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European Technical Assessment

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General Part

Technical Assessment Body issuing the European Technical Assessment:	Instituto de Ciencias de la Construcción Eduardo Torroja (IETcc)
Trade name of the construction product	**HYPERDESMO ADY 610**
Product family to which the construction product belongs	Liquid Applied Roof Waterproofing Kit, based on polyurethane
Manufacturer	**ALCHIMICA, S.A.** 7, Lampsakou St. 115 28 Athens - Greece
Manufacturing plant(s)	69 km of National road Athens-Lamia, Vrisses Area (on service Rd. Schimatariou-Ritsonas) GR-34100
This European Technical Assessment contains	5 pages + 1 Annex which contain confidential information and is not included in the ETA when that assessment is publicly available
This European Technical Assessment is issued in accordance with regulation (EU) No 305/2011, on the basis of	EAD 030350-00-0402 Liquid applied roof waterproofing kits

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Specific parts

1 Technical description of the product

HYPERDESMO ADY 610 consists of 100 % ALIPHATIC polyurethane resins, mono-component, elastomeric with or without internal reinforcing mesh; which once polymerised conforms an elastic lining, in form of a layer completely bonded to the support (concrete, bitumen membranes, steel and metallic substrates, EPDM, PVC).

The Liquid Applied Roof Waterproofing Kit (LARWK) **"**HYPERDESMO ADY 610" 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 (g/m^2)	THICKNESS (mm) (average)
PRIMER	CONCRETE	AQUADUR	150-200	0.1 -0.2
		AQUASMART- DUR	150-200	
		GEODESMO-50	250-300	
	STEEL	GEODESMO 50	120-150	
	BITUMEN MEMBRANE	UNIVERSAL PRIMER 2K 4060	150-200	
WATERPROOFING MEMBRANE		HYPERDESMO ADY-610 unreinforced	2400	1,5
		HYPERDESMO ADY-610 reinforced application on bitumen membranes	2650	1,8
REINFORCEMENT NON-WOVEN GEOTEXTILE (For application on Bitumen sheets)		Geotextile 110 pressed	110	
GLASS FIBRE MAT REINFORCEMENT (optional)		GLASS FIBRE MAT REINFORCEMENT	225	

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, resist the effects of low surface temperatures of -20 ºC (TL3), high temperatures of 90 ºC (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 2024/3110.

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 horizontal surfaces (singular details).

2.2 Relevant general conditions for the use of the kit

The provisions made in this European Technical Approval (ETA) are based on an assumed intended working life of the system of 25 years from installation in the works, according to EAD 030350-00-0402, 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 indication given on the working life (W3) cannot be interpreted as a guarantee given by the manufacturer nor by EOTA nor by the Technical Assessment Body issuing this ETA, but are regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works

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 product 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. In the MTD the manufacture gives information on the quantities consumed and the processing, which shall lead to a thickness of the roof waterproofing ≥ 1,5 mm.

Execution. Particularly, it is recommended to consider:

- The kit installation has to be carried out by qualified installers
- it can only be used with the components of the kit indicated in this ETA,
- the supervision of the amount of material used (kg/m^2) and the visual control 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,
- it is applied using single component airless spray equipment (piston pump preferred). Pressure output: 180-250 bar. Flow rate: 2.5-4 liters per minute. Spray Tip Size: Typically between 0.031″ and 0.035″. Above factors depend on equipment and application needs.

Before, the installation of HYPERDESMO ADY 610 study the MSDS of the material as supplied at time of purchase. 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 removing all the deteriorated layers. Afterwards, the new product will be assembled following the installation instruction and the new coats must overlap, at least 3 cm, to the coat not 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 this “HYPERDESMO ADY 610” according to the Basic Work Requirements 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 of roofs	2.2.1	$B_{roof}(t1)$	For roof slopes <20° on non-combustibles support
		$B_{roof}(t2)$	For all roof slopes on non-combustibles support
		$B_{roof}(t3)$	For roof slopes between 10° and 70° on non-combustibles support
		$B_{roof}(t(4)$	For roof slopes between 0° and 10° on non-combustibles support
		NPA	on combustibles support
Reaction to fire	2.2.2	C, s2 d0	

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		
Resistance to water vapour	2.2.4	μ = 2070 (2.14 mm thickness)		
Watertightness	2.2.5	Watertight		
Resistance to wind loads	2.2.6	Support + Prime + membrane		≥ 50 kPa (kPa)
		Concrete + AQUADUR		2800
		Concrete + AQUASMAR – DUR		2880
		Concrete + GEODESMO - 50		2520
		Bitumen membrane on insulation material + UNIVERSAL PRIMER 2K 4060		470
		Steel + GEODESMO 50		2300
Resistance to mechanical damage (perforation)	2.2.7	**P1-P4**		
	2.2.7.1	*Resistance to dynamic indentation (23 ºC)*		
		Steel	I4 (6 mm)	
		Bitumen membrane	I4 (6 mm)	
	2.2.7.2	*Resistance to static indentation (23 ºC)*		
		Steel	L4 (250 N)	
		Bitumen membrane	L4 (250 N)	
Resistance to fatigue movement	2.2.8	W3 1000 cycles (-10 ºC) Pass		
Resistance to the effects of low and high surface temperatures	2.2.9	**Low temperatures:TL3 High temperatures: TH4 – TH1**		
	2.2.9.1	R. Dynamic Indentation - 20 ºC	Steel	I4 (6 mm)
			Bitumen membrane	I4 (6 mm)
	2.2.9.3	R. Static indentation at 90 ºC	Steel	L4 (250 N)
			Bitumen membrane	L4 (250 N)
Resistance to ageing media (Heat and water)	2.2.10.1	**Resistance to heat ageing W3, S (severe)** (200 days at 80 ºC)		
		R. Dynamic Indentat9n -20 ºC	Steel	I4 (6 mm)
			Bitumen membrane	I4 (6 mm)
		Fatigue movement (50 cycles) at -10 ºC: Pass		
		Tensile properties (MPa / %)	Initial	12.5 / 470
			Ageing	9 / 500
	2.2.10.3	**Resistance to water ageing W3, S1-S2, P4** (180 days at 60 ºC)		
		R. Static indentation 90 ºC	Steel	L4 (250 N)
			Bitumen membrane	L4 (250 N)
		R. Static indentation 80 ºC	Steel	L4 (250 N)
			Bitumen membrane	L4 (250 N)
		R. Static indentation 30 - 60 ºC	Steel	L4 (250 N)
			Bitumen membrane	L4 (250 N)
			Steel	L4 (250 N)
			Bitumen membrane	L4 (250 N)
		Resistance to wind loads (kPa)		
		Aquasmart Dur + Concrete	Initial	2800
			Ageing	2100
		Steel + GEODESMO 50	Initial	2300
			Ageing	2000
		Bitumen membrane on insulation material + UNIVERSAL PRIMER 2K 4060	Initial	470
			Ageing	360

Resistance to UV radiation in the presence of moisture	2.2.10.2	**W3, S (severe), 5000 hours**		
		Resistance to dynamic Indentation -10 ºC	Steel	I4 (6 mm)
			Bitumen membrane	I4 (6 mm)
		Tensile properties (MPa / %)	Initial	12.5 / 470
			Ageing	9.5 / 500
Resistance to plant roots	2.2.11	NPA		
Effects of variations in kit components and site practices	2.2.12	Tensile properties (MPa / %) 5 ºC		11.8 / 420
		Tensile properties (MPa / %) 40 ºC		10.7 / 510
		R. Dynamic Indentation (23 ºC) at 5 ºC		Steel: I4 (6 mm)
		R. Dynamic Indentation (23 ºC) at 40 ºC		Steel: I4 (6 mm)
Effects of the days joint	2.2.13	Concrete		1900 kPa

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

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

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, system 3 of assessment and verification of constancy of performance (see EC delegated regulation (EU) No 568/2014 amending Annex V to Regulation (EU) Nº 305/2011) applies.

Product	Intended uses	Level or Classes	System
HYPERDESMO ADY 610	Liquid Applied Roof Waterproofing Kit	Any	3

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

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By

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