

Approval body for construction products
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and
Laender Governments



European Technical Assessment

ETA-19/0623
of 23 October 2023

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

ELAPRO 1k-SIL

Product family
to which the construction product belongs

Liquid applied roof waterproofing based on polyurethane

Manufacturer

ELAPRO GmbH & Co. KG
Wasserturmstraße 5
06766 Bitterfeld-Wolfen
DEUTSCHLAND

Manufacturing plant

ELAPRO GmbH & Co. KG
Wasserturmstraße 5
06766 Bitterfeld-Wolfen
DEUTSCHLAND

This European Technical Assessment
contains

7 pages including 2 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

030350-00-0402

This version replaces

ETA-19/0623 issued on 18 June 2021

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Specific part

1 Technical description of the product

The liquid applied roof waterproofing "ELAPRO 1k-SIL" is a kit, which consists of the following components:

- Primer (if required, not part of these ETA)
- Liquid applied roof waterproofing "ELAPRO 1k-SIL" on the basis of a polyurethane
- Polyester fleece as reinforcement

For an adequate adhesion of the waterproofing layer – depending on the type of substrate – a primer is required. In general, the primer belonging to the substrate is given in the manufacturer technical documents¹. In single cases the manufacturer is responsible to give guidance which pretreatment/primer is required.

The minimum layer thickness of the roof waterproofing applied is 2.1 mm.

As an assembled system these components form a homogeneous seamless roof waterproofing.

The liquid applied roof waterproofing "ELAPRO 1k-SIL" does not contain any substances that are intended to inhibit or prevent root penetration (root protection agents).

The components and the system build-up of the roof waterproofing "ELAPRO 1k-SIL" are given in Annex A.

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

The liquid applied roof waterproofing is used for the waterproofing of roof surfaces, terraces and balconies.

The roof waterproofing is suitable for hard substrates (e.g. concrete/steel).

The manufacturer's technical file contains information on how to pre-treat suitable substrates.

The product can be used for new roofs or for upgrading existing roof waterproofing. It can also be used on vertical surfaces.

The categorisation according to use is given in Annex A.

The verification and assessment methods on which this European Technical Assessment is based lead to the assumption of working life of the product 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.

The levels of use categories and performances given in Section 3 are only valid if the liquid applied roof waterproofing is used in compliance with the specifications and conditions given in Annex B and the installation instructions of the manufacturer stated in the technical documents.

¹ The manufacturer's technical documents comprise all information necessary for the production and the installation of the product as well as for repair of the roof waterproofing made from that and it is deposited with DIBt.

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

3.1 Basic Works Requirement 2: Safety in case of fire

Essential characteristic	Performance
External fire performance	see annex A
Reaction to fire	see annex A

3.2 Basic Works Requirement 3: Hygiene, health and the environment

Content, emission and/or release of dangerous substances	
Release scenario	S/W2
Substance/s classified as EU-cat. Carc. 1A and/or 1B ^{a)}	The kit does not contain these dangerous substances ^{b)}
Substance/s classified as EU-cat. Muta. 1A and/or 1B ^{a)}	
Substance/s classified as EU-cat. Repr. 1A and/or 1B ^{a)}	
Essential characteristic	Performance
Water vapour permeability	see annex A
Watertightness	see annex A
Resistance to wind loads	see annex A
Resistance to mechanical damage (perforation)	see annex A, levels of use categories
Resistance to fatigue movement	see annex A
Resistance to the effects of low and high surface temperature	see annex A
Resistance to ageing media (heat and water)	see annex A
Resistance to UV radiation in the presence of moisture	see annex A
Resistance to plant roots	see annex A
Effects of variations in kit components and site practices	see annex A
Effects of day joints	see annex A

^{a)} In accordance with Regulation (EC) No 1272/2008

^{b)} Assessment based on the detailed manufacturer's statements

3.3 Basic Works Requirement 4: Safety and accessibility in use

Essential characteristic	Performance
Slipperiness	see annex A

3.4 General aspects

The verification of durability and serviceability is part of testing the essential characteristics. Durability and serviceability are 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

In accordance with EAD 030350-00-0402 the applicable European legal act is: 98/599/EC and amended by Commission Decision 2001/596/EC.

The system to be applied is: 3

In addition, with regard to reaction to fire for products covered by this EAD the system to be applied is: 3

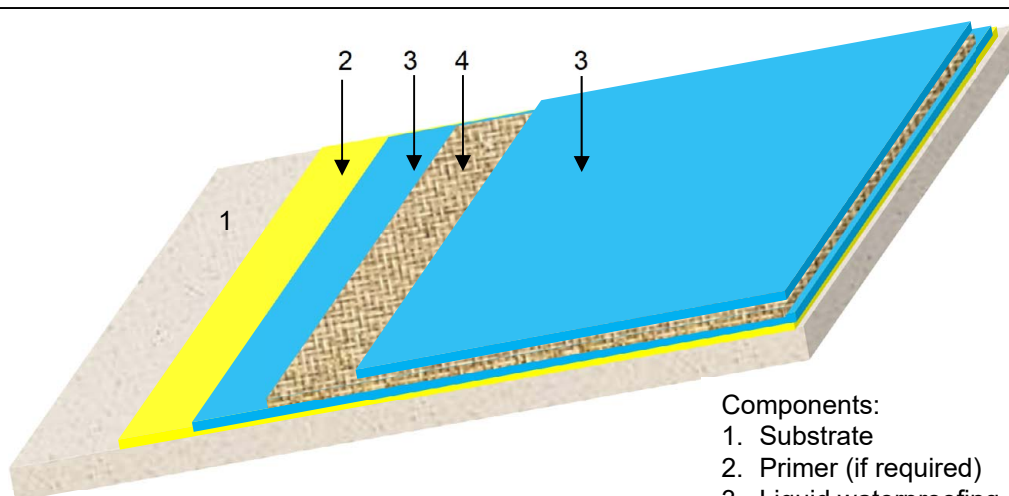
5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD

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

Issued in Berlin on 23 October 2023 by Deutsches Institut für Bautechnik

Bettina Hemme
Head of Section

beglaubigt:
Gnamou



- Components:
1. Substrate
 2. Primer (if required)
 3. Liquid waterproofing
 4. Polyester fleece (nominal weight min. 110 g/m²)

Applicable to the roof waterproofing "ELAPRO 1k-SIL"

Description of the product			
Minimum layer thickness		2.1 mm	
minimum quantity consumed:		3.3 kg/m ²	
Roof slope		S1 to S4 (each slope)	
Performance of the product:		Description / Class / Level	
External fire performance	EN 13501-5	B _{ROOF} (t1) *	
Reaction to fire	EN 13501-1	E	
Statement on dangerous substances		see section 3.2	
Water vapour diffusion resistance factor μ		$\mu \approx 2095$	
Watertightness		watertight	
Resistance to wind loads		≥ 50 kPa	
Resistance to mechanical damage (perforation) (compressible and non-compressible substrates)		P1 to P4 (from low to high)	
Resistance to fatigue movement		W3	
Resistance to the effects of	low surface temperature	TL4 (-30 °C)	
	high surface temperature	TH4 (90 °C)	
Working life according to the resistance to ageing media (heat and water)		W3 (25 years)	
UV resistance in presence of moisture (climatic zones)		M and S (moderate and severe climate)	
Resistance to plant roots		Roots resistant	
Effects of variations in kit components and site practices	at 5 °C	Maximum tensile strength	4.9 MPa
		Elongation	35.4 %
		Dynamic identification	P4
	at 50 °C	Maximum tensile strength	4.8 MPa
		Elongation	41.1 %
		Dynamic identification	P4
Effects of day joints		≥ 1250 kPa	
Resistance to slipperiness		no performance assessed	

* see next page

ELAPRO 1k-SIL
ELAPRO GmbH & Co. KG

System built-up, levels of use categories and performances of the product

Annex A

External fire performance

- * Class B_{ROOF} (t₁)

The classification is valid for the following supporting decks:

- all roof pitches
- any wooden continuous wood deck with a minimum thickness of 16 mm or non-combustible continuous deck with gaps not exceeding 5 mm
- expanded polystyrol (EPS) with a minimum thickness of 50 mm (min. fire class E) and a compressive stress of ≤ 150 kPa
- 1. Layer bitumen sheet the designation "V 13" (fire class E) with sanded surface and welded with the 2. bitumen sheet "G 200 DD" (fire class E).
- Roof cladding "ELAPRO 1k-SIL" consisting in:
 - appr. 2 kg/m² "ELAPRO 1k-SIL" as ground coating
 - Polyester fleece with a nominal weight of approx. 110 g/m²
 - appr. 1,0 kg/m² "ELAPRO 1k-SIL" as top layer

Any other roof system for which classification documents for B_{ROOF} (t₁) according to EN 13501-5 are available.

Installation

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

- installation by appropriately trained personnel
- installation of only those components which are marked components of the kit
- installation with the required tools and adjuvants
- precautions during installation
- inspecting the roof surface for cleanliness and correct preparation, if need be, applying a primer before applying the product
- inspecting compliance with suitable weather and curing conditions
- ensuring a thickness of the cured waterproofing of at least 2.1 mm by processing appropriate minimum quantities of material
- inspections during installation and of the finished product and documentation of the results

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Reaction to external fire & specifications

Annex B