

Approval body for construction products
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and
Laender Governments



European Technical Assessment

ETA-05/0205
of 17 May 2018

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 waterproofing "Triflex Towersafe"

Product family
to which the construction product belongs

Liquid applied roof waterproofing on the basis of flexible
reactive polymethymetacrylate

Manufacturer

Triflex GmbH & Co. KG
Karlstraße 59
32423 Minden
DEUTSCHLAND

Manufacturing plant

Triflex GmbH & Co. KG
Karlstraße 59
32423 Minden
DEUTSCHLAND

This European Technical Assessment
contains

8 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

ETAG 005 Part 4: "Specific stipulations for kits based on
flexible unsaturated polyester",
used as EAD according to Article 66 Paragraph 3 of
Regulation (EU) No 305/2011.

This version replaces

ETA-05/0205 issued on 12 June 2013

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Specific Part

1 Technical description of the product

The liquid applied roof waterproofing "Triflex Towersafe" is a kit, which consists of the components:

- primer (if required),
- liquid applied roof waterproofing on the basis of flexible reactive polymethylmethacrylate,
- 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 minimum layer thickness of the roof waterproofing applied is 1.8 mm.

As an assembled system these components form a homogeneous seamless roof waterproofing. Annex A shows the system build-up of the roof waterproofing "Triflex Towersafe".

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.

¹ 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
Content of dangerous substances	
Substance/s classified as EU-cat carc. 1A und/oder 1B ^{a)}	The product does not contain these dangerous substances. ^{b)}
substances classified as EU-cat Muta 1A und/oder 1B ^{a)}	
substances classified as EU-cat Repr. 1A und/oder 1B ^{a)}	
Release scenario regarding BWR 3 : S/W 2	
Resistance to mechanical damage (perforation)	See Annex A, Levels of use categories
Resistance to plant roofs	See Annex A

^{a)} In accordance with the Regulation (EG) No. 1272/2008.

^{b)} 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
Slipperiness	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 005-4 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/EG

The system to be applied is: 3

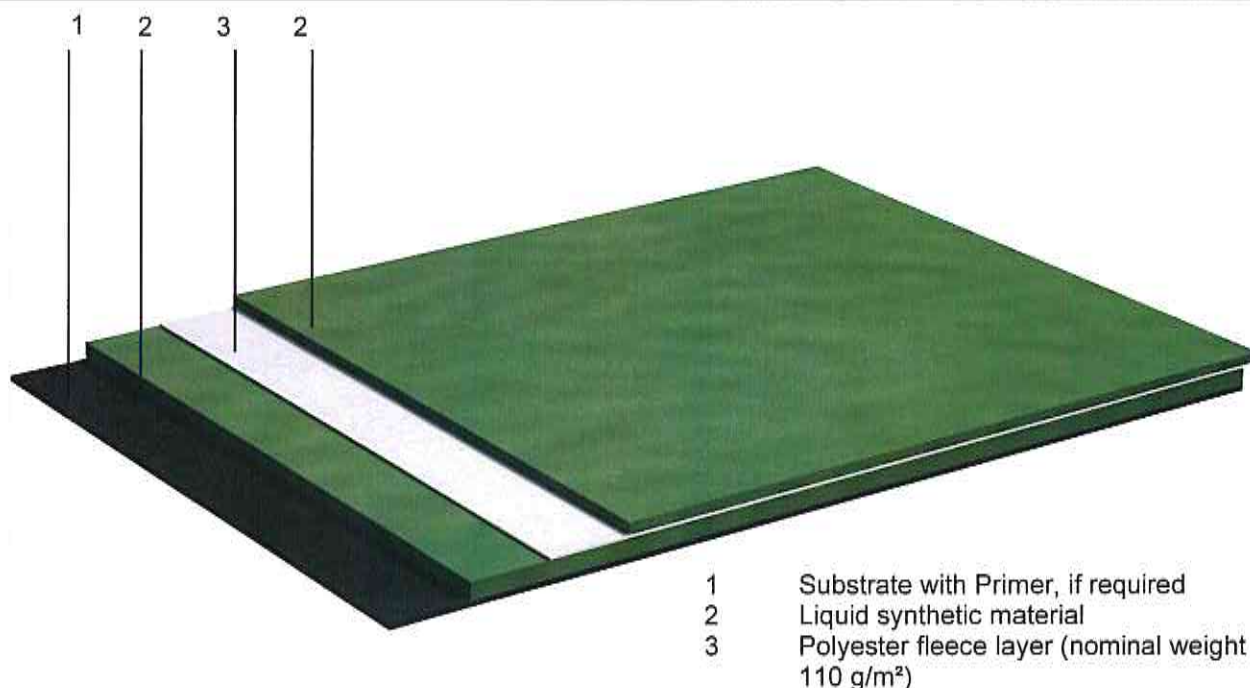
5 Technical details necessary for the implementation of the AVCP system, as provided for the applicable EAD

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 17 May 2018 by Deutsches Institut für Bautechnik

BD Dipl.-Ing. Andreas Kummerow
Head of Department

beglaubigt:
Gnamou



Applicable to the roof waterproofing "Triflex Towersafe":

Polyester fleece with at least a weight of	110 g/m ²
Minimum layer thickness	1.8 mm
minimum quantity consumed:	3.0 kg/m ²
<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 _{ROOF} (t1), B _{ROOF} (t2), B _{ROOF} (t3) and B _{ROOF} (t4)*
Reaction to fire	EN 13501-1 class E
Water vapour diffusion resistance factor μ	$\mu \approx 10000$
Watertightness	pass
Statement on dangerous substances	see section 3.2
Resistance to plant roots	no performance assessed
Resistance to wind loads	≥ 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 A2.

Roof waterproofing "Triflex Towersafe" Triflex GmbH & Co. KG	Annex A1
System built-up and classifications	

**Classification of the external fire performance according EN 13501-5
for the following supporting decks for the roof waterproofing
"Triflex Towersafe"**

Class B_{ROOF} (t1)

The classification is valid for the following supporting decks:

- all roof pitches
- any wooden continuous deck with a minimum thickness of 16 mm and with gaps not exceeding 0.5 mm
- any non-combustible continuous deck with a minimum thickness of 10 mm
- with bitumen sheet covered expanded polystyrol (EPS) with a minimum thickness of 50 mm and a minimum density of 20 kg/m³ covered with two layers of bitumen sheets for roof waterproofing

Class B_{ROOF} (t2)

The classification is valid for the following supporting decks:

- all roof pitches
- any combustible or non-combustible continuous deck having a density greater or equal to 0.75 times the density used in the tests (tests with standard substrates: all standard substrates according EN 13501-5 clause 6.4.3.3)

Class B_{ROOF} (t3)

The classification is valid for the following supporting decks:

- roof pitches ≤ 70 %
- any wooden continuous wood deck with a minimum thickness of 16 mm and with gaps not exceeding 0.5 mm
- any non-combustible continuous deck with a minimum thickness of 10 mm
- with bitumen sheet covered expanded polystyrol (EPS) with a minimum thickness of 50 mm and a minimum density of 20 kg/m³ covered with two layers of bitumen sheets for roof waterproofing

Class B_{ROOF} (t4)

The classification is valid for the following supporting decks:

- roof pitches ≤ 10 %
- any wooden continuous wood deck with a minimum thickness of 19
- Vapour control layer
- Insulation with a minimum thickness of 120 mm covered with a minimum 0.6 mm thick self-adhesive carrier membrane.

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

Roof waterproofing "Triflex Towersafe" Triflex GmbH & Co. KG	Annex A2
Reaction to external fire	

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, such as the thixotropy variant "Triflex ProDetail" for details as up stands, corners, connections etc. and upright surfaces,
- 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 1.8 mm by processing appropriate minimum quantities of material,
- inspections during installation and of the finished product and documentation of the results.

Roof waterproofing "Triflex Towersafe" Triflex GmbH & Co. KG	Annex B
Intended use Specifications	