

Approval body for construction products  
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and  
Laender Governments



## European Technical Assessment

ETA-13/0656  
of 14 January 2019

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

Roof sealing system 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  
DEUTSCHLAND

Manufacturing plant

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

ETAG 005 Part 6: "Specific stipulations for kits based on  
polyurethane",  
used as EAD according to Article 66 Paragraph 3 of  
Regulation (EU) No 305/2011.

This version replaces

ETA-13/0656 issued on 12 June 2013

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## 1 Technical description of the product

The liquid applied roof waterproofing "KEMPEROL 1K-SF" is a kit, which consists of the 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 documents<sup>1</sup>. 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 2.0 mm.

The kit does not contain any substances that are intended to inhibit or prevent root penetration (root protection agents).

As an assembled system these components form a homogeneous seamless roof waterproofing. Annex A shows the system build-up of the roof waterproofing "KEMPEROL 1K-SF".

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

The product is used for the waterproofing of roof surfaces against penetration of atmospheric water.

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

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.

<sup>1</sup> The manufacturer's technical documents comprises 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	See Annex A
Reaction to fire	See Annex A

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

Essential characteristic	Performance
Water vapour permeability	See Annex A
Watertightness	See Annex A
<b>Content of dangerous substances</b>	
Substance/s classified as EU-cat. Carc. 1A and/or 1B <sup>a)</sup>	The kit does not contain these dangerous substances. <sup>b)</sup>
Substance/s classified as EU-cat. Muta. 1A and/or 1B <sup>a)</sup>	
Substance/s classified as EU-cat. Repr. 1A and/or 1B <sup>a)</sup>	
Release scenario regarding BWR 3 : SW 2	
Resistance to mechanical damage (perforation)	See Annex A, Levels of use categories
Resistance to plant roots	See Annex A

<sup>a)</sup> In accordance with the Regulation (EG) No. 1272/2008.

<sup>b)</sup> Assessment based on the detailed manufacturer's statements.

#### 3.3 Safety and accessibility in use (BWR 4)

Essential characteristic	Performance
Resistance to wind loads	See Annex A
Slipperness	See Annex A

#### 3.4 General aspects

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

In accordance with ETAG 005 part 6 used as EAD, the applicable European legal act is: 98/599/EC.

The system to be applied is: 3

In addition, with regard to e.g. reaction to fire for products covered by this ETAG the applicable European legal act is: 2001/596/EC

The system to be applied is: 3

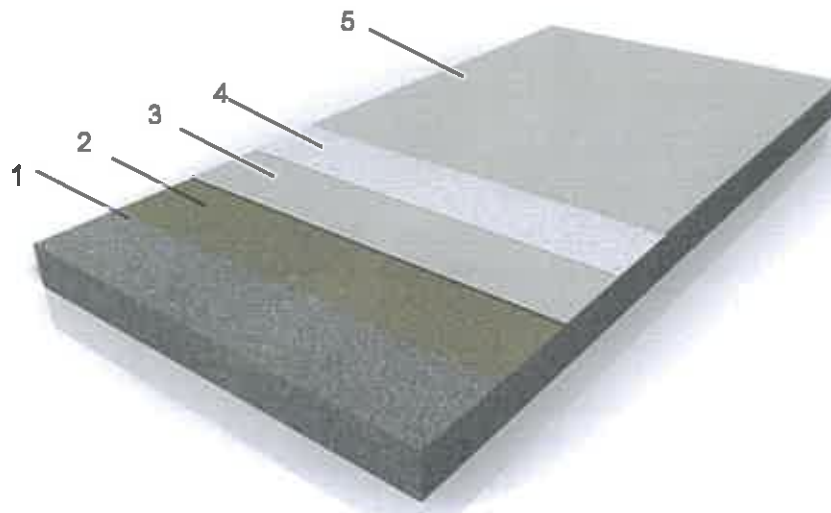
**5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD**

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 14 January 2019 by Deutsches Institut für Bautechnik

BD Dipl.-Ing. Andreas Kummerow  
Head of Department

*beglaubigt:*  
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|------------|--|
| Components | <p>1 substrate (not part of the kit)</p> <p>2 primer (where required)</p> <p>3 1<sup>st</sup> layer of liquid synthetic material "KEMPEROL 1K-SF"</p> <p>4 Polyester fleece layer with at least a weight of 155g/m<sup>2</sup></p> <p>5 2<sup>nd</sup> layer of liquid synthetic material "KEMPEROL 1K-SF"</p> |
|------------|--|

**Applicable to the roof waterproofing "KEMPEROL 1K-SF ":**

Minimum layer thickness	2.0 mm
minimum quantity consumed:	3.0 kg/m <sup>2</sup>
<u>Levels of use categories according to ETAG 005 with relation to:</u>	
Working life:	W3 (25 years)
Climatic zones	M and S (moderate and severe climatic)
Resistance to mechanical damage (perforation) (compressible and non-compressible substrates)	P1 to P4 (from low to high)
Roof slope	S1 to S4 (each slope)
Lowest surface temperature	TL4 (-30 °C)
Highest surface temperature	TH4 (90 °C)
<u>Performance of the product:</u>	
External fire performance	EN 13501-5 B <sub>ROOF</sub> (t1) <sup>b</sup>
Reaction to fire	EN 13501-1 class E
Water vapour diffusion resistance factor $\mu$	$\mu \approx 2100$
Watertightness	pass
Statement on dangerous substances	see section 3.2
Resistance to plant roots	Root resistant
Resistance to wind loads	$\geq 50$ kPa for tear resistant substrates
Resistance to slipperiness	no performance assessed

\* For the classification of the external fire performance according EN 13501-5 see Annex B.

<b>Roof sealling system KEMPEROL 1K-SF"</b> KEMPER SYSTEM GmbH & Co. KG	<b>Annex A1</b>
<b>System built-up and classifications</b>	

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

**Class B<sub>ROOF</sub> (t1)**

The classification is valid für the following supporting decks:

- All roof pitches
- any non-combustible continuous deck d = 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/m<sup>2</sup>

Any other roof systems for which classification documents for B<sub>ROOF</sub> (t<sub>1</sub>) 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
- ensuring a thickness of the 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

**Roof sealing system KEMPEROL 1K-SF"**  
KEMPER SYSTEM GmbH & Co. KG

**Reaction to external fire and  
Intended use, specifications**

Annex B