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European Technical Assessment Body
for construction products



European Technical Assessment

ETA-24/0339
of 19 June 2024

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General Part

Technical Assessment Body issuing the European Technical Assessment:

Deutsches Institut für Bautechnik

Trade name of the construction product

KEMPEROL 1K-SF +

Product family to which the construction product belongs

Liquid applied roof waterproofing on the basis of polyurethane

Manufacturer

KEMPER SYSTEM GmbH & Co. KG
Holländische Str. 32-36
34246 Vellmar

Manufacturing plant

KEMPER SYSTEM GmbH & Co. KG
Holländische Str. 32-36
34246 Vellmar

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

EAD 030350-00-0402

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Specific part

1 Technical description of the product

The liquid applied roof waterproofing "KEMPEROL 1K-SF +" is a kit, which consists of the following components:

- Primer "KEMPERTEC EP-Grundierung" gritted with quartz sand for mineral substrates.
- Liquid applied roof waterproofing on the basis of a polyurethane.
- Polyester fleece layer 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 liquid applied roof waterproofing materials can be applied by pouring and/or brushing.

The minimum layer thickness of the roof waterproofing applied is 2.0 mm.

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

The liquid applied roof waterproofing "KEMPEROL 1K-SF +" 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 "KEMPEROL 1K-SF +" are given in Annex A.

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

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

In the technical documents the manufacturer gives information concerning the substrates which the product is suitable for and on how these substrates shall be pre-treated.

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

The levels of use categories are 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 Safety in case of fire (BWR 2)

Essential characteristic	Performance
External fire performance of roofs	See Annex A
Reaction to fire	See Annex A

3.2 Hygiene, health and the environment (BWR 3)

Essential characteristic	Performance
Content, emission and/or release of dangerous substances	
Release scenario	S/W 2
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)}	
Resistance to water vapour	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, levels of use categories
Resistance to the effects of low and high surface temperature	See Annex A, levels of use categories
Resistance to ageing media (heat and water)	See Annex A, levels of use categories
Resistance to UV radiation in the presence of moisture (climatic zone)	See Annex A
Resistance to plant roots	See Annex A
Effects of variations in kit components and site practices	See Annex A, levels of use categories
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 Safety and accessibility in use (BWR 4)

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 documents 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 No. 030350-00-0402, the applicable European legal act is: 98/599/EC as amended by Commission Decision 2001/596/EC.

The system to be applied is: 3

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

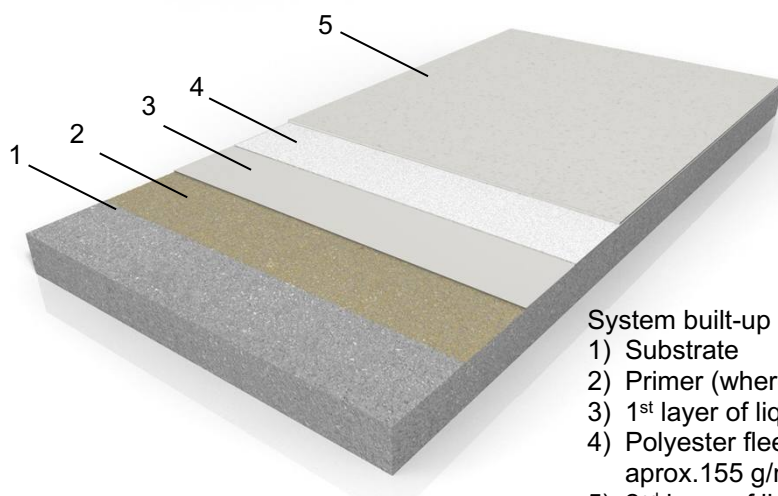
5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD

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 19 June 2024 by Deutsches Institut für Bautechnik

Jürgen Banzer
Head of Section (acting)

beglaubigt:
Hannoun



System built-up

- 1) Substrate
- 2) Primer (where required)
- 3) 1st layer of liquid synthetic material "KEMPEROL 1K-SF +"
- 4) Polyester fleece layer with a nominal weight of approx. 155 g/m²
- 5) 2nd layer of liquid synthetic material "KEMPEROL 1K-SF +"

Description of the product			
Minimum layer thickness		2.0 mm	
Minimum quantity consumed:		3.0 kg/m ²	
Roof slope		S1 to S4 (each slope)	
Essential characteristics		Performance	
External fire performance of roofs	EN 13501-5	Class B _{ROOF} (t ₁)*	
Reaction to fire	EN 13501-1	Class E	
Content, emission and/or release of dangerous substances		See section 3.2	
Water vapour diffusion resistance factor		μ ≈ 2100	
Watertightness		Watertight	
Resistance to wind loads		≥ 50 kPa for tear resistant substrates	
Resistance to mechanical damage (perforation) (compressible and hard 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 climatic)	
Resistance to plant roots		Root resistant	
Effects of variations in kit components and site practices	at +8 °C	Maximum tensile strength	8.1 MPa
		Elongation	32 %
		Dynamic indentation	P4
	at +40 °C	Maximum tensile strength	7.6 MPa
		Elongation	35 %
		Dynamic indentation	P4
Effects of day joints		> 20 kPa	
Resistance to slipperiness		No performance assessed	

* For the roof systems/supporting decks see Annex B.

KEMPEROL 1K-SF +
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System built-up, levels of use categories and performances of the product

Annex A

Classification of the external fire performance of roofs according to EN 13501-5 for the following supporting decks for the roof waterproofing "KEMPEROL 1K-SF +"

Class B_{ROOF} (t1)

The classification is valid for the following supporting decks:

- All roof pitches.
- Any non-combustible continuous deck $d \geq 10$ mm, with gaps not exceeding 5 mm.
- Wooden continuous deck with insulation (EPS, 100 mm) covered with bitumen sheets with a mass per unit of 5.5 kg/m².

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

Installation

The levels of use categories and the performances of the roof waterproofing 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 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;
- finding out whether to the given ambient temperature the application with the adjustment for summer or winter is to be accomplished;
- ensuring a thickness of the cured waterproofing of at least 2.0 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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**External fire performance of roofs and
Intended use** (specifications for the installation)

Annex B