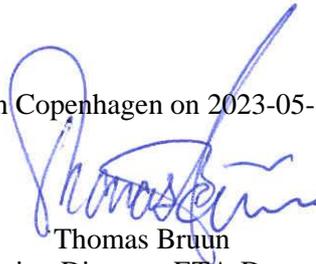
According to the decision 2003/655/EC of the European Commission as amended, the system(s) of assessment and verification of constancy of performance (see Annex V to Regulation (EU) No 305/2011) is 2+.

There is no assessed 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 provided for 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 2023-05-15 by



Thomas Bruun  
Managing Director, ETA-Danmark

Components of the kit:

1. Primer depedning on substrate
2. LIP 2K Folielim, LIP VS 30 membrane, LIP Flydeklæb Let, LIP Naturstensklæb, LIP Multi Fliseklæb, LIP Multi Fliseklæb Let, LIP 745 Adhesive, Multi Let 544 or 527 Fliseklæb
3. LIP Foliessystem 27
4. LIP Reinforcement/LIP 2K Folielim/ LIP Skarvlim MSP
5. Tile adhesive and tile



LIP Foliessystem 27 watertight covering kit	Annex 1
Principle build-up of the kit	of European Technical Assessment ETA-16/0182