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European Technical Assessment

ETA 22/0219
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General Part

Technical Assessment Body issuing the ETA: Kiwa Nederland B.V., Sir Winston Churchillaan 273, 2288 EA Rijswijk, www.kiwa.nl	
Trade name of the construction product	**"Triflex ProDetail"**
Product family to which the construction product belongs	Liquid applied roof waterproofing kit on the basis of flexible reactive polymethylmethacrylate
Manufacturer	Triflex GmbH & Co. KG Karlstraße 59 32423 Minden Germany
Manufacturing plant(s)	Triflex GmbH & Co. KG Karlstraße 59 32423 Minden Germany
This European Technical Assessment contains	10 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	EAD 030350-00-0402

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Specific parts

1. Technical description of the product

The liquid applied roof waterproofing kit (LAWRK) “Triflex ProDetail” is a kit, which consists of the components:

- “Triflex Cryl Primer“ (if required)
- “Triflex ProDetail”
  flexible, reactive polymethylmethacrylate-based liquid applied roof waterproofing membrane and
- “Triflex special fleece”
  polyester fleece for reinforcement,

For an adequate adhesion of the waterproofing layer – depending on the type of substrate – a primer may be required. In general the primer belonging to the substrate is given in the manufacturer technical documents. In single cases the manufacturer is responsible to give guidance which pre-treatment / primer is required.

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

Annex A describes the components and the system setup of the roof waterproofing kit “Triflex ProDetail”.

2. Specification of the intended use(s) in accordance with the applicable European Assessment Document (hereinafter EAD)

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

In the technical file the manufacturer gives information concerning the substrates which the product is suitable for and how these substrates shall be pre-treated. It comprises all necessary information for the production and the installation and repair of the kit and is deposited at Kiwa.

The levels of use categories are given in Annex A. A part of the essential characteristics was determined with differing testing parameters. The levels of use categories and used testing parameters are given in Annex C.

The verification and assessment methods on which this European Technical Assessment is based lead to the assumption of a working life of the product of more than 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 specification and conditions given in Annex B and the installation of the manufacture stated in the technical file.

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

3.1 Safety in case of fire (BWR 2)

Table 1: Essential characteristics for 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)

Table 2: Essential characteristics for BWR 3

Essential characteristic	Performance
Content, emission and/or release of dangerous substances	See Annex A
Resistance to water vapour	See Annex A
Watertightness	See Annex A See Annex C (differing testing parameters)
Resistance to wind loads	See Annex A
Resistance to mechanical damage (perforation)	See Annex A See Annex C (differing testing parameters)
Resistance to fatigue movement	See Annex A See Annex C (differing testing parameters)
Resistance to the effects of low and high surface temperatures	See Annex A See Annex C (differing testing parameters)
Resistance to ageing media (heat and water)	See Annex A See Annex C (differing testing parameters)
Resistance to UV radiation in the presence of moisture	See Annex A See Annex C (differing testing parameters)
Resistance to plant roots	See Annex A
Effects of variation in kit components and site practices	See Annex A
Effect of day joints	See Annex A

3.3 Safety and accessibility in use (BWR 4)

Table 3: Essential characteristics for 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 specification of the technical file of the manufacturer are kept.

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

According to Decision of the Commission of 12th October 1998 (98/599/EC) (OJ L 287 of 24.10.98, p.30) as amended by Decision of the Commission of 8th January 2001 (2001/596/EC) (OJ L 209 of 02.08.2001, p33), 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.

Table 4: Categorization of AVCP

Product	Intended uses(s)	Level or class	AVCP System
Liquid applied roof waterproofing kits	For uses subject to external fire performance regulations	-	3
	For uses subject to reaction to fire	E	
	All other roof waterproofing uses all other characteristics	-	

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 on the control plan deposited at Kiwa.

Issued in Rijswijk on 29-07-2022 by

Ron Scheepers
Kiwa Nederland B.V.

Annex A – Classification

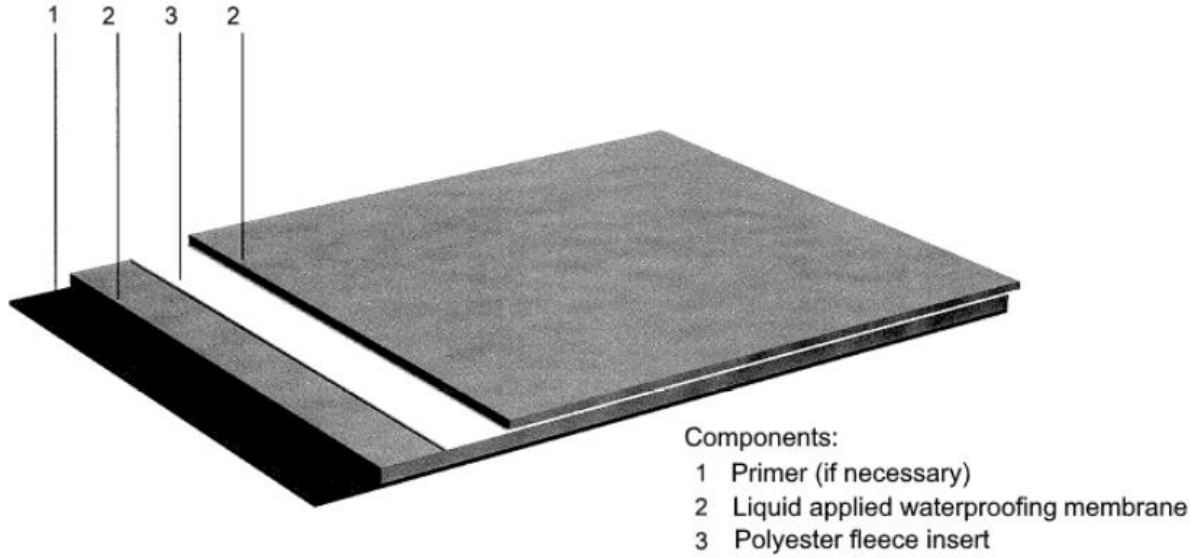

Table 5: Properties of the cured LARWK

Properties of the cured waterproofing kit ("Triflex ProDetail"):	
Minimum layer thickness	1.8 mm
Minimum quantity consumed	3,000 g/m²
Mass per unt area of the polyester fleece	110 g/m²
processing conditions	-5°C to +45°C

Table 6: Classification of the LAWRK according to the intended uses

Categorisation according to the intended use:	
Working life (durability)	W3 (25 years)
Climatic zones	M and S (moderate and severe)
User loads	P1 to P4 (low to special)
Roof slopes	S1 to S4 (up to 90° - vertical)
Lowest surface temperature	TL4 (-30 °C, extreme low temperatures)
Highest surface temperature	TH4 (+90 °C, severe high temperatures)
Use category regarding dangerous substances	S/W 2

Table 7: Essential characteristics and their performances for BWR 2

Basic Works Requirement 2: Safety in case of fire	
Reaction to fire	Class E
External fire performance	B_{ROOF} (t1), B_{ROOF} (t2), B_{ROOF} (t3), B_{ROOF} (t4)

Table 8: Essential characteristics and their performances for BWR 3

Basic Works Requirement 3: Hygiene, health and the environment	
Content, emission and/or release of dangerous substances - Dangerous substances (carcinogenicity, germ cell mutagenicity and reproductive toxicity) - Leaching substances	The system does not contain any dangerous substances classified as 1A, 1B and/or 2 according to regulation 1272/2008/EC. The system does not contain agents for root penetration.
Resistance to water vapour	μ ≈ 10,000
Watertightness	Passed
Resistance to wind loads	≥ 50 kPa for tear-resistant substrates
Resistance to mechanical damage (perforation) - Static indentation - Dynamic indentation	 L4 I4
Resistance to fatigue movement	W3
Resistance to the effects of low and high surface temperatures - Static indentation - Dynamic indentation - Crack bridging capability - Delamination strength	TL4, TH4 L4 I4 passed ≥ 50 kPa for tear-resistant substrates
Resistance to ageing media (heat) - Dynamic indentation - Resistance to fatigue movement - Tensile properties	W3, Severe (S) I4 passed performed
Resistance to ageing media (water) - Static indentation - Delamination strength	W3 L4 ≥ 50 kPa for tear-resistant substrates
Resistance to UV radiation in the presence of moisture - Dynamic indentation - Tensile properties	W3, Severe (S) I4 performed
Resistance to plant roots	No penetration of roots
Effects of variation in kit components and site practice - Tensile properties	T_{min} = -5°C T_{max} = 45 °C No significant degradation
Effects of day joints	No performance determined

Table 9: Essential characteristics and their performances for BWR 4

Basic Works Requirement 4: Safety in use	
Slipperiness	No performance determined

Table 10: Classification of external fire performance

Classification of external fire performance for following substrates and all other substrates with classification reports for B_{ROOF} (tX) according to EN 13501-5	
B_{ROOF} (t1)	All roof slopes All full-surface wooden underlays with a minimum thickness of 16 mm and joints of maximum 0.5 mm All full-surface non flammable substrates with a minimum thickness of 10 mm With bitumen sheeting laminated expanded polystyrol (EPS) with a minimum thickness of 50 mm and a spatial density of minimum 20 kg/m³ with two layers of bitumen roofing sheeting welded on
B_{ROOF} (t2)	All roof slopes All full-surface flammable and non-flammable substrates with a minimum density of 0.75 times the density of the support plates used in the tests (used support plates: all normative plates according to EN 13501-5, paragraph 6.4.3.3)
B_{ROOF} (t3)	All roof slopes ≤ 70 % All full-surface wooden underlays with a minimum thickness of 12 mm and joints of maximum 0.5 mm All full-surface non flammable substrates with a minimum thickness of 10 mm With bitumen sheeting laminated expanded polystyrol (EPS) with a minimum thickness of 50 mm and a spatial density of minimum 20 kg/m³ with two layers of bitumen roofing sheeting welded on
B_{ROOF} (t4)	All roof slopes ≤ 10 % All full-surface wooden underlays with a minimum thickness of 19 mm All full-surface non flammable substrates with a minimum thickness of 10 mm vapour barrier PIR insulation board with a minimum thickness of 120 mm onto which a self-adhesive 0.6 mm thick bitumen sheeting with a carrier layer

Annex B - 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 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 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 (“Triflex ProDetail – summer”) or winter (“Triflex ProDetail – winter”) is to be accomplished,
- ensuring a thickness as stated above of the cured waterproofing
- inspections during installation and of the finished product and documentation of the results

Annex C – Classification with differing testing parameters

Table 11: Classification with differing testing parameters for the essential characteristics for BWR 3

Basic Works Requirement 3: Hygiene, health and the environment	
Content, emission and/or release of dangerous substances	No differing testing parameters
Resistance to water vapour	No differing testing parameters
Watertightness	Passed (tested at 4 bar)
Resistance to wind loads	No differing testing parameters
Resistance to mechanical damage (perforation) - Static indentation - Dynamic indentation	 L4 (tested with 300 N) I4 (tested with 7.5 J)
Resistance to fatigue movement	W3 (tested with 1500 cycles)
Resistance to the effects of low and high surface temperatures - Static indentation - Dynamic indentation - Crack bridging capability - Delamination strength	TL4 (tested at -40 °C) L4 (tested with 300 N on steel) I4 (tested with 7.5 J on steel) No differing testing parameters No differing testing parameters
Resistance to ageing media (heat) - Dynamic indentation - Resistance to fatigue movement - Tensile properties	W3, Severe (S) (stored at 70 °C for 480 days) I4 (tested with 7.5 J) passed performed
Resistance to ageing media (water) - Static indentation - Delamination strength	W3 (stored for 200 days) L4 (tested with 300 N) ≥ 50 kPa for tear-resistant substrates
Resistance to UV radiation in the presence of moisture - Dynamic indentation - Tensile properties	W3 (exposed to 2000 MJ/m²) I4 on steel performed
Resistance to plant roots	No differing testing parameters
Effects of variation in kit components and site practice - Tensile properties	 No differing testing parameters
Effects of day joints	No differing testing parameters