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pour l'évaluation technique

European Technical Assessment **ETA 24/0030 of 18/04/2024**

GENERAL PART

Trade name of the construction product

Product family to which the construction product belongs

Manufacturer

Manufacturing plant

This European Technical Assessment contains:

This European Technical Assessment is issued in accordance with Regulation (EU) n° 305/2011, on the basis of

WINGUM PLUS H₂O

PAC 03: MEMBRANES, INCLUDING LIQUID APPLIED AND KITS (FOR WATER AND/OR WATER VAPOUR CONTROL).

Liquid Applied Roof Waterproofing Kits

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13 pages, including 7 Annexes which form an integral part of this assessment

EAD 030350-00-0402 – Liquid applied roof waterproofing kits

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SPECIFIC PARTS

1. TECHNICAL DESCRIPTION OF THE PRODUCT

The liquid applied roof waterproofing **WINGUM PLUS H₂O** is a kit which consists of two different components. The former is a water dispersion of acrylic polymers, with additives. The latter is a layer (non-woven polyester fabric) used as internal reinforcement.

There are six versions of the system: “WINGUM PLUS H₂O”, “WINGUM PLUS H₂O REFLEX”, “WINGUM PLUS H₂O RAPID”, and “WINGUM PLUS H₂O REFLEX RAPID”, “WINGUM PLUS H₂O B_{Roof} T2” and “WINGUM PLUS H₂O REFLEX B_{Roof} T2”.

The components used for the six versions and the installation specifications are reported in the following table:

Configuration	Component	Trade name	Installation information	
			Minimum coverage	Minimum thickness
WINGUM PLUS H ₂ O	Water dispersion of acrylic polymers	WINGUM PLUS H ₂ O	2.0 kg/m ²	1.8 mm
	non-woven polyester fabric	WİNTECHNO MAT		
WINGUM PLUS H ₂ O REFLEX	Water dispersion of acrylic polymers	WINGUM PLUS H ₂ O REFLEX	2.0 kg/m ²	1.8 mm
	non-woven polyester fabric	WİNTECHNO MAT		
WINGUM PLUS H ₂ O RAPID	Water dispersion of acrylic polymers	WINGUM PLUS H ₂ O RAPID	1.9 kg/m ²	1.7 mm
	non-woven polyester fabric	WİNTECHNO MAT		
WINGUM PLUS H ₂ O REFLEX RAPID	Water dispersion of acrylic polymers	WINGUM PLUS H ₂ O REFLEX RAPID	1.9 kg/m ²	1.7 mm
	non-woven polyester fabric	WİNTECHNO MAT		
WINGUM PLUS H ₂ O B _{Roof} T2	Water dispersion of acrylic polymers	WINGUM PLUS H ₂ O B _{Roof} T2	2.2 kg/m ²	1.9 mm
	non-woven polyester fabric	WİNTECHNO MAT		
WINGUM PLUS H ₂ O REFLEX B _{Roof} T2	Water dispersion of acrylic polymers	WINGUM PLUS H ₂ O REFLEX B _{Roof} T2	2.2 kg/m ²	1.9 mm
	non-woven polyester fabric	WİNTECHNO MAT		

Table 1: components of the kit

The ancillary materials that may be used to improve the adhesion with the substrate are specified by the manufacturer as follows:

Trade name	Component	Function / type of use
BC SEAL BAND	Waterproof self-adhesive butyl tape	to reinforce wall – floor joints
BC SEAL PAD	Square portion of waterproof self-adhesive butyl membrane	to waterproof the area around drains and pipes
WINJOINT BAND	Waterproof polymeric tape reinforced with a non-woven fabric	to waterproof substrate joints

Table 2: ancillary components

The system build-up and the declared categorization of the different configurations of the waterproofing system are reported in Annex A1, A2, A3, A4, A5 and A6.

2. SPECIFICATION OF THE INTENDED USE IN ACCORDANCE WITH EUROPEAN ASSESSMENT DOCUMENT N° 030350-00-0402 (hereinafter EAD)

The **WINGUM PLUS H₂O** is intended to be used in the waterproofing of the roofs, terraces and balconies preventing or controlling the passage of water from one plane to another. It does not contribute directly to the stability of the roof on which is installed, but it can contribute its durability by providing enhanced protection from the effect of weathering. This system can be used on new or existing (retrofit) roofs. It can be used on vertical surfaces (singular details).

Concerning product packaging, transport and storage it is the responsibility of the manufacturer to undertake the appropriate measures and to advise his clients on the transport and storage, as he considers necessary in order to reach the declared performances.

The information about installation is provided with the technical documentation from the manufacturer and it is assumed that the product will be installed according to it or (in absence of such instructions) according to the usual practice of the building professionals.

The specifications and conditions given by the manufacturer are summarized in Annex B1.

The performances assessed in this European Technical Assessment, according to the applicable EAD, are based on an assumed intended working life of at least 25 years, provided that the conditions for packaging, transport, storage, installation as well as appropriate use, maintenance and repair are met. The indications given on the working life cannot be interpreted as a guarantee given by the manufacturer, 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.

3. PERFORMANCE OF THE PRODUCT AND REFERENCES TO THE METHODS USED FOR ITS ASSESSMENT

The tests for performance assessment of **WINGUM PLUS H₂O** were carried out in compliance with EAD 030350-00-0402 according to the test methods reported herein, as well for what concerns sampling, conditioning and testing provisions.

The numbering (#) in the following tables corresponds to the numbering of Table 1 at paragraph 2.1 of EAD 030350-00-0402.

3.1 SAFETY IN CASE OF FIRE (BWR 2)

#	Essential characteristic	Performance
1	External fire performance of roofs	WINGUM PLUS H ₂ O: No performance assessed WINGUM PLUS H ₂ O REFLEX: No performance assessed WINGUM PLUS H ₂ O RAPID: No performance assessed WINGUM PLUS H ₂ O REFLEX RAPID: No performance assessed WINGUM PLUS H ₂ O B _{Roof} T2: B _{Roof} (t ₂) WINGUM PLUS H ₂ O REFLEX B _{Roof} T2: B _{Roof} (t ₂)
2	Reaction to fire	<u>All versions</u> : No performance assessed

3.2 HYGIENE, HEALTH AND THE ENVIRONMENT (BWR 3)

#	Essential characteristic	Performance
3	Content, emission and/or release of dangerous substances	<u>All versions</u> : No performance assessed
4	Resistance to water vapour	<u>All versions</u> : $\mu = 2660$
5	Watertightness	<u>All versions</u> : Watertight
6	Resistance to wind load	<u>All versions</u> : Resistance to delamination: -Concrete: 1.50 MPa
7	Resistance to mechanical damage (perforation)	<u>All versions</u> : Concrete substrate: Dynamic indentation (23 °C): P3 (I3 = 10 mm) Static indentation (23 °C): P2 (L2 = 150 N)
8	Resistance to fatigue movement	<u>All versions</u> : W3 (1000 cycles at -10 °C): Pass
9	Resistance to the effects of low and high surface temperatures	<u>All versions</u> : Concrete substrate: Dynamic indentation (TL3 = -20 °C): P2 (I2 = 20 mm) Static indentation (TH3 = 80 °C): P1 (L1 = 70 N)

#	Essential characteristic	Performance
10	Resistance to ageing media (heat and water)	<p><u>All versions:</u> <u>Heat ageing (S; W3 = 200 d at 80 °C)</u> Concrete substrate: Dynamic indentation (TL3 = -20 °C): P2 (I2 = 20 mm)</p> <p>Fatigue movement (50 cycles at -10 °C): pass</p> <p>Tensile properties: Tensile strength (initial / ageing): 1.23 / 1.49 MPa Elongation (initial / ageing): 405 / 266 %</p> <p><u>Water ageing (S1; W3 = 60 d at 60 °C)</u> Concrete substrate: Static indentation (TH3 = 80 °C): P1 (L1 = 70 N)</p> <p>Resistance to delamination: - Concrete: 2.01 MPa</p>
11	Resistance to UV radiation in the presence of moisture	<p><u>All versions:</u> <u>UV ageing (S; W3 = 1000 MJ/m²)</u> Concrete substrate: Dynamic indentation at -10 °C: P3 (I3 = 10 mm)</p> <p>Tensile properties: Tensile strength (initial / ageing): 1.23 / 2.29 MPa Elongation (initial / ageing): 405 / 266 %</p>
12	Resistance to plant roots	<u>All versions:</u> Not relevant
13	Effects of variations in kit components and site practices	<p><u>All versions:</u> <u>Cure temperature range: 5 °C to 35 °C</u> Tensile properties: Tensile strength (5 °C / 35 °C): 1.28 / 1.14 MPa Elongation (5 °C / 35 °C): 396 / 267 %</p> <p>Concrete substrate: 5 °C and 35 °C Dynamic indentation at 23 °C: P3 (I3 = 10 mm)</p>
14	Effects of day joints	<u>All versions:</u> Resistance to delamination: 1.35 MPa

3.3 SAFETY IN USE (BWR 4)

#	Essential characteristic	Performance
15	Slipperiness	<u>All versions:</u> No performance assessed

4. ASSESSMENT AND VERIFICATION OF CONSTANCY OF PERFORMANCE (AVCP) SYSTEM APPLIED, WITH REFERENCE TO ITS LEGAL BASE

In accordance with the European Assessment Document EAD No. 030350-00-0402 the applicable European legal act is: **Commission Decision 98/599/EC** and amended by Commission **Decision 2001/596/EC**.

The system of assessment and verification of constancy of performance (AVCP) is **3**.

In addition, with regard to external fire performance for products, the applicable European legal act is **Commission Decision 1998/599/EC**.

The system of assessment and verification of constancy of performance (AVCP) is **3**.

5. TECHNICAL DETAILS NECESSARY FOR THE IMPLEMENTATION OF THE AVCP SYSTEM, AS PROVIDED FOR IN EAD 030350-00-0402

Technical details necessary for the implementation of the AVCP system are laid down in the Control Plan deposited at ITAB/ITC-CNR.

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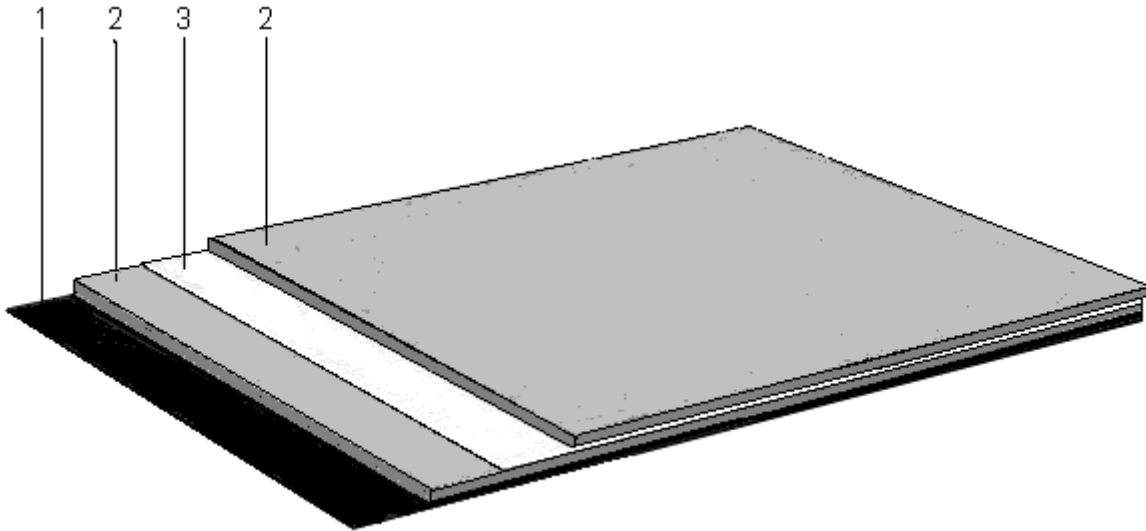
Coordinator of ITAB Technical Committee

Annalisa Franco, PhD

Director of ITAB

Professor Antonio Occhiuzzi

“WINGUM PLUS H₂O” configuration



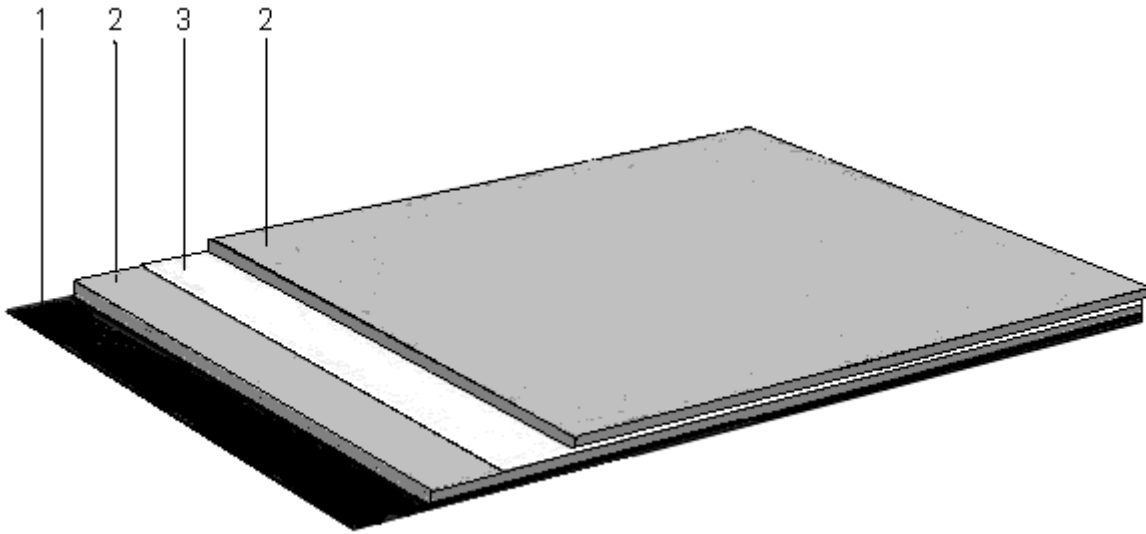
- 1- Substrate
- 2- “WINGUM PLUS H₂O”
- 3- “WINTECHNO MAT”

Declared categorization according to EAD 030350-00-0402: Annex 1

Expected working life	W3
Climatic zone of use	“Severe climate” S
Loads	P1
Slope	S1 - S4
Minimum surface temperature	TL3
Maximum surface temperature	TH3

WINGUM PLUS H₂O	Annex A1 of ETA N° 24/0030
Declared categorization	

“WINGUM PLUS H₂O REFLEX” configuration



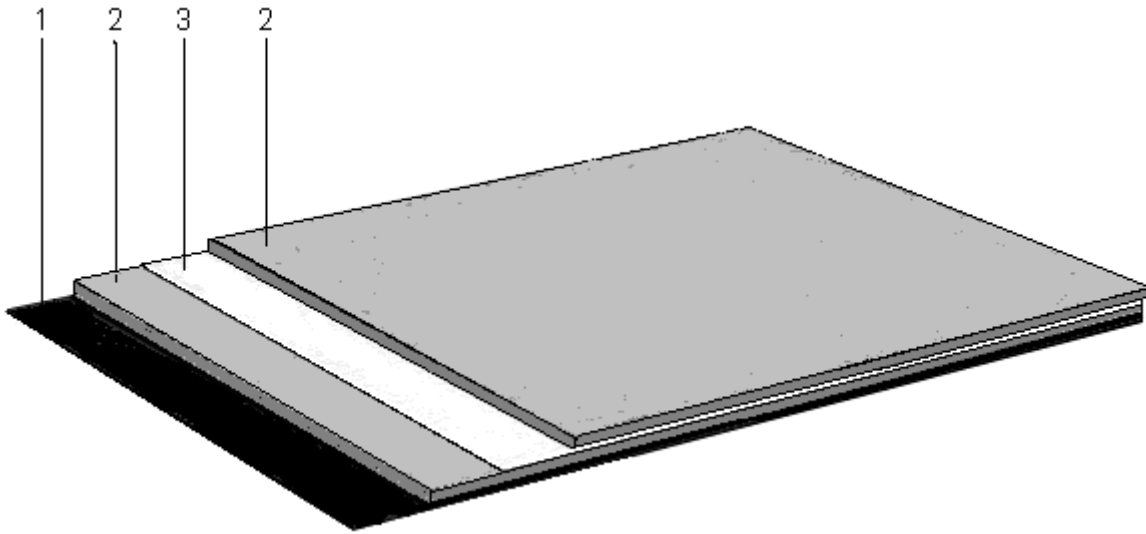
- 1- Substrate
- 2- “WINGUM PLUS H₂O REFLEX”
- 3- “WINGUM PLUS H₂O REFLEX”

Declared categorization according to EAD 030350-00-0402: Annex 1

Expected working life	W3
Climatic zone of use	“Severe climate” S
Loads	P1
Slope	S1 - S4
Minimum surface temperature	TL3
Maximum surface temperature	TH3

WINGUM PLUS H₂O REFLEX	Annex A2 of ETA N° 24/0030
Declared categorization	

“WINGUM PLUS H₂O RAPID” configuration



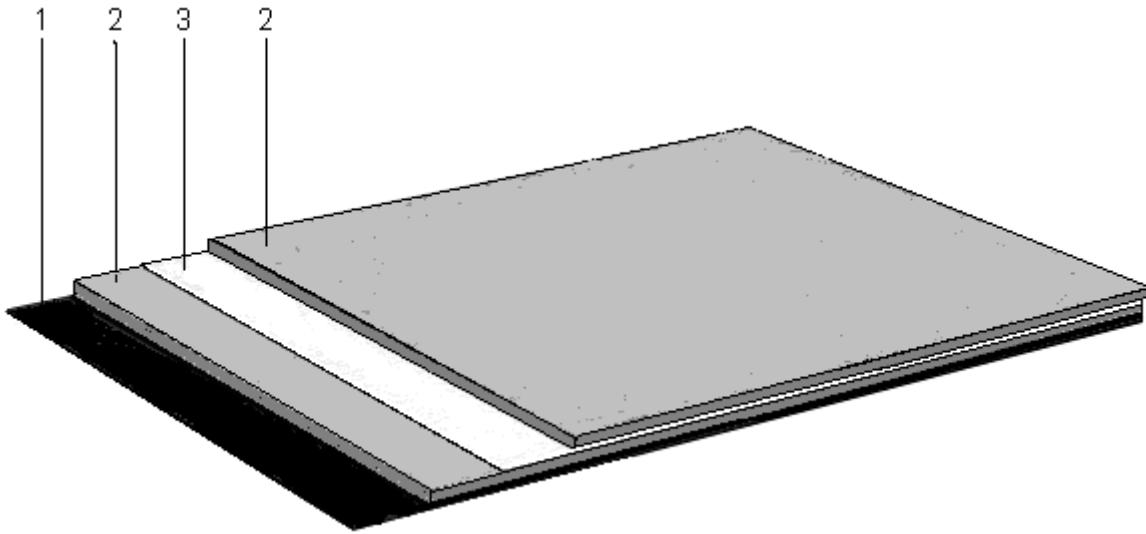
- 1- Substrate
- 2- “WINGUM PLUS H₂O RAPID”
- 3- “WINTECHNO MAT”

Declared categorization according to EAD 030350-00-0402: Annex 1

Expected working life	W3
Climatic zone of use	“Severe climate” S
Loads	P1
Slope	S1 - S4
Minimum surface temperature	TL3
Maximum surface temperature	TH3

WINGUM PLUS H₂O RAPID	Annex A3 of ETA N° 24/0030
Declared categorization	

“WINGUM PLUS H₂O REFLEX RAPID” configuration



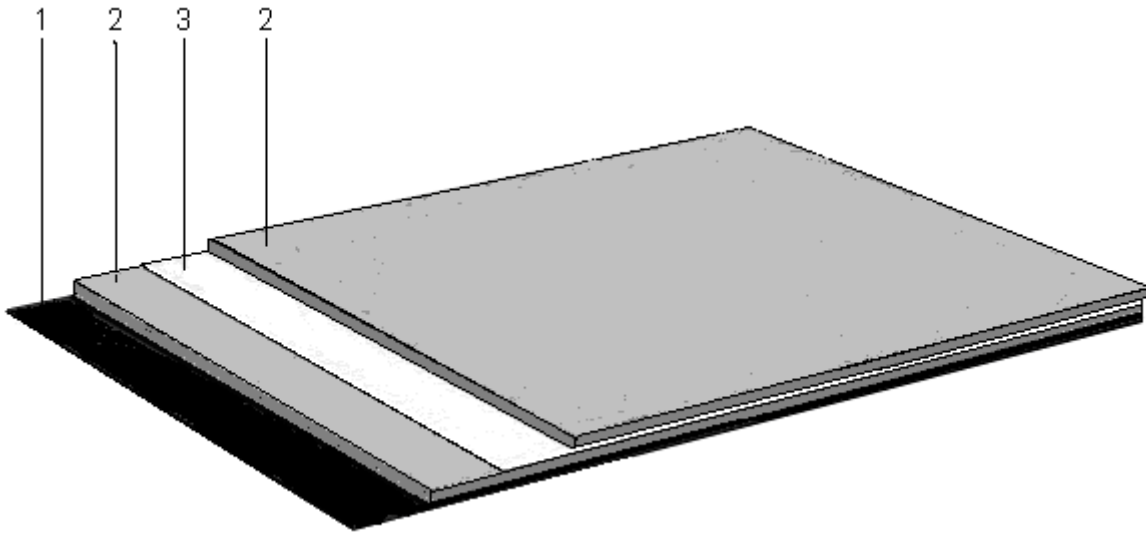
- 1- Substrate
- 2- “WINGUM PLUS H₂O REFLEX RAPID”
- 3- “WINGUM PLUS H₂O REFLEX RAPID”

Declared categorization according to EAD 030350-00-0402: Annex 1

Expected working life	W3
Climatic zone of use	“Severe climate” S
Loads	P1
Slope	S1 - S4
Minimum surface temperature	TL3
Maximum surface temperature	TH3

WINGUM PLUS H₂O REFLEX RAPID	Annex A4 of ETA N° 24/0030
Declared categorization	

“WINGUM PLUS H₂O B_{Roof} T2” configuration



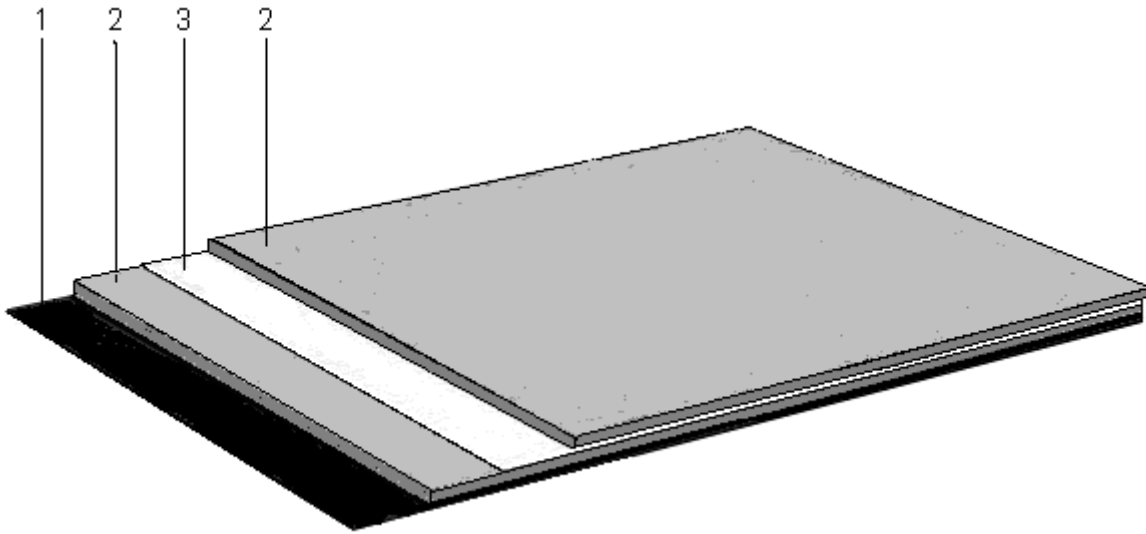
- 1- Substrate
- 2- “WINGUM PLUS H₂O B_{Roof} T2”
- 3- “WINTECHNO MAT”

Declared categorization according to EAD 030350-00-0402: Annex 1

Expected working life	W3
Climatic zone of use	“Severe climate” S
Loads	P1
Slope	S1 - S4
Minimum surface temperature	TL3
Maximum surface temperature	TH3

WINGUM PLUS H₂O B_{Roof} T2	Annex A5 of ETA N° 24/0030
Declared categorization	

“WINGUM PLUS H₂O REFLEX B_{Roof} T2” configuration



- 1- Substrate
- 2- “WINGUM PLUS H₂O REFLEX B_{Roof} T2”
- 3- “WİNTECHNO MAT”

Declared categorization according to EAD 030350-00-0402: Annex 1

Expected working life	W3
Climatic zone of use	“Severe climate” S
Loads	P1
Slope	S1 - S4
Minimum surface temperature	TL3
Maximum surface temperature	TH3

WINGUM PLUS H₂O REFLEX B_{Roof} T2	Annex A6 of ETA N° 24/0030
Declared categorization	

INSTALLATION INSTRUCTIONS

The performance of the waterproofing kit can be assumed only if the installation is carried out according to the installation instructions stated in the technical documents of the manufacturer, in particular taking into account the following points:

- installation by appropriately trained personnel,
- installation of only those components which are specified components of the kit,
- installation with the required tools and adjuvant,
- inspecting the substrate surface for cleanliness and correct treatment,
- installation of the system complying with the parameters reported in the following table:

Configuration	Minimum coverage [kg/m ²]	Minimum thickness [mm]
WINGUM PLUS H ₂ O	2.0	1.8
WINGUM PLUS H ₂ O RAPID	1.9	1.7
WINGUM PLUS H ₂ O REFLEX	2.0	1.8
WINGUM PLUS H ₂ O REFLEX RAPID	1.9	1.7
WINGUM PLUS H ₂ O B _{Roof} T2	2.2	1.9
WINGUM PLUS H ₂ O REFLEX B _{Roof} T2	2.2	1.9

- temperature range for the application of the system:
 - WINGUM PLUS H₂O from 5 °C to 35 °C
 - WINGUM PLUS H₂O RAPID from 5 °C to 35 °C
 - WINGUM PLUS H₂O REFLEX from 5 °C to 35 °C
 - WINGUM PLUS H₂O RAPID REFLEX from 5 °C to 35 °C
 - WINGUM PLUS H₂O B_{Roof} T2 from 5 °C to 35 °C
 - WINGUM PLUS H₂O REFLEX B_{Roof} T2 from 5 °C to 35 °C
- suitable substrates: concrete.

WINGUM PLUS H₂O

Intended Use – Specifications

Annex B1
of ETA N° 24/0030