Deutsches Institut für Bautechnik

DIBt

Member of EOTA

www.eota.eu

Approval body for construction products and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and Laender Governments

Designated according to Article 29 of Regulation (EU) No 305/2011 and member of EOTA (European Organisation for Technical Assessment)

European Technical Assessment

ETA-03/0049 of 26 May 2017

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	Composite waterproofing "WILOTEKT-PLUS"
Product family to which the construction product belongs	Liquid applied composite waterproofing for roofs with heavy protection on the basis of hot-applied polymer-modified bitumen and a polymerbitumen sheeting
Manufacturer	bausysteme vertriebsgesellschaft mbh Kirchplatz 1 6370 Kitzbühel ÖSTERREICH
Manufacturing plant	bausysteme vertriebsgesellschaft mbh Kirchplatz 1 6370 Kitzbühel ÖSTERREICH
This European Technical Assessment contains	11 pages including 6 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	European Assessment Document (EAD) 030065-00-0402
This version replaces	ETA-03/0049 issued on 16 August 2012

The European Technical Assessment is issued by the Technical Assessment Body in its official language. Translations of this European Technical Assessment in other languages shall fully correspond to the original issued document and shall be identified as such.

Communication of this European Technical Assessment, including transmission by electronic means, shall be in full. However, partial reproduction may only be made with the written consent of the issuing Technical Assessment Body. Any partial reproduction shall be identified as such.

This European Technical Assessment may be withdrawn by the issuing Technical Assessment Body, in particular pursuant to information by the Commission in accordance with Article 25(3) of Regulation (EU) No 305/2011.

Specific Part

1 Technical description of the product

The composite roof waterproofing kit WILOTEKT-PLUS is a sealing system for roofs with two sealing layers on concrete. The following components are part of the kit:

- Primer "WILOTEKT-Grundierung" on the basis of bitumen
- Internal layer for reinforcement "WILOTEKT-Bewehrungseinlage" on the basis of a glass silk fabric mat with a mesh
- Polymer modified unfilled bitumen "WILOTEKT-Elastomerbitumen, melted and hot applied liquid material "Elastomerbitumen"
- Polymer modified bitumen waterproofing sheet "WILOTEKT-Polymerbitumen-Dachdichtungsbahn" or alternatively

After application of the primer for first sealing layer the reinforcement layer is rolled out. The hot polymer modified bitumen is poured on the pre-rolled reinforcement layer. The polymer modified bitumen is unfilled to ensure its flowing through the reinforcement layer and its penetrating into all irregularities of the concrete structural deck.

In the same step the second sealing layer is produced by rolling a polymer modified bitumen waterproofing sheet into the hot polymer modified bitumen so that the sheet is fully bonded.

Concerning the resistance to root penetration no substances for protection against root penetration are used within the product kit.

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

Annex A shows the components and the system build-up of the roof waterproofing kit.

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

The composite roof waterproofing kit is used for the roof waterproofing of used and unused roofs e.g. terraces, park decks and roof areas planted with ex- and intensive vegetation (green roofs) (see Annex B).

The composite roof waterproofing kit is only used underneath a heavy surface protection[1] which could be also a flooring wearing surface.

The surfaces to be waterproofed shall have a slope from 0 % to 5 %.

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] According to 2000/553/EC: Commission Decision of 6 September implementing Council Directive 89/106/EEC as regards the external fire performance of roof coverings OJ L 235 19.9.2000, p. 19

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
Reaction to fire	See Annex A
External fire performance	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
Resistance to perforation	See Annex A
Resistance to fatigue movement	See Annex A
Resistance to the effects of low and high surface temperatures	See Annex A
Working Life	See Annex A
Resistance to heat aging	See Annex A
Resistance to water aging	See Annex A
Resistance to plant roots	See Annex A
Effects of application conditions	See Annex A

3.3 Safety and accessibility in use (BWR 4)

Essential characteristic	Performance
Resistance to wind loads	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

According to Decision of the Commission of 12 October 1998 (98/599/EC) (OJ L 287 of 24.10.98, p. 30), as amended by Decision of the Commission of 8 January 2001 (2001/596/EC) (OJ L 209 of 02.08.2001, p. 33), 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.

Product	Intended use(s)	Level or class	System
composite roof waterproofing kit	For uses subject to external fire performance regulations	B_{ROOF} (t1)	3
	For uses subject to reaction to fire	E	3
	All other roof waterproofing uses (all other characteristics)	—	3

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

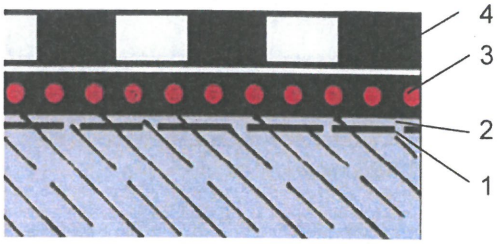
Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited at Deutsches Institut für Bautechnik.

Issued in Berlin on 26 May 2017 by Deutsches Institut für Bautechnik

BD Dipl.-Ing. Andreas Kummerow
Head of Department

beglaubigt:
Hemme

Deutsches Institut für Bautechnik DIBt



1. rough concrete structural ceiling, slope 0 % to ≤ 5 % (S1[1])
2. "WILOTEKT-Grundierung"
3. "WILOTEKT-Elastomerbitumen" together with "WILOTEKT-Bewehrungs-einlage" (1st sealing layer)
4. "WILOTEKT-Polymerbitumen-Dachabdichtungsbahn" *) (see Annex A2), (2nd sealing layer)

*) Instead of the "WILOTEKT-Polymerbitumen-Dachabdichtungsbahn" it can be used a CE marked polymer bitumen sheet according to EN 13707 or EN 13969 which meet the specification stated in Annex A2.

Applicable to the composite roof waterproofing **"WILOTEKT-PLUS"**

Minimum quantity consumed of liquid applied component:	2.5 kg/m²
Layer Thickness of liquid applied layer	approx. 6.0 mm

Performance of the product:

Reaction to fire	Class E
External fire performance	According to 2000/553/EC, B_{Roof} (t_1)
Water vapour permeability	npa
Watertightness	Watertight
Resistance to perforation	Resistant to perforation (P4[1])
Resistance to fatigue movement	Resistant to fatigue movement (W3[1])
Resistance to the effects of low and high surface temperatures	Resistance to effects of low (-20°C, TL2[2]) and high (+60°C, TH2[1]) surface temperatures
Working Life	25 Jahre (W3[1])
Resistance to heat aging	Resistant to heat aging
Resistance to water aging	Resistant to water aging
Resistance to plant root	Root resistant
Effects of application conditions	No effects in temperature range of
Resistance to wind loads	According to 2000/553/EC[1]

[1] Classifications in sense of ETAG 005 Part 1, Liquid applied Roof waterproofing

(Composite waterproofing "WILOTEKT-PLUS" bausysteme vertriebsgesellschaft mbH	Annex A1
/**System built-up and performances of the product**	

Deutsches Institut für Bautechnik DIBt

"WILOTEKT Polymerbitumen-Dachdichtungsbahn"

or

polymer-bitumen waterproofing-sheet according EN 13707 respectively EN 13969 with CE-marking

- **sanded on both sides**
- **reinforced with fleece**

with the following essential characteristics

Essential characteristic	Test procedure	Dimension	Requirement
Reaction to fire	EN 11925-2		class E, EN 13501-1
Thickness	EN 1849-1	mm	≥ 3.5
Mass per unit area	EN 1849-1	g/m²	≥ 3900
Visible defects	EN 1850-1		none
Dimensional stability	EN 1107-01	%	< 0.5
Tensile strength	EN 12311-1	N/50 mm	≥ 800
Tensile elongation	EN 12311-1	%	≥ 35
Resistance to tearing	EN 12310-1	N	> 260
Flexibility at low temperature	EN 1109	°C	< -22
Flow resistance at elevated temperature	EN 1110	°C	> 100

Only polymer modified bitumen waterproofing sheets without any chemicals used to prevent root penetration can be used.

Composite waterproofing "WILOTEKT-PLUS" bausysteme vertriebsgesellschaft mbH	Annex A2
Requirements on the waterproofing sheet	

Deutsches Institut für Bautechnik DIBt

Installation

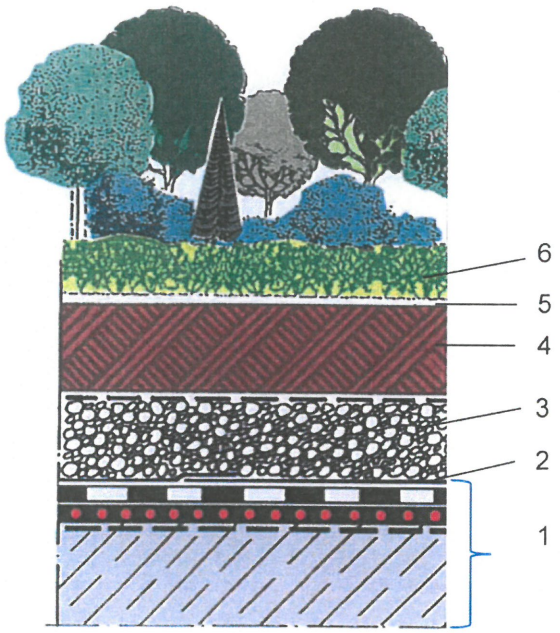
The performances of the roof waterproofing can be assumed only, if the installation is carried out according to the installation instructions stated in the technical file of the manufacturer, in particular taking account of the following points:

- 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, applying a primer before applying the product,
- inspecting compliance with suitable weather and curing conditions,
- ensuring a thickness of the cured liquid waterproofing by processing appropriate minimum quantities of material
- ensuring of the minimum quantity consumed of liquid applied component by the casting process of at least 2,5 kg/m² . In the case of unevennesses, the consumption must be increased.
- ensuring an overlap of the bitumen sheet and of the reinforcement of at least 10 cm
- inspections during installation and of the finished product and documentation of the results.

Composite waterproofing "WILOTEKT-PLUS" bausysteme vertriebsgesellschaft mbH	Annex B1
Intended use Specifications	

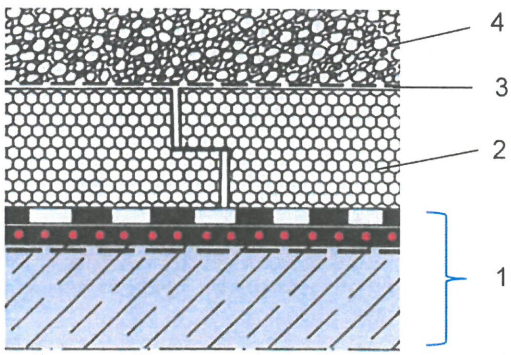
Deutsches Institut für Bautechnik DIBt

Green Roof / Basement Car park greening



1. WILOTEKT-PLUS (see Annex A1)
2. PE-foil as separating layer
3. drainage, gravel 16/32 mm
4. filter fleece
5. Soil / Substratum
6. Plants (extensive/intensive)

Inverted Roof

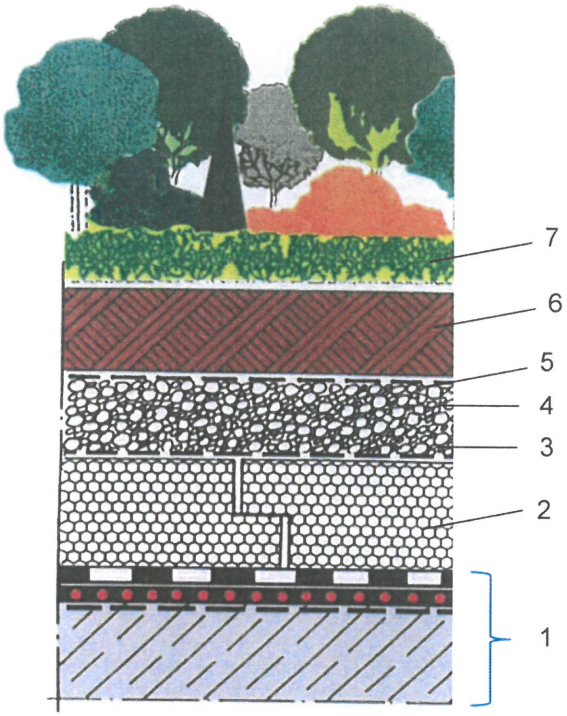


1. WILOTEKT-PLUS (see Annex A1)
2. thermal insulation
3. filter fleece
4. gravel layer ≥ 50 mm

Composite waterproofing "WILOTEKT-PLUS" bausysteme vertriebsgesellschaft mbH	Annex B2
Possible applications of the composite waterproofing "WILOTEKT-PLUS	

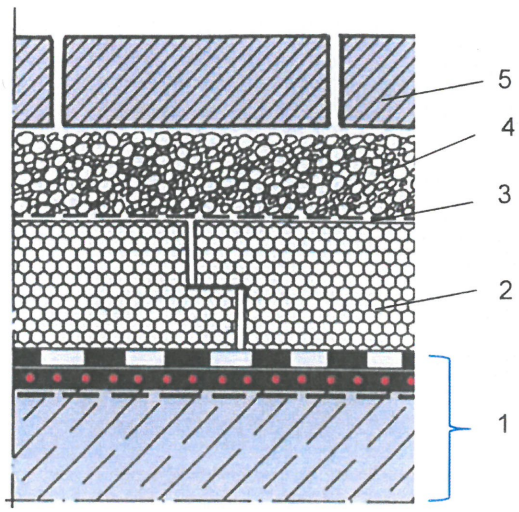
Deutsches Institut für Bautechnik DIBt

Inverted Green Roof



1. WILOTEKT-PLUS (see Annex A 1)
2. Thermal insulation
3. Filter fleece
4. drainage, gravel 16/32 mm
5. Filter fleece
6. Soil / Substrate
7. Plants (extensive/intensive)

Inverted terrace roof

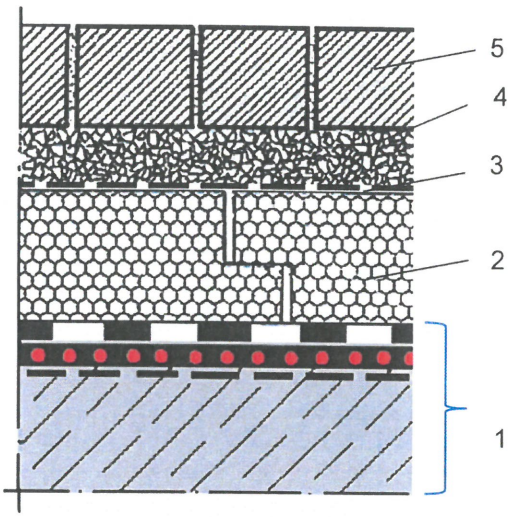


1. WILOTEKT-PLUS (see Annex A1)
2. Thermal insulation
3. Filter fleece
4. gravel 8/10 mm
5. stab cover

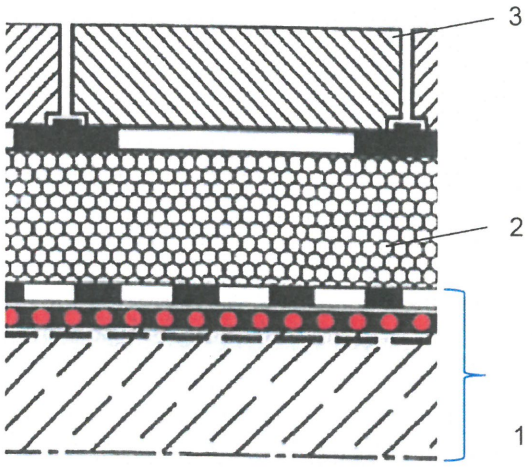
Composite waterproofing "WILOTEKT-PLUS" bausysteme vertriebsgesellschaft mbH	Annex B3
Possible applications of the composite waterproofing "WILOTEKT-PLUS	

Deutsches Institut für Bautechnik DIBt

Inverted park deck



1. WILOTEKT-PLUS (see Annex A1)
2. Thermal insulation
3. Filter fleece
4. grit
5. composite block roadway surfacing with sanding sand 0/2



6. WILOTEKT-PLUS (see Annex A1)
7. Thermal insulation
8. Precast concrete elements as road surface

Composite waterproofing "WILOTEKT-PLUS" bausysteme vertriebsgesellschaft mbH	Annex B4
Possible applications of the composite waterproofing "WILOTEKT-PLUS	