

Approval body for construction products  
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and  
Laender Governments



## European Technical Assessment

**ETA-13/0238**  
**of 14 July 2015**

English translation prepared by DIBt - Original version in German language

### General Part

Technical Assessment Body issuing the  
European Technical Assessment:

Deutsches Institut für Bautechnik

Trade name of the construction product

LUX ELEMENTS WATERTIGHT SOLUTION

Product family  
to which the construction product belongs

Watertight covering kit based on inherently watertight  
boards for wet room floors and walls

Manufacturer

LUX ELEMENTS GmbH & Co. KG  
An der Schusterinsel 7  
51379 Leverkusen-Opladen  
DEUTSCHLAND

Manufacturing plant

LUX ELEMENTS GmbH & Co. KG  
An der Schusterinsel 7  
51379 Leverkusen  
Deutschland  
LUX ELEMENTS GmbH & Co. KG  
Maybachstraße 21  
51381 Leverkusen  
Deutschland

This European Technical Assessment  
contains

9 pages including 3 annexes which form an integral part  
of this assessment

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

Guideline for European technical approval of "Watertight  
Covering Kits for Wet Room Floors and/or Walls",  
ETAG 022 Part 3: "Kits based on inherently watertight  
boards", Version November 2010,  
used as European Assessment Document (EAD)  
according to Article 66 Paragraph 3 of Regulation (EU)  
No 305/2011.

This version replaces

ETA-13/0238 issued on 16 May 2013

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## Specific Part

### 1 Technical description of the product

"LUX ELEMENTS WATERTIGHT SOLUTION" is a watertight covering kit. The kit consists of the following components:

- Watertight board "LUX ELEMENTS-ELEMENT-VK" for walls and floors on the basis of an expanded polystyrene foam (EPS), on both sides coated with mortar on the basis of modified cement reinforced with a glass fiber fabric, in addition the water exposed side is covered with a waterproofing sheet on the basis of polyethylene reinforced with a polypropylene fleece:

Main dimensions:	Length:	from 1250 mm to 2500 mm
	Width:	600 mm
	Thickness:	from 12 mm to 100 mm

Other dimensions for length and width can be cut from the board.

- Watertight board "LUX ELEMENTS-TUB" for floors on the basis of an expanded polystyrene foam (EPS), both sides covered with mortar on the basis of modified cement reinforced with a glass fiber fabric, the water exposed side with an additional sealing on the basis of cement. The boards have an integrated slope in direction of a prefabricated penetration for the floor gully. The boards are available in different geometries and sizes.

Main dimensions:	Length:	from 300 mm to 3000 mm
	Width:	from 300 mm to 3000 mm
	Thickness:	from 20 mm to 100 mm

Other dimensions for length and width can be cut from the board.

- Primer "LUX ELEMENTS-COL-HSV", if necessary
- Adhesive "LUX ELEMENTS-COL-AK" for fixing the board on substrate
- Adhesive "LUX ELEMENTS-COL-MK" for fixing the joints between the boards
- Sealing tape "LUX ELEMENTS-DRY-DB", width: 100 mm or "LUX ELEMENTS-DRY-DBV", width: 120 mm
- Sealing sleeve for corners, floor gullies and penetrations:
  - "LUX ELEMENTS-DRY -DBIE/DBAE" or "LUX ELEMENTS-DRY-DBVIE/DBVAE" leg length 105 mm to 120 mm
  - "LUX ELEMENTS-DRY-DBDZM" 120 mm x 120 mm or 150 mm x 150 mm
  - "LUX ELEMENTS-DRY-DBBM", cut from a foil, at least 100 mm x 100 mm
- Sealing mass "LUX ELEMENTS-DRY-ASK" for fixing and embedding the sealing details
- Adhesives for tiles on the basis of cement mortar respectively of epoxy resin, CE-marked according EN 12004<sup>1</sup>:

"LUX ELEMENTS-COL-FLEX"; "SCHÖNOX CF"; "Sopro`s No. 1"

The kit is intended to be used on a substrate and under a wearing surface, e. g. tiles. The wearing surface and its jointing material are not part of the kit, but are considered during the assessment of the intended use of the product.

Annex A1 shows the system build-up and Annex A2 shows the sealing details.

<sup>1</sup> EN 12004+A1:2012 Adhesives for tiles - Requirements, evaluation of conformity, classification and designation

English translation prepared by DIBt

**2 Specification of the intended use in accordance with the applicable European assessment Document**

The intended use of the watertight covering kit under a wearing surface is to create a floor and wall watertight covering for indoor wet areas at possible operating temperature of 5 °C till 40 °C.

The following uses are intended:

- Floor and/or wall surfaces with only occasional direct exposure to water, e. g. at a good distance from shower or bathtub;
- Floor and/or wall in shower areas or around bathtubs used for a few showers daily, e. g. in ordinary dwellings, multifamily houses and hotels;
- Floor and/or 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 watertight membrane is intended to be used on flexible substrates e. g. plywood, chipboard, gypsum, anhydrite or similar material vulnerable to water and on rigid substrates e. g. masonry or concrete.

The product should be used in connection with the following types of gullies:

Plastics – type ABS and PE – with clamping ring and collar or prefabricated by LUX ELEMENTS

The gullies are not part of the kit. It is up to the responsibility of the user to use suitable products of the given type.

The performances given in Section 3 are only valid if the watertight covering kit is used in compliance with the specifications and conditions given in Annex B.

The verifications and assessment methods on which this European Technical Assessment is based lead the assumption of working life of the watertight covering kit of 25 years. The indications given on the working life cannot be interpreted as a guarantee given by the producer, 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**

**3.1 Mechanical resistance and stability (BWR 1)**

Not applicable

**3.2 Safety in case of fire (BWR 2)**

Essential characteristic	Performance
Reaction to fire	See Annex A1

### 3.3 Hygiene, health and the environment (BWR 3)

Essential characteristic	Performance
Content and/or release of dangerous substances:	
Component: Tile adhesive (CE-marked)	See Declaration of Performance of the product
All other components	The chemical composition of the product has to be in compliance with the composition deposited at the Technical Assessment Body (DIBt). The product does not contain dangerous substances according to EOTA TR 034 (version May 2014)
Vapour permeability	See Annex A1, declared value
Watertightness	See Annex A1
Crack bridging ability	See Annex A1, category
Bond strength	See Annex A1, category
Scratching resistance	See Annex A1, declared value
Joint bridging ability	See Annex A1, category
Watertightness around penetration	See Annex A1, category
Impermeability at sealings	See Annex A1, declared value

### 3.4 Safety and accessibility (BWR 4)

Essential characteristic	Performance
Slipperiness	See Annex A1, declared value

### 3.5 Protection against noise (BWR 5)

Not applicable

### 3.6 Energy economy and heat retention (BWR 6)

Not applicable

### 3.7 Sustainable use of natural resources (BWR 7)

For the sustainable use of natural resources no performance was investigated for this product.

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### 3.8 General aspects

The verification of durability and serviceability is part of testing the essential characteristics and by additional tests on the kit respectively on the components:

Essential characteristic	Performance
Dimensions stability	See Annex A1, declared value
Resistance to temperature	See Annex A1, category
Resistance to water	See Annex A1, category
Resistance to alkalinity	See Annex A1, category
Resistance to mechanical wear	See Annex A1, declared value
Cleanability	See Annex A1, declared value
Reparability	See Annex A1, statement of the manufacturer
Thickness	See Annex A1, declared value
Applicability	See Annex A1, declaration

The verification of durability and serviceability is only ensured if the specifications of intended use according to Annex B and the specifications of the technical file of the manufacturer are kept.

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

According to Decision of the Commission of 12 September 2003 (2003/655/EC) (OJ L 231 of 17.09.2003, p. 12) the system of assessment and verification of constancy of performance (see Annex V and Article 65 Paragraph 2 to Regulation (EU) No 305/2011) given in the following table applies.

Product	Intended use(s)	Level or class	System
Watertight covering kits for wetroom floors and walls	For building works	-	2+
	For uses subject to regulation on reaction to fire	E	3

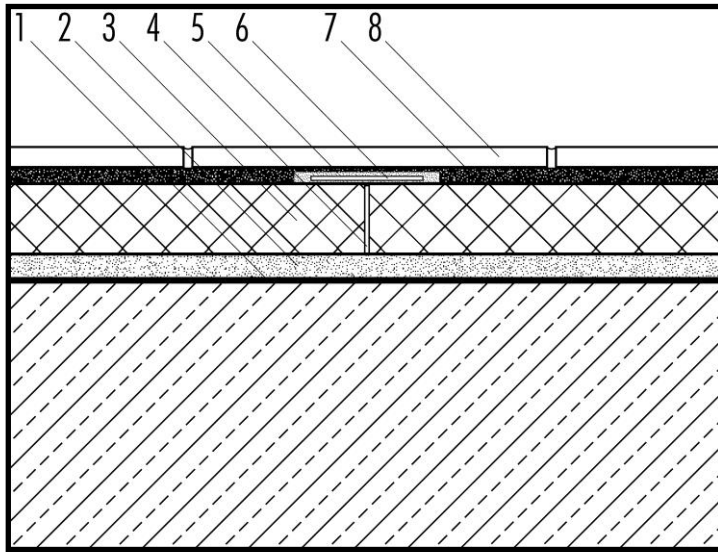
### 5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited at Deutsches Institut für Bautechnik.

Issued in Berlin on 14 July 2015 by Deutsches Institut für Bautechnik

Dirk Brandenburger  
Head of Department

*beglaubigt:*  
Hemme



- 1 Primer "LUX ELEMENTS-COL-HSV", if necessary
- 2 Adhesive "LUX ELEMENTS-COL-AK"
- 3 Watertight board "LUX ELEMENTS-TUB" or "LUX ELEMEMENTS-ELEMENT-VK"
- 4 Adhesive "LUX ELEMENTS-COL-MK" for fixing the joints between the boards
- 5 Sealing mass for Details "LUX ELEMENTS-DRY-ASK"
- 6 Sealing tape "LUX ELEMENTS-DRY-DB" or "LUX ELEMENTS-DRY-DBV"
- 7 Tile adhesive (see Annex 2)
- 8 Wearing surface (e. g. tiles) (not part of the kit)

**Applicable to the watertight covering kit:**

Thickness of the watertight boards	12 mm to 100 mm
Working life	25 years
Reaction to fire	EN 13501-1 class E
Statement on dangerous substance	see section 3.3
Water vapour diffusion resistance factor (23 °C – 50/93 % r.h.)	$s_d = 85 \text{ m}$
Water tightness	watertight
Scratching resistance	not relevant acc. ETAG 022-3
Impermeability at sealings	pass
Dimensional Stability	all directions < +/-1 %
Resistance to mechanical wear	not relevant acc. ETAG 022-3
Cleanability	not relevant acc. ETAG 022-3
Reparability	reparable
Slipperiness	npd
Applicability	Not relevant acc. ETAG 022-3

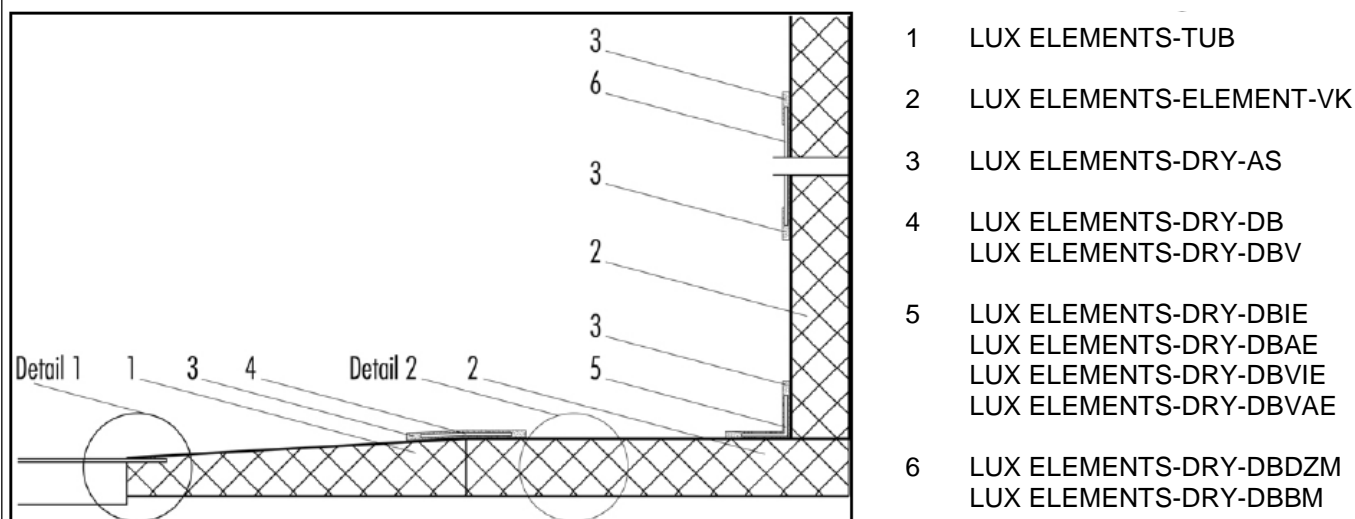
**Levels of categories according ETAG 022 with relation to:**

Use category related to BWR 3	IA2
Crack bridging ability	category 1: 0.4 mm
Bond strength	category 2: $\geq 0.3 \text{ MPa}$
Joint bridging ability	category 2: watertight
Water tightness around penetrations	category 2: watertight
Resistance to temperature	category 2: $\geq 0.3 \text{ MPa}$
Resistance to water	water resistant
Resistance to alkalinity	category 2: $\geq 0.3 \text{ MPa}$ (50 °C/8 W)

**LUX ELEMENTS WATERTIGHT SOLUTION**  
LUX ELEMENTS GmbH & Co. KG

**System built up, characteristic values and classifications**

Annex A1



**Main dimensions of sealing details:**

LUX ELEMENTS-DRY-DB	width:	100 mm
LUX ELEMENTS-DRY-DBV	width:	120 mm
LUX ELEMENTS-DRY-DBIE	leg length	at least: 115 mm
LUX ELEMENTS-DRY-DBAE	leg length	at least: 110 mm
LUX ELEMENTS-DRY-DBVIE	leg length	at least: 110 mm
LUX ELEMENTS-DRY-DBVAE	leg length	at least: 100 mm
LUX ELEMENTS-DRY-DBDZM	length/width:	120/120 mm; 150/150 mm
LUX ELEMENTS-DRY-DBBM	length/width:	at least 100/100 mm

**Tile adhesives**

LUX ELEMENTS-COL-FLEX
SCHÖNOX CF
Sopro's N°1

**LUX ELEMENTS WATERTIGHT SOLUTION**  
LUX ELEMENTS GmbH & Co. KG

**Components**

Annex A2



### Installation

The levels of use categories and the performance of the waterproofing kit can be assumed only, if the installation is carried out according to the installation instructions stated in the technical file of the manufacturer, in particular taking account of the following points:

- installation by appropriately trained personnel,
- installation of only those components which are specified components of the kit,
- installation with the required tools and adjuvant,
- precautions during installation,
- inspecting the substrate surface for cleanliness and correct treatment,
- inspecting during installation and of the finished watertight membrane and documentation of the results.

<b>LUX ELEMENTS WATERTIGHT SOLUTION</b> LUX ELEMENTS GmbH & Co. KG	Annex B
<b>Intended use</b> Specifications	