BUILDING TRUST

PRODUCT DATA SHEET

Sikalastic®-590

ECONOMICAL LIQUID APPLIED ROOF WATERPROOFING WITH IMPROVED PONDING WATER CAPABILITY

DESCRIPTION

Sikalastic®-590 is one component polyurethane – acrylic dispersion with improved water ponding resistance, excellent UV resistance, good crack bridging capacity and great esthetics. For manual / spray application, Sikalastic®-590 can be applied as coating or a reinforced liquid applied membrane with Sika®-120 Reemat. Designed for exterior usage and produces a matt/low sheen finish.

USES

- For waterproofing solutions in both new construction and refurbishment projects
- For roofs with many details and complex geometry when accessibility is limited
- For cost efficient life cycle extension of failing roofs
- For reflective coating to enhance energy efficiency by reducing cooling costs (Sikalastic®-590 White)

FEATURES

- Good behavior under limited water ponding
- UV resistant and resistant to yellowing and weathering
- Highly elastic and crack-bridging
- Non-toxic and VOC compliant water based coating
- One component - ready to use
- Excellent adhesion on porous and non-porous substrates
- Seamless waterproofing membrane
- Water vapour permeable

CERTIFICATES AND TEST REPORTS

Certified Singapore Green Label, The Singapore Environment Council, Environmentally Preferred Coating, November 2022.

PRODUCT INFORMATION

Composition	Polyurethane modified acrylic dispersion.	
Packaging	20 kg Plastic pails.	
Colour	Grey and white	
Shelf life	12 months from date of production if stored properly in original, unopened and undamaged sealed packaging.	
Storage conditions	The product must be stored properly in dry conditions at temperatures between +5 °C and +30 °C.	
Density	~1.32 kg/L (at +30 °C)	(EN ISO 2811-1)
Solid content by mass	~63 % by weight	

TECHNICAL INFORMATION

Tensile strength	Free film (>7 days)	~1.7 N/mm²	(ASTM D412)
Tensile strain at break	Free film	~360 %	(ASTM D412)
Tensile adhesion strength	>14 days	~1 N/mm²	(ASTM D7234)
Behaviour after artificial weathering	Pass, 1000 hours, UVA-340 no cracking, no blister, no delamination, no chalking		(ASTM G154)
Solar reflectance	~80 %	Sikalastic®-590 White	(ASTM E903-12)
Thermal emittance	~0.91	Sikalastic®-590 White	(ASTM C1371-15)
Solar reflectance index	~100.9 (at 12 $W.m^{-2}.K^{-1}$)	Sikalastic®-590 White	(ASTM E1980-11)

APPLICATION INFORMATION

Ambient air temperature

+15 °C min / +35 °C max

Relative air humidity

80 % r.h. max

Dew point

Beware of condensation, Surface temperature during application must be at least 3 °C above dew point.

Substrate temperature

+15 °C min / +35 °C max

Substrate moisture content

< 6 % moisture content.
No rising moisture according to ASTM (Polyethilene-sheet)
No water / moisture / condensation on the substrate.

Waiting time to overcoating

Before applying Sikalastic®-590 on Sikalastic®-590 diluted with 10 % water as primer, allow primer to dry:

Substrate Temperature	Relative Humidity	Minimum	Maximum
+20 °C	50 %	~2 h	* Note 1
+30 °C	50 %	~1 h	* Note 1

Before applying Sikalastic®-590 on Sikalastic®-590 (without reinforced), allow 1st coat to dry:

Substrate Temperature	Relative Humidity	Minimum	Maximum
+20 °C	50 %	~6 h	* Note 1
+30 °C	50 %	~4 h	* Note 1

Before applying Sikalastic®-590 on Sikalastic®-590 (reinforced WITH Sika®-120 Reemat), allow material to dry:

Substrate Temperature	Relative Humidity	Minimum	Maximum
+20 °C	50 %	~24 h	* Note 1
+30 °C	50 %	~12 h	* Note 1

*Note 1 : After thorough cleaning Sikalastic®-590 can be overworked with it self at any time

Applied product ready for use

Substrate Temperature	Relative Humidity	Touch Dry	Rain Resistant	Fully Cured
+20 °C	50 %	~2 h	~10 h	~4 d
+30 °C	50 %	~1 h	~6 h	~2 d

Note : Times are approximate and will be effected by changing ambient conditions particulary temperature and relative humidity. Low temperature and high relative humidity retard curing, while high temperature and low relative air humidity accelerate curing progression.

SYSTEM INFORMATION

System structure

WATERPROOFING WITHOUT REINFORCEMENT

- For UV-stable coating for extend life old roofs or as reflective coating to enhance energy efficiency.
- For detail system build up, please refer to table below :

Coating System	Product	Consumption
Primer coat	Sikalastic®-590 diluted with 10 % water	~0.3 kg/m²
First coat	Sikalastic®-590	~0.5 kg/m²
Second coat	Sikalastic®-590	~0.5 kg/m²

WATERPROOFING WITH REINFORCEMENT (SIKA®-120 REEMAT)

- For cost efficient waterproofing solutions in new construction and refurbishment projects.
- Sika®-120 Reemat is applied at areas with movements, irregular substrate or to bridge cracks, joints and seams on the substrate as well as for details.
- For detail system build up, please refer to table below :

Coating System	Product	Consumption
Primer coat	Sikalastic®-590 diluted with 10 % water	~0.3 kg/m²
First coat*	Sikalastic®-590	~0.3 kg/m²
Second coat	Sikalastic®-590	~0.5 kg/m²
Reinforcement membrane	Sika®-120 Reemat	1 m²
Third coat	Sikalastic®-590	~0.5 kg/m²
Final coat	Sikalastic®-590	0.3 - 0.5 kg/m²

* It may not be applied, if the substrate is good and the primer has covered substrate with proper consumption and enough material.

BASIS OF PRODUCT DATA

All technical data stated in this Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

IMPORTANT CONSIDERATIONS

- Sikalastic®-590 can be applied on roofs subject to short ponding water.
- Recommended slope of 1 % should be provided to substrate. (Depending on Roof layout and availability of Drains and Gutters, minimum could be 0.5 % slope).
- Protect the applied material from rain until 24 hours to get good ponding water capability.
- Do not apply Sikalastic®-590 on substrates with rising moisture.
- Always apply during falling ambient and substrate temperature. If applied during rising temperatures “pin holing” may occur from rising air.
- Ensure that temperature does not drop below 15 °C and that relative humidity does not exceed 80 % until the Membrane has fully cured.
- Ensure that Sikalastic®-590 is totally dry and the surface is without pinholes before applying any top coat.
- Do not allow temporary ponding to remain between coats on any horizontal surfaces or until the final coating has totally cured. Brush or mop surface water away during this time.
- In cold climatic zones, Sikalastic®-590 should not be applied on roofs subject to ponding water with subsequent periods of frost. Otherwise a slop of more than 3 % should be provided, or appropriate measures should be considered.
- Do not apply Sikalastic®-590 directly on insulation boards. Instead use a separation layer between insulation board and Sikalastic®-590.
- Sika®-120 Reemat can be used as total reinforcement or for partial reinforcements over dynamic cracks and joints.
- Do not over coat Sikalastic®-590 with tile, concrete or others. Sikalastic®-590 is an exposed system.

ECOLOGY, HEALTH AND SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

APPLICATION INSTRUCTIONS

SUBSTRATE PREPARATION

Cementitious Substrate:

- New concrete should be cured for at least 28 days and should have a Pull off strength ≥ 1.5 N/mm².
- Cementitious or mineral based substrates must be prepared mechanically using abrasive blast cleaning or scarifying equipment to remove cement laitance and to achieve an open textured surface.
- Loose friable material and weak concrete must be completely removed and surface defects such as blowholes and voids must be fully exposed.
- Repairs to the substrate, filling of joints, blowholes/voids and surface levelling must be carried out using appropriate products from the Sikafloor®, SikaDur® and SikaGard® range of materials.
- High spots must be removed by e.g. grinding.
- Outgassing is a naturally occurring phenomenon of concrete that can produce pinholes in subsequently applied coatings. The concrete must be carefully assessed for moisture content, air entrapment, and surface finish prior to any coating work. Installing the membrane either when the concrete temperature is falling or stable can reduce outgassing. It is generally beneficial, therefore, to apply the embedment coat in the late afternoon or evening.
- Prime the substrate and always use a reinforced system.

Brick and stone:

Mortar joints must be sound and preferably flush pointed. Use localized reinforcement over joints and prime before applying Sikalastic®-590.

Slates, Tiles, etc.:

Ensure all slates/tiles are sound and securely fastened, replacing obviously broken or missing sections. Fully glazed tiles must be abraded prior to priming and subsequent treatment with Sikalastic®-590.

Bituminous Felt:

Ensure that bituminous felt is firmly adhered or mechanically fixed to the substrate. Bituminous felt should not contain any badly degraded areas. Prime and always use a totally reinforced system.

Bituminous Coatings:

Bituminous coatings should not have sticky or mobile surfaces, volatile mastic coatings, or old coal tar coatings. Prime and always use a totally reinforced system.

Metals:

Metals should be in sound condition. Abrade the exposed surfaces to reveal bright metal. Use locally reinforcement over joints and fixings.

Wooden substrates:

Timber and timber based panel roof decks are to be in good condition, firmly adhered, or mechanically fixed.

Paints/Coatings:

Ensure the existing material is sound and firmly adhered. Remove any oxidized layers and use localized reinforcement over joints.

MIXING

Prior to application, stir Sikalastic®-590 thoroughly for 1 minute in order to achieve a homogeneous mixture. Over mixing must be avoided to minimise air entrainment.

APPLICATION

Prior the application of Sikalastic®-590, the priming coat has to be used and it must have cured tack-free. The primer coat is Sikalastic®-590 diluted 10 % water and consumption is ~0.3 kg/m²
For the Waiting Time / Overcoating please refer to the PDS of the appropriate primer. Damageable areas (door frame) have to be protected with an adhesive tape.

Waterproofing WITHOUT Sika®-120 Reemat:

Sikalastic®-590 is applied in three coats (1 coat is for primer coat & 2 coats are Sikalastic®-590). Prior to the application of second coat the indicated waiting time in the table Waiting Time / Overcoating shall be allowed.

Waterproofing WITH Sika®-120 Reemat:

- Apply primer Sikalastic®-590 diluted with 10% water, consumption approximately 0.3 kg per m².
- Apply first coat* of approximately 0.3 kg per m².
- Apply second coat of approximately 0.5 kg/m² of Sikalastic®-590. Work only so far in advance that the material stays liquid.
- Roll in the Sika®-120 Reemat and push into the wet liquid and ensure full saturation. Overlapping of the Sika®-120 Reemat a minimum 5 cm and ensure overlaps are sufficiently wet to bond. The roller may require only a little extra material to keep wetted but no further significant material needs to be added at this stage. The surface of the reinforcement should look wet and fully sealed. Then apply approximately 0.5 kg per m² of Sikalastic®-590 with wet on wet system.
- Before applying the final coat, check for upstanding Reemat fibres. These fibres have to be eliminated by using sandpaper. Make sure that all upstanding fibres are abraded.
- After the coat is dry enough to walk on, Final coat of approximately 0.3 – 0.5 kg per m² of Sikalastic®-590.

Note : * It may not be applied, if the substrate is good and the primer has covered substrate with proper consumption and enough material.

TOOLS

Drill and paddle:
Sikalastic®-590 should be mixed for one minute using a drill and paddle.

Solvent resistant short-piled lamb skin roller:
Used in the application of Sikalastic®-590 to ensure a consistent thickness of the seamless SikaRoof systems.

Thick hair brush:
For application of Sikalastic®-590 to all details and penetrations.

Jet Washer:
If dust, vegetation, moss / algae or other contaminants are present on the existing roof, a power washer is required to clean the substrate prior to the application of SikaRoof Systems. Existing chippings should be removed by hand or scabbling prior to power washing.

Airless spray equipment:
Used only for the roof coating systems. Two spray applied layers is the minimum requirement. The pump should have the following parameter:
-min. pressure : 220 bar
-min. output : 5.1 l/min
-min. Ø nozzle : 0.83 mm (0.033 inch)
For example : Wagner Heavycoat HC 940 E SSP Spray pack

CLEANING OF EQUIPMENT

Clean all tools and application equipment with water immediately after use. Hardened/cured material can only be removed mechanically.

LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for exact product data and uses.

LEGAL NOTES

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product’s suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

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