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**European Technical Assessment ETA 10/ 0121 of 13/ 05/ 2024**

English translation prepared by IETcc. Original version in Spanish language

**General Part**

<b>Technical Assessment Body issuing the European Technical Assessment:</b> Instituto de Ciencias de la Construcción Eduardo Torroja (IETcc)	
<b>Trade name of the construction product</b>	<b>DESMOPOL SYSTEM</b>
<b>Product family to which the construction product belongs</b>	Liquid Applied Roof Waterproofing Kit, based on polyurethane
<b>Manufacturer</b>	<b>TECNOPOL SISTEMAS S.L.U.</b> Carrer Finlàndia, 33, 08520 LES FRANQUESES DEL VALLÈS. Barcelona (Spain)
<b>Manufacturing plant(s)</b>	Carrer Finlàndia, 33, 08520 LES FRANQUESES DEL VALLÈS..Barcelona (Spain)
<b>This European Technical Assessment contains</b>	6 pages + Annex 1 contains confidential information and is not included in the European Technical Assessment when that assessment is publicly disseminated
<b>This European Technical Assessment is issued in accordance with Regulation (EU) No 305/2011, on the basis of</b>	EAD 030350-00-0402 Liquid applied roof waterproofing kits
<b>This version replaces</b>	ETA 10/0121 issued on 20/ 09/ 2022

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## Specific parts

### 1 Technical description of the product

The Liquid Applied Roof Waterproofing Kit (LARWK) “DESMOPOL SYSTEM” is designed and installed in accordance with the manufacturer, design and installation instructions, deposited at the IETcc. This LARWK comprises the following components, which are factory produced by the manufacturer or a supplier.

Components		Trade name	Consumption (kg/m <sup>2</sup> )	Thickness (mm)
Primer	For concrete	PRIMER PU-1050 (polyurethane 100 % solids)	0,250 - 0,300	0,25
		PRIMER EP-1010 (epoxy 100 % solids)	≥ 0.250 kg/m <sup>2</sup>	0,17
		PRIMER EP-1020 (epoxy 100 % solids)	≥ 0.150 kg/m <sup>2</sup>	0,14
		PRIMER WET (epoxy 100 % solids)	≥ 0.450 kg/m <sup>2</sup>	0,30
	For steel	PRIMER EPw-1070 (epoxy water-borne)	≥ 0.200 kg/m <sup>2</sup>	0,12
	For ceramic	PRIMER EP-1040 (epoxy 100 % solids)	0,15 - 0,200	0,19
Waterproofing membrane		DESMOPOL	≥ 1.5 kg/m <sup>2</sup> .	1.2
Finish layer: UV Protection		TECNOTOP 2C colored	≥ 250 g/m <sup>2</sup>	---
Film Slipperiness		TECNOPLASTIC F	8 % weight mixed TECNOTOP 2C colored	----

DESMOPOL is a one component liquid applied roof waterproofing based on polyurethane, manufactured by the company TECNOPOL SISTEMAS S.L.U., consists of a polyurethane resins, mono-component, elastomeric without reinforcing mesh (only in singular point: evacuations, upstands...) internal layer; which once polymerized conforms an elastic lining, in form of a layer completely bonded to the support (steel, concrete, mortar, ceramic, foam polyurethane (PU) and other waterproofing membranes like PVC, EPDM and bituminous). The minimum layer thickness of the assembled membrane has to be 1,2 mm.

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

#### 2.1 Intended use(s)

The intended use of this System is the waterproofing of roof against the water, as in liquid as vapour form. On roofs with any slope between 0 and >30 % (S1-S4), for any type of categorisation of user load between P1 and P4<sup>1</sup>, resists the effects of low surface temperatures of -20 °C (TL3), high temperatures of 90 °C (TH4) and under climatic zone of use severe (S).

This LARWK fulfils the Basic works Requirements n.º 2 (Safety in case of fire), n.º 3 (Hygiene, health and the environment) and n.º 4 (Safety in use) of the European Regulation 305/11.

This LARWK is made of non load-bearing construction elements. 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 LARWK can be used on new or existing (retrofit) roofs. It can also be used on vertical surfaces (singular details).

#### 2.2 Relevant general conditions for the use of the kit

The provisions made in this European Technical Assessment are based on an assumed working life of 25 years from installation in the works, according to EAD030350-00-0402, provided that the conditions lay down for the installation, packaging, transport and storage as well as appropriate use, maintenance and repair are met. In this respect.

The indications given on the working life cannot be interpreted as a guarantee given neither by the product manufacturer nor by EOTA nor by the Technical Assessment Body issuing this ETA, but are regarded only as a means for choosing the right product in relation to the expected economically reasonable working life of the works.

<sup>1</sup> Concrete/Steel: P4:TH2 // P3:TH4  
PU: P1: TH2



**Installation.** The Kit is installed on site. It is the responsibility of the manufacturer to guarantee that the information about design and installation of this system is effectively communicated to the concerned people. This information can be given using reproductions of the respective parts of this ETA. Besides, all the data concerning the execution shall be clearly indicated on the packaging and/or the enclosed instruction sheets using one or several illustrations.

**Design.** The fitness of the respective use for the levels of performance of this System stated in Annex 1 complies with the Spanish national requirements. In the MTD the manufacture gives information on the quantities consumed and the processing, which shall lead to a thickness of the roof waterproofing  $\geq 1.2$  mm.

**Execution.** Particularly, it is recommended to consider the:

- kit installation has to be carried out by qualified installers
- it can only be used the components of the kit indicated in this ETA,
- supervision of the amount of material used ( $\text{kg/m}^2$ ) and the control visual to check that each coat covers totally the one below, can ensure the minimum thickness of the kits,
- inspection of the roof surface (cleanliness and correct preparation) before applying the roof waterproofing,
- recommended temperature of the product to be assembled will be between  $5\text{ }^\circ\text{C}$  and  $40\text{ }^\circ\text{C}$  and it will be not admitted support temperatures upper to  $45\text{ }^\circ\text{C}$ . In other conditions it will need to follow the manufacturer's instructions.

Before, the installation of DESMOPOL SYSTEM, it is recommended to read its security card.

**Use, maintenance and repair of the works.** In those roofs with deteriorated areas of the waterproof layers, they will be repaired carrying out some light grinding to open the pore of the deteriorated layers. Afterwards, the new product will be assembled following the installation instruction and the new coats must overlap, at least 15 - 20 cm, to the coat no deteriorated. Further installation details are laid down in the MTD place at IETcc.

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

The identification tests and the assessment for the intended use of "DESMOPOL SYSTEM" according to the Basic Work Requirements (BWR) were carried out in compliance with EAD 030350-00-0402. The characteristics of each system shall correspond to the respective values laid down in following tables of this ETA, checked by IETcc.

Methods of verification and of assessing and judging are listed afterwards.

#### 3.1 Safety in case of fire (BWR 2)

Basic requirement for construction works 2: Safety in case of fire		
Essential characteristic	Relevant clause in EAD	Performance
External fire performance	2.2.1	Roof (t1): pitches $< 20^\circ$ and support A1-A2 Roof (t4): pitches $< 10^\circ$ and support A1-A2
Reaction to fire	2.2.2	NPA

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

Basic requirement for construction works 3: Hygiene, health, and the environment			
Essential characteristic	Relevant clause in EAD	Performance	
Content, emission and/or release of dangerous substances	2.2.3	NPA. The leachable substances are not determined in accordance with this EAD	
Resistance to water vapour	2.2.4	$\mu = 2500$	
Watertightness	2.2.5	Watertight	
Resistance to wind loads	2.2.6	Support + Primer + membrane	
		Concrete	> 50 kPa
		PRIMER PU-1050	1.9
		PRIMER EP-1010	1.75
		PRIMER EP-1020	2.5
		PRIMER WET	1.6
Steel	PRIMER EP-1040	2.3	
Ceramic	PRIMER EPw-1070	1.6	
		PU	0.2



Resistance to mechanical damage (perforation)	2.2.7.1	Resistance to dynamic indentation (23°C)			
		Support	Indentor (mm)	Resistance level	
		Steel	6	I4	
	PU	20	I2		
	2.2.7.2	Resistance to static indentation (23 °C)			
		Support	Load (N)	Resistance Level	
Steel		250	L4		
PU	70	L1			
Resistance to fatigue movement (1000 cycles) (-10°C)	2.2.8	Pass			
Resistance to the effects of low and high surface temperatures	2.2.9	Low temperatures: TL3 High temperatures: TH4			
	2.2.9.1	Resistance to the effects of low surface temperatures (-20°C)			
		Support	Indentor (mm)	Resistance level	
		Steel	6	I4	
	PU	20	I2		
	2.2.9.3	Resistance to high temperatures effects			
		Temperature (° C)	Support	Load (N)	Resistance Level
		60	Steel	250	L4
PU			70	L1	
90		Steel	250	L4	
	PU	-----	-----		
Resistance to ageing media (heat and water)	2.2.10.1	Resistance to heat ageing W3, S (severe) (200 days at 80 °C)			
		R. Dynamic Indentation -20 °C	Support	Indentor (mm)	Resistance Level
			Steel	6	I4
			PU	30	I1
		Fatigue movement (50 cycles) at -10 °C: Pass			
	Tensile Properties (MPa / %)	Initial	5 / 418		
	Ageing 25 years (W3)				
	6 / 115				
	2.2.10.3	Resistance to water ageing W3, P3-P4 (60 – 180 days at 60 °C)			
		R. Static Indentation 60 d	60 °C	Steel	L4 (250 N)
				PU	L1 (70 N)
		80 – 90 °C	Steel	L4 (250 N)	
PU			-----		
R. Static Indentation 180 d		60 °C	Steel	L4 (250 N)	
		PU	-----		
80 – 90 °C	Steel	L3 – L2 200-150 N)			
	PU	-----			
Resistance to delamination (kPa)	Concrete PRIMER PU-1050: 1200				
Resistance UV-radiation in the presence of moisture (5 000 hours)	2.2.10.2	W3, S (Severe) 5 000 hours			
		R. Dynamic Indentation -10 °C	Support	Indentor (mm)	Resistance Level
			Steel	6	I4
	PU	30	I1		
	Tensile Properties (MPa / %)	No heat ageing	5 / 418		
Ageing 25 years (W3)		5.5 / 82			
Resistance to plant root	2.2.11	No penetration of roofs			
Effects of variations in kit components and site practices	2.2.12	Dynamic Indentation	5 °C	PU	I2 (20 mm)
				Steel	I4 (6 mm)
		40 °C	PU	I1 (30 mm)	
			Steel	I4 (6 mm)	
	Tensile properties (MPa / %) 5 °C	6 / 529			
Tensile properties (MPa / %) 40 °C	6 / 512				
Effects of day joints	2.2.13	2.1 MPa			



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

Basic requirement for construction works 4: Safety and accessibility in use		
Essential characteristic	Relevant clause in EAD	Performance
Slipperiness	2.2.14	NPA The kit with PRIMER PU-1050 + DESMOPOL + TECNOTOP 2C colored TECNOPLASTIC F (8%), show a Rd= 50

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

### 4.1 System of assessment and verification of constancy of performance

According to the decision 98/599/EC of October 1998, Official Journal of the European Communities N° L 287, 24.10.1998) of the European Commission<sup>2</sup>, system 3 of assessment and verification of constancy of performance (see EC delegated regulation (EU) No 568/2014 amending Annex V to Regulation (EU) N° 305/2011) applies.

Product	Intended uses	Level or Classes	System
DESMOPOL SYSTEM	Liquid Applied Roof Waterproofing Kit	Any	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 which is deposited at IETcc<sup>3</sup>.

### 5.1 Tasks of the manufacturer

**Factory production control.** The manufacturer shall exercise permanent internal control of production. All the elements, requirements and provisions adopted by the manufacturer shall be documented in a systematic manner in the form of written policies and procedures, including records of results performed. This production control system shall ensure that the product is in conformity with this ETA.

The manufacturer may only use components stated in the technical documentation of this ETA including Control Plan. The incoming raw materials are subjected to verifications by the manufacturer before acceptance.

The factory production control shall be in accordance with the Control Plan. The results of factory production control shall be recorded and evaluated in accordance with the provisions of the Control Plan

**Other tasks of the manufacturer.** The manufacturer shall make a declaration of conformity, stating that the construction product is in conformity with the provisions of this ETA.

### 5.2 Tasks of notified bodies.

**Initial type-testing of the product.** For type testing, the results of the tests performed as part of the assessment for the European Technical Assessment shall be used unless there are changes in the production line or plant. In such cases, the necessary type testing has to be agreed between IETcc and the notified body.

The initial type-testing have been conducted by the IETcc to issued this ETA in accordance with the EAD 030350-00-0402 "Liquid applied roof waterproofing kits". The verifications underlying this ETA have been furnished on samples from the current production.

<sup>2</sup> Published in the Official Journal of the European Union (OJEU) L 262, 14/10/2003 P. 0034 - 0036.

See [www.new.eur-lex.europa.eu/oj/direct-access.html](http://www.new.eur-lex.europa.eu/oj/direct-access.html)

<sup>3</sup> The Control Plan is a confidential part of the ETA and only handed over to the notified certification body involved in the assessment and verification of constancy of performance.



Issued in Madrid on 13 may 2022

By

Director  
on behalf of Instituto de Ciencias de la Construcción Eduardo Torroja (IETcc – CSIC)

