BUILDING TRUST

PRODUCT DATA SHEET

Sikalastic®-641

Polyurethane low odour liquid applied membrane for roof water-proofing

SIKA NZ APPROVED CONTRACTOR ONLY

BRANZ Appraised
Appraisal No.670 [2010]

DESCRIPTION

Sikalastic®-641 is a 1-part polyurethane, reinforced, low odour, cold-applied, liquid membrane. It provides a UV-stable, seamless, elastic, low maintenance, durable, smooth waterproof finish using Sika's unique i-Cure technology. The product is suitable for hot and cold climates.

USES

Sikalastic®-641 may only be used by experienced professionals.

- Top coat for SikaRoof® i-Cure-12/15/18/22 systems in both new construction and refurbishment projects
- Base coat and top coat for the ETA approved, low odour Sikalastic®-641/-641 Economic, Standard, Enhanced, Premium and Premium Fleece systems
- Waterproofing structures with numerous details such as penetrations, drains, roof lights and complex geometry
- Cost efficient service life extension of failing roofs
- As a reflective top coat (traffic white ~RAL 9016) providing cool roof characteristics and solar efficient roofs
- For odour sensitive areas
- Only for exterior use

CHARACTERISTICS / ADVANTAGES

- 1-part, no mixing, easy and ready to use
- Thickness: ~1,30–2,2 mm
- Resistant to UV exposure
- Highly reflective (~RAL 9016)
- Resistant to yellowing
- Cold applied – requires no heat or flame
- Low odour - suitable for odour sensitive projects
- High solids content
- Seamless
- Easy to detail with Sika® Reemat Premium
- Easily recoated - no removal required
- Vapour permeable
- Applied by brush / roller
- Elastic and crack bridging
- Retains flexibility at low temperatures
- Good adhesion to most construction substrates
- Fast curing
- Resistant to common atmospheric conditions

ENVIRONMENTAL INFORMATION

- Conformity with LEED v4 MRc 4 (Option 2): Building Product Disclosure and Optimization - Material Ingredients
- BRE Environmental Product Declaration (EPD)

APPROVALS / STANDARDS

- CE Marking and Declaration of Performance to ETA 14/0177
- European Technical Assessment ETA 14/0177 based on ETAG 005 Part 1 and 6 - Liquid-applied roof waterproofing using kits based on polyurethane
- External Fire Exposure to Roofs - 10 Year System BS 476 Part 3: 2004, Sikalastic®-641, Exova, Test report No. 336139
- External Fire Exposure to Roofs - 10 Year System DD CEN/TS 1187:2012 Test 1, Sikalastic®-641, Exova, Test report No. 336143
- External Fire Exposure to Roofs - 25 Year System BS 476 Part 3, Sikalastic®-641, Exova, Test report No. 336140
- External Fire Exposure to Roofs - 25 Year System DD CEN/TS 1187:2012 Test 1, Sikalastic®-641, Exova, Test report No. 336141
- Fire Testing with Burning Brands, Wind and Radiant Heat- 10 Year System DD CEN/TS 1187:2012 Test 4, Sikalastic®-641, Exova, Test report No. 336142
- Fire Testing with Burning Brands, Wind and Radiant Heat- 25 Year System DD CEN/TS 1187:2012 Test 4, Sikalastic®-641, Exova, Test report No. 336141
- Odour comparison Sikalastic®-641, Odournet, Report No. 456-2014-17
- Odour comparison Sikalastic®-641, Odournet, Report No. 456-2014-19
- Reaction to Fire - 25 Year System EN 13501-5: 2007 + A1: 2009, Sikalastic®-641, Exova, Classification report No. WF 336207
- Roof Coverings Exposed to External Fire - 10 Year System EN 13501-1: 2005 + A1: 2009 Test 4, Sikalastic®-641, Exova, Classification report No. WF 336203
- Roof Coverings Exposed to External Fire - 10 Year System EN 13501-1: 2005 + A1: 2009, Sikalastic®-641, Exova, Classification report No. WF 336206
- Roof Coverings Exposed to External Fire - 10 Year System EN 13501-5: 2005 + A1: 2009, Sikalastic®-641, Exova, Classification report No. WF 336204
- Roof Coverings Exposed to External Fire - 25 Year System EN 13501-1: 2005 + A1: 2009 Test 4, Sikalastic®-641, Exova, Classification report No. WF 336202
- Roof Coverings Exposed to External Fire - 25 Year System EN 13501-5: 2005 + A1: 2009, Sikalastic®-641, Exova, Classification report No. WF 336205

TECHNICAL INFORMATION

Tensile Strength	Unreinforced	6.0 N/mm²		(EN ISO 527-3)
Elongation at Break	Unreinforced	280 %		
External Fire Performance	B_{Roof} (t1) + (t4) over Build up roofing system			
Reaction to Fire	Euroclass E	(EN 13501-1)		(EN 13501-1)
Permeability to Water Vapour	μ: 3082	NPD	μ: 2878	μ: 2782
Solar Reflectance Index	≥ 108* * All values refer to the initial (properly cured, non-weathered) status of Sikalastic®-641 white (RAL 9016).			
Service Temperature	-30 °C to +90 °C			

PRODUCT INFORMATION

Chemical Base	Aliphatic polyurethane
Packaging	5 and 15 litre containers. Refer to current price list for packaging variations.
Shelf Life	9 months from date of production
Storage Conditions	The product must be stored in original, unopened and undamaged sealed packaging in dry conditions at temperatures between +0 °C and +25 °C. Always refer to packaging.
Colour	Slate grey (~RAL 7015), Cloud Grey (~RAL 7045), Shale Grey (~RAL 8500), White (~RAL 9016). Other colours available on request.
Density	~1.42 kg/l Value +23°C
Solid content by weight	~88.0 % (+23 °C / 50 % r.h.)
Solid content by volume	~84.0 % (+23 °C / 50 % r.h.)

SYSTEM INFORMATION

System Structure

Refer to System Data Sheet:
- Sikalastic®-641 Economic System
- Sikalastic®-641 Standard System
- Sikalastic®-641 Enhanced System
- Sikalastic®-641 Premium System
- Sikalastic®-641 Premium Fleece System
- SikaRoof® i-Cure-12
- SikaRoof® i-Cure-15
- SikaRoof® i-Cure-18
- SikaRoof® i-Cure-22

Dry film thickness

Roofing system	Thickness
Sikalastic®-641 Economic System	1.3 mm
Sikalastic®-641 Standard System	1.5 mm
Sikalastic®-641 Enhanced System	1.8 mm
Sikalastic®-641 Premium System	2.2 mm
Sikalastic®-641 Premium Fleece System	2.2 mm
SikaRoof® i-Cure-12 SikaRoof® i-Cure-15 SikaRoof® i-Cure-18 SikaRoof® i-Cure-22	Refer to System Data Sheet

System Performance

Refer to System Data Sheets: SikaRoof® i-Cure systems.
Refer to Sikalastic®-641/-641 Economic, Standard, Enhanced, Premium and Premium Fleece systems.

APPLICATION INFORMATION

Product Temperature	It is recommended the product is stored under warm conditions (+20 °C) prior to application at temperatures below +10 °C.
Ambient Air Temperature	+5 °C min / +40 °C max
Relative Air Humidity	20 % r.h. min / 85 % r.h. max
Dew Point	Beware of condensation. The substrate and uncured applied product must be at least +3 °C above dew point to reduce the risk of condensation or blooming on the surface of the applied product.

Substrate Temperature

+5 °C min. / +60 °C max.

Substrate Moisture Content

The product can be applied on substrates with a moisture content of ≤ 4 % part by weight. The substrate must be visibly dry with no standing water.
The following test methods can be used to determine the substrate moisture content:

- Sika®-Tramex meter
- CM-measurement
- Oven-dry-method

No rising moisture according to ASTM (Polyethylene-sheet).

Pot Life

~1 hour (+20 °C / 50 % r.h.)
Times are approximate and will be affected by changing ambient conditions particularly temperature and relative humidity.
Material in opened containers must be applied immediately. In opened containers, the material will form a film after ~1 hour.

Waiting Time / Overcoating

Ambient conditions	Minimum waiting time[1]
+5 °C / 50 % r.h.	~18 hours
+10 °C / 50 % r.h.	~8–10 hours
+20 °C / 50 % r.h.	~4–6 hours
+30 °C / 50 % r.h.	~4 hours

1 After four days, the surface must be cleaned and primed with Sika® Reactivation Primer before continuing.
Times are approximate and will be affected by changing ambient conditions particularly temperature and relative humidity.

Applied Product Ready for Use

Ambient conditions	Rain resistant[1]	Touch dry	Full cure[2]
+5 °C / 50 % r.h.	1 hour	10–12 hours	24 hours
+10 °C / 50 % r.h.	1 hour	6–8 hours	18–24 hours
+20 °C / 50 % r.h.	1 hour	4–6 hours	12–18 hours
+30 °C / 50 % r.h	1 hour	3–5 hours	8–12 hours

1 Be aware that the impact of heavy rain or rain showers can physically mark or damage the still liquid membrane.
2 Application at higher than recommended film thicknesses may result in a prolonged “soft” feel to the coating. This will eventually cure.
Note: Times are approximate and will be affected by changing ambient conditions particularly temperature and relative humidity.

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

- Sika® Method Statement: SikaRoof® i-Cure systems
- Sika® System Data Sheets: SikaRoof® i-Cure systems

LIMITATIONS

- Do not apply Sikalastic®-641 on substrates with rising moisture.
- Sikalastic®-641 is not suitable for permanent water immersion.
- On substrates likely to exhibit outgassing, apply during falling ambient and substrate temperature. If applied during rising temperatures “pin holing” may occur from rising air.
- Do not dilute with solvent.
- Do not apply Sikalastic®-641 directly on Sikalastic® Insulation boards. Instead use Sikalastic® Carrier between Sikalastic® Insulation board and Sikalastic®-641.
- Volatile bituminous materials may stain and or soften below the coating.
- Areas with high movement, irregular substrates, or timber based roof decks require a complete layer of Sikalastic® Carrier.
- Do not apply cementitious products (e.g. tile mortars) directly onto Sikalastic®-641.
- Do not use Sikalastic®-641 for indoor applications.
- Penetrations and fixings such as handrails etc. must be protected with tape or plastic wrapping.
- Application of Sikalastic®-641 in confined spaces must be undertaken in accordance with the Material Safety Data Sheet recommendations.
- Do not apply close to air intake vents of running air conditioning units unless they have been switched off or isolated as vapour may be drawn into the building.
- All areas requiring corrosion protection must be applied over an appropriate metal primer that has been applied directly to bright metal.
- All joints, areas subject to differential movement, guttering and drainage channels and repairs, must be treated with the reinforcement.
- Adhesion suitability must be verified by carrying out preliminary trials before full application together with adhesion tests as required.
- The application of the system must be approached as one operation. Work in advance so the application stages can be completed within the overcoating times. Finish the coating system completely before progressing to the next area.
- Application of the system stages must be completed within the overcoating times otherwise the system performance maybe compromised.
- After application, Sikalastic®-641 must be protected from heavy rain or rain showers until dry to prevent surface damage.
- Application at higher than recommended film thicknesses may result in a prolonged “soft” texture to the coating. This will eventually cure.

ECOLOGY HEALTH AND SAFETY

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Safety Data Sheet (SDS) containing physical, ecological, toxicological and other safety-related data.

APPLICATION INSTRUCTIONS

SUBSTRATE PREPARATION

General

All dust, loose and friable material must be completely removed from all surfaces before application of the product and associated system products, preferably by vacuum extraction equipment.

To confirm adequate surface preparation and Sikalastic®-641 adhesion, carry out a preliminary trial before full application together with adhesion tests as required.

Concrete and Cementitious substrates

Substrate must be structurally sound, clean, dry and free of all contaminants such as dirt, oil, grease, coatings, laitance, surface treatments and loose friable material.

New concrete should be cured for at least 28 days.

Substrates must be prepared mechanically using suitable substrate preparation equipment to remove cement laitance and achieve an open textured gripping surface profile suitable for the product thickness.

High spots can be removed by grinding.

Weak cementitious substrates must be removed and surface defects such as blow holes 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. Products must be cured before applying Sikalastic®-641.

Brick and stone

Thoroughly clean by power wash and allow to dry. Where there is a risk of algal re-growth on absorbent surfaces use Sika Biowash. Refer to the individual Product Data Sheet. Repair any spalling, flaking or other damage and replace any missing jointing.

Ceramic tiles

Tiles must be sound and bonded securely to the substrate, remove as required if damaged or unbonded. Power wash and use Sika® Biowash as required.

Asphalt
Thoroughly clean by power wash and allow to dry. All major cracks should be sealed to allow continuity of the Sikalastic®-641 system. Asphalt must be carefully assessed for moisture and/ or air entrapment, grade and surface finish prior to any coating works being carried out. Any priming requirement must also be considered.

Bituminous felt
Felt must be firmly adhered or mechanically fixed. Thoroughly clean by power wash and allow to dry. Treat blisters by star cutting and removing any underlying water. Allow to dry and re-adhere using Decostik® SP. Badly degraded areas should be replaced with Carrier Membrane bonded with Decostik® SP.

Single ply
Various types of single ply sheeting can be coated. Contact Sika Technical Services for additional information.

Bituminous coatings
Bituminous, volatile mastic or old coal tar coatings must be rigid and without a sticky surface. Remove loose, degraded and tacky coatings.

Metals
Ferrous metals must be in a sound surface condition. Surfaces must be clean, free from rust, oil, grease, existing loose or degraded coatings etc. Prepare surfaces to a bright metal finish using suitable preparation techniques taking into account environmental conditions.
Non-ferrous metals must be in a sound surface condition. Remove any deposits of dust and oxidation and abrade to a bright metal finish. Wire brushing can be used for soft metals such as lead. Surfaces must be clean, free from oil and grease, which, if present, must be removed with a proprietary de-greasing solution. Then wash with detergent, rinse and dry.

Wood
Wood and wood based panel roof decks must be in good structural condition, firmly adhered or mechanically fixed.
Wood based decks require a complete layer of Carrier Membrane SA before the application of the chosen Sikalastic®-641 system. The substrate must then be treated as a felt roof. Small timber protrusions must be flattened by locally planing or sanding to provide a smooth surface.

Paints/Coatings
Remove loose or degraded coatings by suitable preparation techniques to provide a feathered firm adhering edge. Remaining coatings can be overcoated if soundly adhered. Ensure the surface is clean and free from oil, grease etc.

Existing Sikalastic®-641 system
Clean the membrane surface using a power wash at ~14 N/mm² (2000 psi) including detergent then rinse thoroughly and allow to dry.

MIXING

Sikalastic®-641 is supplied ready for use. Before application, mix for a minimum of 1 minute using mixing paddle and drill or other suitable equipment to mix the liquid and all the coloured pigment until a uniform colour has been achieved. Over mixing must be avoided to minimise air entrainment.

APPLICATION

Reference must be made to further documentation where applicable, such as relevant method statement, application manual and installation or working instructions.

General
Always begin application with detailing before installation of the main horizontal surfaces.

Primer
Pour the appropriate mixed primer onto the prepared substrate and apply by brush or appropriate roller. Ensure a continuous, pore free coat covers the substrate. Confirm primer waiting /overcoating time has been achieved before applying successive products. Refer to individual primer Product Data Sheet.

Base coat
Pour mixed Sikalastic®-641 onto prepared substrate the same width as the Sika® Reemat Premium and apply evenly by brush (soft nylon or bristle brush) or roller (short pile mohair roller) at the required consumption rate in 2 directions at right angles to each other.

Reinforcement
Roll in the Sika® Reemat Premium reinforcement whilst Sikalastic®-641 is still wet ensuring there are no bubbles or creases in the reinforcement. Reinforcement overlaps must be a minimum of 50 mm. Recommendation is to work 1.0 m at a time lengthways applying 1st coat and embedding reinforcement.

Top coat
Pour mixed Sikalastic®-641 onto the applied reinforcement layer and apply evenly by brush or short piled roller at the required consumption rate in 2 directions at right angles to each other. Confirm overcoating times before application.
Ensure each application / coat is clean and dry before applying next coat.
Note: Material will dry on the surface in around 30 minutes depending on temperature and humidity conditions. Always maintain a wet edge and finish surface as work proceeds. Returning to re-work areas that are partially dried may damage the surface.

CLEANING OF TOOLS

Clean all tools and application equipment with Thinner C immediately after use. Hardened material can only be removed mechanically.

LOCAL RESTRICTIONS

Please note that as a result of specific local regulations the performance of this product may vary from country to country. Please consult the local Product Data Sheet for the exact description of the application fields.

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. It may be necessary to adapt the above disclaimer to specific local laws and regulations. Any changes to this disclaimer may only be implemented with permission of Sika® Corporate Legal in Baar.

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