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European Technical Assessment ETA 24/ 0043 of 19/ 01/ 2024

English translation prepared by IETcc. Original version in Spanish language

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	**SIKALASTIC® M 640**
Product family to which the construction product belongs	Liquid Applied Roof Waterproofing Kit, based on pure polyurethane
Manufacturer	**SIKA HELLAS Industrial & Commercial, S.A.** Protomagias 15, Athens, Kryoneri Attica 14568. Greece
Manufacturing plant(s)	Plant 1.
This European Technical Assessment contains	5 pages. + Annex 1 contains confidential information and is not included in the European Technical Assessment when that assessment is publicly disseminated.
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

The Liquid Applied Roof Waterproofing Kit (LARWK) "SIKALASTIC® M 640" 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	Consume
Primer (optional)	Sika® Bonding Primer	≥ 150 g/m^2
Waterproofing membrane	SIKALASTIC® M 640	≥ 1.5 kg/m^2
Finish layer: Protection UV	SIKALASTIC® 670 TC	≥ 150 g/m^2
Internal layer: geo-textile (optional)	SIKALASTIC® Fleece 120 or Sika® Reemat Premium	50 to 150 g/m^2

SIKALASTIC® M 640 consists of a polyurethane resin, mono-component, elastomeric without reinforcing mesh (only in singular point: evacuations, upstands…) internal layer, which once polymerised conforms an elastic lining, in form of a layer completely bonded to the support (concrete, mortar, ceramic). The minimum layer thickness of the assembled membrane must 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. To roofs with any slope between 0 and >30 % (S1-S4), for a type of categorisation of user load of P1 (without finish layer and W3) or P3 (with finish layer and W2), resists the effects of low surface temperatures of –20 ºC (TL3) and 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 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 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 EAD 030350-00-0402, if the conditions lay down for the installation, packaging, transport and storage as well as appropriate use, maintenance and repair are met. In this respect, SIKALASTIC® 670 TC external protection, Aliphatic Polyurethane resins for a P3 category for user loads and a working life of 10 years.

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.

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 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 EAD requirements. In the Manufacture Technical Dossier (MTD) the manufacture gives information on the quantities consumed and the processing, which shall lead to a thickness of the roof waterproofing ≥ 1.2 mm.

Execution.. Particularly, it is recommended to consider:

- The kit installation must be carried out by qualified installers and it can only be used 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,
- The recommended temperature of the product to be assembled will be between 5 ºC and 40 ºC and it will be not admitted support temperatures upper to 45 ºC. In other conditions it will need to follow the manufacturer's instructions.

Before, the installation of SIKALASTIC® M 640, 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 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 "SIKALASTIC® M 640" 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	Broof (t1): pitches < 20° and support A1-A2 Broof (t4): pitches < 10° and support A1-A2
Reaction to fire	2.2.2	E

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 = 1100 (thickness 1.2 mm)
Watertightness	2.2.5	Watertight
Resistance to wind loads	2.2.6	Delamination strength: Pass (> 50 kPa) Concrete: 3.2 MPa Ceramic: 1.7 MPa Fibre cement: 0.9 MPa
Resistance to dynamic indentation (23 ºC)	2.2.7.1	Support steel/concrete: I3 (10 mm)
Resistance to static indentation (23 ºC)	2.2.7.2	Support steel/concrete: L4 (250 N)

Resistance to fatigue movement (1000 cycles) (-10 ºC)	2.2.8	Pass	
Resistance to the effects of low surface temperatures (-20 ºC)	2.2.9.1	Dynamic Indentation Support steel/concrete: I3 (10 mm)	
Resistance to high temperatures effects	2.2.9.3	Static indentation - Support steel/concrete:	
		90 ºC	L1 (70)
		80 ºC	L2 (150)
		80 ºC With SIKALASTIC® 670 TC	L3 (200)
		60 ºC	L4 (250)
Resistance to heat ageing (W2:100 – W3: 200 days)	2.2.10.1	Dynamic Indentation (-20 ºC) Support steel/concrete: I3 (10 mm)	
		Fatigue movement (50 cycles) at -10 ºC : Pass	
		Tensile properties T. Strength (MPa) (initial / W2-W3: 8.8 / 3.6 – 3.7 Elongation (%) (initial / W2 –W3): 450 / 170 - 213	
Resistance to UV radiation in the presence of moisture (W2 2000h – W3 5000 hours)	2.2.10.2	Dynamic Indentation Support steel/concrete: I3 (10 mm)	
		Tensile properties T. Strength (MPa) (initial / W2 – W3): 8.8 / 5.3 -8 Elongation (%) (initial / W2 – W3): 450 / 670 - 500	
Resistance to water ageing (30 - 60 days)	2.2.10.3	Static indentation	
		30 d 90 ºC + SIKALASTIC® 670 TC	L3 (200N)
		30 - 60 days at 90 - 30 ºC	L1 (70)
		Delamination strength: Pass (>50 kPa) Concrete: 2.6 – 1.8 MPa	
Resistance to plant root	2.2.11	NPA	
Effects of variations in kit components and site practices	2.2.12	Dynamic Indentation *5 ºC and 40 ºC* Support steel/concrete: I3 (10 mm)	

		Tensile properties
		5 ºC
		T. Strength (MPa) // Elongation (%): 8.8 // 452
		40 ºC.
		T. Strength (MPa) // Elongation (%): 7.3 // 481	

Effects of day joints	2.2.13	1,5 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

4 Assessment and verification of constancy of performance (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
SIKALASTIC® M 640	Liquid Applied Roof Waterproofing Kit	Any	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 which is deposited at IETcc[1].

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 must be agreed between IETcc and the notified body.

The initial type-testing have been conducted by the IETcc to issue 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.

Issued in Madrid on 19 January 2024

By

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

[1] 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.