

PRODUCT DATA SHEET

Sikalastic®-590 IN

Polyurethane liquid applied roof waterproofing with improved water ponding capability

DESCRIPTION

Sikalastic®-590 IN is one component polyurethane based liquid applied membrane with improved water ponding resistance, excellent UV resistance, good crack bridging capacity and great aesthetics. Sikalastic®-590 IN can be applied as a coating or a reinforced liquid applied membrane with Sika® Reemat Premium-225 or Sika® Fabric-50.

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 IN White)

CHARACTERISTICS / ADVANTAGES

- Good behaviour 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

PRODUCT INFORMATION

Chemical base	Polyurethane modified acrylic dispersion	
Packaging	20 kg container	
Shelf life	12 months from date of production	
Storage conditions	The product must be stored properly in undamaged and unopened, original sealed packaging, in dry conditions at temperatures between +5 °C and +30 °C.	
Appearance / Colour	Liquid / White or Grey	
Density	~1.30 kg/L (at +30 °C)	(EN ISO 2811-1)
Solid content by weight	~60 %	

TECHNICAL INFORMATION

Shore A hardness	~50 (7 days, +27 °C)	(ASTM D2240)
Tensile strength	~2.0 N/mm ² (Free film, 14 days, +30 °C)	(ASTM D412)

Elongation at break	~300 % (Free film, 14 days, +30 °C)	(ASTM D412)
Tensile adhesion strength	≥ 1.5 N/mm ²	(ASTM D4541)
Tear strength	~20 N/mm (Free film, 14 days, +30 °C)	(ASTM D624)
Solar Reflectance Index	106	(ASTM E1980-19)
Water resistance	No blisters or peeling when subjected to ponding water for 72 h	

SYSTEM INFORMATION

System structure IMPORTANT
Do not overcoat Sikalastic®-590 IN with tile, concrete or others. Sikalastic®-590 IN is an exposed system.

Waterproofing without reinforcement

- For extending life of old roofs or as reflective coating to enhance energy efficiency and UV-stable coating.
- For detailed system build up, please refer to table below:

Coating system	Product	Consumption
Primer coat	Sikalastic®-590 IN diluted with 10 % water	~0.3 kg/m ²
Base coat	Sikalastic®-590 IN	~0.5 kg/m ²
Top coat	Sikalastic®-590 IN	~0.5 kg/m ²
(Optional) Seal coat	Sikalastic®-590 IN	0.3–0.5 kg/m ²

Waterproofing with reinforcement (Sika® Fabric-50 or Sika® Reemat Premium-225)

- For cost efficient waterproofing solutions in new construction and refurbishment projects.
- Sika® Fabric-50 or Sika® Reemat Premium-225 is applied at areas with movements, irregular substrate or to bridge cracks, joints and seams on the substrate as well as for details.
- For detailed system build up, please refer to table below:

Coating system	Product	Consumption
Primer coat	Sikalastic®-590 IN diluted with 10 % water	~0.3 kg/m ²
Base coat	Sikalastic®-590 IN	~0.75 kg/m ²
Reinforcement membrane	Sika® Fabric-50 or Sika® Reemat Premium-225	1 m ²
Top coat	Sikalastic®-590 IN	~0.75 kg/m ²
(Optional) Seal coat	Sikalastic®-590 IN	0.3–0.5 kg/m ²

Note: These figures are theoretical and do not include for any additional material required due to surface porosity, surface profile, variations in level and wastage.

APPLICATION INFORMATION

Mixing ratio	Primer	Sikalastic®-590 IN diluted with 10 % water by weight
	Coating	Sikalastic®-590 IN undiluted
Ambient air temperature	+10 °C min. / +40 °C max.	
Relative air humidity	80 % max.	
Dew point	Beware of condensation. Substrate temperature and uncured material during application must be at least +3 °C above dew point.	
Substrate temperature	+10 °C min. / +40 °C max.	

Substrate moisture content

< 6 % parts by weight

The following test methods can be used: Sika®-Tramex meter, CM-measurement or Oven-dry-method. No rising moisture according to ASTM (Polyethylene-sheet).

No water / moisture / condensation on the substrate.

Waiting time / Overcoating

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

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

Before applying Sikalastic®-590 IN on Sikalastic®-590 IN (without reinforcement) allow:

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

Before applying Sikalastic®-590 IN on Sikalastic®-590 IN (reinforced with Sika® Fabric-50 or Sika® Reemat Premium-225) allow:

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 IN can be overcoated with itself 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 affected by changing ambient conditions particularly temperature and relative humidity. Low temperature and high relative humidity retard curing, while high temperature and low relative air humidity accelerate curing progression.

BASIS OF PRODUCT DATA

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

FURTHER DOCUMENTS

Method Statement: Sikalastic®-590 IN

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

IMPORTANT

Strictly follow installation procedures as defined in Method Statements, application manuals and working

instructions which must always be adjusted to the actual site conditions.

EQUIPMENT

Drill and paddle:

Sikalastic®-590 IN 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 IN to ensure a consistent thickness of the seamless SikaRoof systems.

Thick hair brush:

For application of Sikalastic®-590 IN 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

SUBSTRATE PREPARATION**Cementitious substrate:**

- New concrete should be cured for at least 28 days and should have a pull off strength $\geq 1.5 \text{ N/mm}^2$.
- 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 Sika-floor[®], Sikadur[®] and Sikagard[®] range of materials.
- High spots must be removed by grinding.
- Prime the substrate and preferably 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 IN.

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 IN.

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 with SikaShield[®] Primer S-30 IN and always use a fully reinforced system.

Bituminous coatings:

- Bituminous coatings should not have sticky or mobile surfaces, volatile mastic coatings, or old coal tar coatings. Prime with SikaShield[®] Primer S-30 IN and always use a fully reinforced system.

Metals:

- Metals should be in sound condition. Abrade the exposed surfaces to reveal bright metal. Use reinforcement locally over joints and fixings. Prime with Sikalastic[®]-10 Primer EP broadcasted with quartz sand and use an unreinforced system.

Wooden substrates:

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

Paints or Coatings:

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

MIXING**Primer**

1. Stir Sikalastic[®]-590 IN thoroughly for 1 minute before dilution.
2. Pour into a clean container and mix in the appropriate amount of water.

Coating

1. Stir Sikalastic[®]-590 IN thoroughly for 1 minute in order to achieve a homogeneous mixture.

Note: Overmixing must be avoided to minimise air entrainment.

APPLICATION**IMPORTANT**

Do not apply on roofs with improper slopes leading to long ponding.

1. Sikalastic[®]-590 IN can be applied on properly sloped 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).

IMPORTANT

In cold climatic zones, do not apply on roofs subject to ponding water with subsequent periods of frost, otherwise provide slope of more than 3 % or consider using appropriate measures.

IMPORTANT

Do not apply on substrates with rising moisture.

IMPORTANT

Protect the coating from damp, condensation and direct water contact for at least 24 hours to get good ponding water capability.

IMPORTANT

If applied on porous substrates during rising temperatures pin holes may occur from rising air.

1. Apply during falling temperatures.

IMPORTANT

Do not allow temporary ponding to remain between coats on any horizontal surfaces or until the final coating has totally cured.

1. Brush or mop surface water away during this time.

Primer:

1. Apply diluted primer onto the prepared substrate by squeegee, roller, paint brush, or suitable spraying equipment. Ensure a continuous, pore free coat covers the substrate.

2. (Optional) Apply second coat of primer on very absorbent substrates.

Note: Confirm waiting /overcoating time has been achieved before applying subsequent products.

Waterproofing without reinforcement:

1. Apply first coat directly from container by roller or brush or spray.
2. Apply second coat in same way as first coat preferably applied in cross direction to first coat.

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- (Optional) Apply seal coat for special cases where an aesthetic finishing is required.

Note: Confirm waiting /overcoating time has been achieved before applying subsequent products.

Waterproofing with reinforcement:

- Apply first coat directly from container by roller or brush.
- Roll in the Sika® Fabric-50 or Sika® Reemat Premium-225. Overlap it a minimum 5 cm and ensure overlaps are sufficiently wet to bond both layers.
- Over roll the treated area until the reinforcement is completely embedded in the base coat. 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.
- Apply second coat in same way as first coat preferably applied in cross direction to first coat.
- (Optional) Apply seal coat for special cases where an aesthetic finishing is required.

Note: Always begin with details prior starting with waterproofing the horizontal surface.

CLEANING OF TOOLS

Clean all tools and application equipment with water immediately after use. Hardened 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.

Sika India Pvt. Ltd.
620, Diamond Harbour Road
Commercial Complex II
Kolkata - 700 034
West Bengal, India

Contact:
Phone: +91 33 2447 2448
Fax: +91 33 2397 8688
info.india@in.sika.com
www.sika.in



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Sikalastic-590IN-en-IN-(03-2023)-2-1.pdf

