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European Technical Assessment

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General Part

Technical Assessment Body issuing the ETA and designated according to Article 29 of the Regulation (EU) Nº305/2011:	Instituto de Ciencias de la Construcción Eduardo Torroja (IETcc)
Trade name of the construction product	**POLIBREAL**
Product family to which the construction product belongs	Liquid Applied Roof Waterproofing Kit, based on Hot applied polymer modified bitumen
Manufacturer	**IMPERMEABILIZANTES CIENTIFICOS, S.A (IMCISA)** Polígono Industrial Alcamar, nave 8-9. Camarma de Esteruelas, 28816 Madrid. Spain
Manufacturing plant(s)	Polígono Industrial Alcamar, nave 8-9. Camarma de Esteruelas, 28816 Madrid. Spain
This European Technical Assessment contains	7 pages including 1 Annex which form an integral part of this assessment. Annex 2. 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	Guideline for European Technical Approval (ETAG) nº 005, part 1-5 ed. 2004, used as European Assessment Document (EAD)
This version replaces	ETA 07/0131 issued on 30/ 03/ 2012

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SPECIFIC PARTS OF THE EUROPEAN TECHNICAL ASSESSMENT

1 Technical description of the product

The Liquid Applied Roof Waterproofing Kit (LARWK) "POLIBREAL" is designed and installed in accordance with the manufacturer, design and installation instructions, deposited at the IETcc[(1)]. This kit, based on hot applied polymer modified bitumen, "POLIBREAL", manufactured by the company IMCISA, consists of a bitumen modified with PVC and mineral loads, with an external protection layer; which once polymerised conforms an elastic lining, in form of a layer completely bonded to the support (concrete, mortar). The minimum layer thickness of the assembled system has to be 3,5 mm and the quantity consumed larger than 5 kg/m^2. The kit has an external protection layer of polyester film (PET), with a thickness ≥ 50 microns, adhered to the membrane.

The kit allows the option to be installed using several consecutives layers, with a consume ≥ 4 kg/m^2 and thickness ≥ 3 mm each one, with an internal separation layer of polyester film (thickness ≥ 23 microns), aluminium (thickness ≥ 30 microns) or polyester felt non-woven (≥ 150 g/m^2). The kit has an external protection layer of polyester film (PET), with a thickness ≥ 50 microns, adhered to the membrane.

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

The intended use of this System is the waterproofing of roof against the water, as in liquid as vapour form. This LARWK fulfils the Essential Requirements nº 2 (Safety in case of fire), nº 3 (Hygiene, health and the environment) and nº 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 horizontal surfaces (singular detais).

The performance levels of this System according to the Guide ETAG 005 Part. 1 and 5 are included in the annex 1. The provisions made in this European Technical Approval (ETA) are based on an assumed intended working life of the system of 10 (W2). The indication given on the working life cannot be interpreted as a guarantee given by the manufacturer, but are only to be regarded as a means for choosing the right products in relation to the expected economically reasonable working life of the works. "Assumed intended working life" means that, when an assessment following the ETAG provisions is made, and when this working life has elapsed, the real working life may be, in normal use conditions, considerably longer without major degradation affecting the Essential Requirements.

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 LARWK is effectively communicated to the concerned people. This information can be given using reproductions of the respective parts of this European Technical Assessment. 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 ≥3,5 mm.

Execution.. Particularly, it is recommended to consider:

- the kit installation has to carried out by qualified installers certificated by IMCISA,
- it can be only used the components of the kit indicated in this ETA
- the application of the Systems can be only be perform in roof which the structural support is constituted by the different kinds of reinforced concrete show in the MTD.
- previous to the installation of the system, the support must be reviewed considering its constitution (reinforcement concrete) and its surface state (compact, cleanness, dryness, etc...)
- inspection of the internal separation layer in the mulit-layer system before the application of the following layer, so as the external protection layer before the collocation of the final protection of the roof,
- this product can be installed in inverted roofs, when it is used polystyrene as thermal insulation,

(1) The technical documentation of this ETA is deposited at IETcc and, as far as relevant for the tasks of the approved bodies involved in the attestation of conformity procedure, is handed over to the approved bodies.

- the supervision and control of the installation of the system are enclosed in the MTD,
- the temperature of the product in the mixer machine must not be higher than 165ºC. The product can keep in the boiler for 60 minutes at 140ºC, wit a continuous stirring,
- the application temperature of the product cannot be lower than 90ºC,
- in the singular point of passing element to improve the adherence of the system with the protection of the singular point, it is used the adhesive PET-50(manufactured by IMCISA) with dry sand (without fines particles). The curing time of the adhesive is at least 24h.
- it must be used the following personal protection elements: security helmet and shoes, protection glasses and gloves, filtration face mask against gas and vapors; in general, it must be applied the security precautions included in "POLIBREAL®" security card.

Before, the installation of POLIBREAL, 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 10 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 this LARWK according to the Essential Requirements were carried out in compliance with the ETA Guidance n.005: Guideline for European Technical Approval of Liquid applied roof waterproofing kits, ETAG 005, edition 2004, Part 1 "General" and Part 5 "Specific stipulations for kits based on Hot applied polymer modified bitumen" (called ETAG 005, in this ETA).

3.1 LARWK Characteristics

Safety in case of fire ((BWR 2)

External fire performance. Classification: B_{roof}(F). NPA

Reaction to fire. Euroclass F. NPA

Hygiene, health and environment (BWR 3)

Resistance to water vapour (EN 1931). $\mu > 10.000$

Watertightness (EOTA TR-003). Watertight

Statement of dangerous substances. The waterproof liquid is constituted by coal tar, which is considered as dangerous substance. According to the Manufacturer declaration the POLIBREAL KIT once installed don't release toxic gasses, dangerous particles and don't produce water and soil contamination.

For that, the kit must include the external protection layer of polyester film, besides the support, where the waterproof is applied on, must be of reinforced concrete in the kinds: one direction, bi-directional or multi directional, alveolar slab or ribbed plate. The compression coat will have a thickness of 4-5 cm at least as it is indicated in MTD. Other substrates (eg. metal, brickwork, plastic, etc.) are permissible at details, when they will be compatible with the kit.

Resistance to dynamic indentation (EOTA TR- 6). I_4

Resistance to static indentation (EOTA TR-7). L_4

Resistance to fatigue movement (EOTA TR-8). Pass

Resistance to low temperatures effects (-10ºC)

Test	Values
Low temperature flexibility	Pass
Dynamic indentation.	I4

Resistance to high temperatures effects (60ºC).

Test	Values
Sliding	Pass
Static indentation	I4

Resistance to heat ageing (EOTA TR-11). The samples are exposed to 70ºC during 200 days.

Test	Values
Fatigue movement	Pass
Low temperature flexibility(-10ºC)	Pass
Dynamic indentation (-10ºC)	I4

Resistance to hot water ageing (EOTA TR-12). The samples are kept in touch with water at 60ºC over 180 days.

Test	Values
Low temperature flexibility (-10ºC)	Pass
Static Identation (60ºC)	L4

Resistance to plant roots (EN 13948.). Pass.

Safety in use (BWR 4). Slipperiness (EN 13893). NPA

Related aspects of serviceability

Effect of remelting. This test cannot be performed to this product.

Effect of prolonged heating. The bitumen is held to 140ºC for 60 minutes.

Test	Values
Penetración a 50ºC	≤ 220 décimas de mm
Fluencia a 60ºC	≤ 1mm

3.2 Characteristics of the components

The characteristics of the components of this System show the following values, which compliance with their respective tolerances stated in the Manufacture Technical Dossier (MTD).

Waterproofing liquid POLIBREAL constituted by bitumen modified with PVC, with mineral loads. The main characteristics of this waterproof liquid are:

Characteristics	Standard	Tolerances
Solid contents (% weight)	EN ISO 3251	20-35
Viscosity (4mm, 35ºC) (s)	CAN/CGSB 37.50-M 89	70-350
Penetration at 25ºC (150 g, 5s) (0.1 mm)	CAN/CGSB 37.50-M 89	90-225
Flow at 60ºC (mm)	CAN/CGSB 37.50-M 89	≤ 1
Point of softening (ºC)	EN 1427	84 – 98

Internal separation layer.

Caracteristics	EN	Aluminium ≥ 30μm	PET ≥ 23 μm	Polyester felt
Mass per unit area (g/m^2)	29073-1	≥ 80	≥ 30	≥ 130
Tensile elongation (%)	29073-3	≥ 3	≥ 50	≥ 25
Tensile strength (N/5cm)	29073-3	≥ 50	≥ 290	≥ 290

External protection layer of polyester (thickness ≥ 50 microns).

Characteristics	Standard (EN)	PET ≥ 50 μm
Mass per unit area (g/m2)	29073-1	≥ 50
Tensile elongation (%)	29073-3	≥ 51
Tensile strength (N/5cm)	29073-3	≥ 330

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

System of Attestation of Conformity. The European Commission according to her decision (98/599/EC of October 1998, Official Journal of the European Communities N° L 287, 24.10.1998) on the procedure of attestation of conformity for the procedure of attestation of conformity (Annex III, clause 2(ii) second possibility of EU Regulation 305/2011) for liquid applied roof waterproofing kits has laid down for this type of material.

Product	Intended uses	Level or Classes	System
POLIBREAL	Liquid Applied Roof Waterproofing Kit	Any	3

According to this decision, system 3 of Attestation of Conformity also applies with regard to external fire performance. The system 3 provides: Tasks for the manufacturer: Factory production control and Tasks for the approved body: Initial type-testing of the product.

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

The ETA is issued for this kit on the basis of agreed data/information, deposited at IETcc, which identifies the product that has been assessed and judged. It is the manufacturer's responsibility to make sure that all those who use the kit are appropriately informed of specific conditions according to sections 1, 2, 4 and 5 including the annexes of this ETA. Changes to the LARWK or the components or their production process, which could result in this deposited data/information being incorrect should be notified to the IETcc before the changes are introduced. IETcc will decide whether or not such changes affect the ETA and if so whether further assessment or alterations to the ETA shall be necessary.

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 material is subjected to verifications by the manufacturer before acceptance.

The factory production control shall be in accordance with the Control Plan[(2)] which is part of the Technical Documentation of this ETA. The Control Plan has been agreed between the manufacturer and the IETcc and is laid down in the context of the factory production control system operated by the manufacturer and deposited at the IETcc. 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, on the basis of a contract, involve a body which is notified for the tasks referred to in section 4 in the field of LARWK in order to undertake the actions laid down in this clause. For this purpose, the control plan shall be handed over by the manufacturer to the notified bodies involved.

For initial type – testing, the results of the tests performed, as part of the assessment for the ETA shall be used unless there are changes in the production line or plant. In such cases the necessary initial type- testing has to be agreed with the IETcc.

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. The notified body shall perform

Initial type-testing of the product. The initial type-testing have been conducted by the IETcc to issued this ETA in accordance with chapter 5 of the guideline "Liquid applied roof waterproofing kits" (ETAG 005) part 1 and 5. The verifications underlying this ETA have been furnished on samples from the current production; these will replace the initial type-testing carried out by the manufacturer. The IETcc has assessed the results of these tests in accordance with chapter 5 of this ETA –Guideline, as part of the ETA issuing procedure.

(2) The control plan is a confidential part of this European Technical Assessment and only handed over to the notified body involved in the procedure of attestation of conformity. See section 3.2.2.

Issued in Madrid on 30 March 2017
by

Instituto de Ciencias de la Construcción Eduardo Torroja

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On behalf of the Instituto de Ciencias de la Construcción Eduardo Torroja

Marta Castellote
Director

Annex 1.

Characteristics of the System "POLIBREAL"

Minimum thickness	3,5 mm
Water vapour diffusion resistant factor	μ > 10.000
Resistance to wind loads	NPA
Resistance to plant roots	Pass
Statement on dangerous substances	65996-93-2, 90640-86-1, 90640-80-5, 90640-84-9
Resistance to slipperiness	NPA

Performance levels according to the intended use

External fire performance	NPA
Fire reaction	F
Expected working life	W2 (10 years)
Climatic zone of use	S (Severe)
User loads	P4 (special use)
Roofs slopes	S1 – S3 (≥ 0%, <27º)
Minimum surface temperatures	TL2 (- 10 ^{0}C)
Maximum surface temperatures	TH2 (60ºC)