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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® 851 R + Sikalastic® 701**
Product family to which the construction product belongs	Liquid Applied Roof Waterproofing Kit, based on hybrid polyurea
Manufacturer	**SIKA, S.A.** Ctra. Fuencarral n.º 72 28108 Alcobendas (Madrid). Spain
Manufacturing plant(s)	Sika Deutschland GmbH Kornwestheimer Strasse 107 70439 Stuttgart Germany Sika Limited Miller Street · Preston · Pr1 1EA · United Kingdom
This European Technical Assessment contains	6 pages including 1 Annex which form an integral part of this assessment. Annex 2 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

Specific parts

1 Technical description of the product

The Liquid Applied Roof Waterproofing Kit (LARWK) "Sikalastic® 851 R + Sikalastic® 701" is designed and installed in accordance with the manufacturer, design and installation instructions. This LARWK comprises the following components and systems, which are factory produced by the manufacturer.

Components	Trade name	Consume
Primer over concrete metal and XPS	Sikafloor® 151 + Quarzsand 0.3 - 0.8 mm	0.15 kg/m^2
Waterproofing membrane	Sikalastic® 851 R	≥ 1.8 kg/m^2
	Sikalastic® 701	≥ 250 g/m^2

Sikalastic® 851 R is a two component, elastic, crack-bridging, modified polyurethane/polyurea hybrid applied by two compontent hot spray equipment without internal mesh; which once polymerized conforms an elastic lining, in form of a layer completely bonded to the support: steel, concrete, mortar, ceramic, XPS and other waterproofing membranes like PVC, EPDM and bituminous (application with suitable primer).

Sikalastic® 701 is a 2-part polyurethane hybrid, gloss finish, elastic top coat for Sikalastic® 851 R (dry).

The minimum layer thickness of the assembled and dry membrane has to be 2.0 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 roofs. 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.

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. In the MTD the manufacturer gives information on the quantities consumed and the processing, which shall lead to a thickness of the roof waterproofing ≥ 2.0 mm.

Execution. Particularly, it is recommended to consider the:

- kit installation has to be carried out by qualified installers and only the components of the kit indicated in this ETA can be used,
- supervision of the amount of material used (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 8 ºC and 40 ºC and it will be not admitted support temperatures upper to 40 ºC. In other conditions, it will need to follow the manufacturer's instructions.

Before, the installation of Sikalastic® 851 R + Sikalastic® 701, it is recommended to read its safety data sheet.

Use, maintenance and repair of the works. In those roofs with deteriorated areas of the waterproof layers, they will be repaired following the installation instructions of the manufacturer. 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® 851 R + Sikalastic® 701" 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	NPA
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
Resistance to water vapour	2.2.4	μ = 1380 (2.3 mm thickness)
Watertightness	2.2.5	Watertight
Resistance to wind loads	2.2.6	Delamination strength: Pass (> 50 kPa) Concrete; 3.8 MPa XPS: 0.15 MPa (cohesive support)
Resistance to dynamic indentation (23 ºC)	2.2.7.1	Support steel/concrete: I4 (6 mm) Support XPS I4 (6 mm)

Resistance to static indentation (23 ºC)	2.2.7.2	Support steel/concrete: L4 (250 N) Support XPS: L4 (250 N)
Resistance to fatigue movement (1000 cycles) (-10 ºC)	2.2.8	Pass
Resistance to the effects of low surface temperatures (-30 ºC)	2.2.9.1	Dynamic Indentation Support steel/concrete: I4 (6 mm) Support XPS: I4 (6 mm)
Crack bridging capability (-30 ºC)	2.2.9.2	Pass
Resistance to high temperatures effects	2.2.9.3	Static indentation Support steel/concrete: L4 at 90 - 30 ºC Support XPS: L2 at 90 - 80 ºC L3 at 60 ºC L4 at 30 ºC
Resistance to heat ageing (200 days)	2.2.10.1	Dynamic Indentation (-30 ºC) Support steel/concrete: I4 Support XPS: I4
		Fatigue movement (50 cycles) at -10 ºC: Pass
		Tensile properties T. Strength (MPa) (initial // ageing): 8.0 / 8.5 Elongation (%) (initial // ageing): 360 / 350
Resistance to UV radiation in the presence of moisture (5000 hours)	2.2.10.2	Dynamic Indentation Support steel/concrete: I4 Support XPS: I4
		Tensile properties T. Strength (MPa) (initial // ageing*): 7.0 / 8.0 Elongation (%) (initial // ageing*): 405 / 574
Resistance to water ageing (60 /180 days)	2.2.10.3	Static indentation, Support steel/concrete: L4 at 90-30 ºC Support XPS: L3 at 90-80-60 ºC L4 at 30 ºC
		Delamination strength: Pass (> 50 kPa) Concrete: 3.6 MPa
Resistance to plant root	2.2.11	NPA
Effects of variations in kit components and site practices	2.2.12	Dynamic Indentation *8 ºC / 40 ºC* Support steel/concrete: I4 (6 mm) Support XPS: I4 (6 mm)
		Tensile properties *8 ºC / 40 ºC* T. Strength (MPa): 9.7 Elongation (%): 267
Effects of day joints	2.2.13	3.6 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 (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[1], system 3 of assessment and verification of constancy of performance (see EC delegated regulation (EU) N.º 568/2014 amending Annex V to Regulation (EU) N.º 305/2011) applies.

Product	Intended uses	Level or Classes	System
Sikalastic® 851 R + Sikalastic® 701	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[2].

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.

[1] 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

[2] 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.

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By

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

Annex 1.

Characteristics of the System "Sikalastic® 851 R + Sikalastic® 701"

Minimum thickness	2.0 mm
Water vapour diffusion resistant factor	$\mu \approx 1380$
Resistance to wind loads	> 50 kPa
Resistance to plant roots	NPA
Statement on dangerous substances	NPA
Resistance to slipperiness	NPA

Performance levels according to the intended use

External fire performance	NPA	
Fire reaction	NPA	
Expected working life	W3	
Climatic zone of use	S (Severe)	
User loads	Support; Concrete / steel: P4: TH1-TH4	Support; XPS: P3. TH4-TH2 P4: TH1
Roofs slopes	S1 – S4	
Minimum surface temperatures	TL4 (- 30 ^{0}C)	
Maximum surface temperatures	TH4 – TH1	