BUILDING TRUST

PRODUCT DATA SHEET

Sikalastic®-646 Lo-VOC

Single Component, Lo-VOC, low odor, polyurethane roof coating

PRODUCT DESCRIPTION

Sikalastic®-646 Lo-VOC is a cold liquid applied, highly elastic, aliphatic, single component, low odor, Lo-VOC moisture-triggered polyurethane resin designed for easy application as part of Sikalastic® RoofCoat roofing systems.

USES

- Roof Recover
- Roof Maintenance
- Emergency Roof Repair
- Roof Walkway

CHARACTERISTICS / ADVANTAGES

- Sikalastic Polyurethane technology has an over 30 year track record
- Moisture triggered chemistry that is rapidly weatherproof after application
- Resistant to ponding water
- Single component - no mixing and ready to use
- Lo-VOC, low odor
- Highly elastic and crack bridging
- Seamless and fully adhered
- Vapor permeable
- UV resistant and non-yellowing

PRODUCT INFORMATION

Chemical Base	Single component, moisture triggered, aliphatic polyurethane	
Packaging	5 gal. (19 L) pail	
Shelf Life	15 months	
Storage Conditions	Store dry between 35 °F and 77 °F (2–25 °C). Condition material to 50–77 °F (10–25 °C) before using for ease of application.	
Color	White, Steel Gray, Mushroom, Custom colors available with minimum order quantity.	
Density	11.9 lb./gal. (1.4 kg/cm³)	
Solid content by volume	89 %	ASTM D-2697
Volatile organic compound (VOC) content	38 g/l	ASTM D-2369-81

TECHNICAL INFORMATION

Resistance to Static Puncture	55 lb/f	ASTM D5602
Tensile Strength	700 PSI	ASTM D412
Elongation at Break	250%	ASTM D412
Tear Strength	70 lbf/in	ASTM D624
Solar Reflectance	0.88	ASTM C-1549
Solar Reflectance Index	108	ASTM E-1980
Service Temperature	-22 – 176 °F (-30 – 80 °C) intermittent	
Chemical Resistance	Most common roofing contaminants, oils, grease, dilute acids and bases.	

SYSTEM INFORMATION

System Structure

Layer	RoofCoat 10	RoofCoat 15**	RoofCoat 20**
Primer	See Priming Guide	See Priming Guide	See Priming Guide
Base/Top Coat	25 mils wet (~1.6 gal/100 SF)	35 mils wet (~2.2 gal/100 SF)	40 mils wet (~2.5 gal/100 SF)
Total Dry Film	~22 mils dry	~31 mils dry	~36 mils dry

**** Best practice is to apply total wet film thickness in (2)two coats. (i.e. RoofCoat 20 applied in (2)two 20 mil wet coats)**

All Asphaltic Roofing is Fully Reinforced

Layer	RoofCoat 20
Primer	See Priming Guide
Base Coat	50 mils wet
Reinforcement	Sika Reemat Premium
Top Coat	30 mils wet
Total Dry Film	~71 mils dry

Localized Reinforcement: Prior to applying the specified coating system, install Sika® Joint Tape SA or use Sika® Flexitape Heavy embedded in 25-35 wet mils of Sikalastic®-646 Lo-VOC, centered over all lap seams, cracks, joints, and transitions of dissimilar marterial.
Note: Coverage rates provided are optimal and are not guaranteed - coverage rates will vary depending on temperature, surface roughness, porosity, aggregate selection, embedment, and application technique.

Ambient Air Temperature	41 - 95 °F (5 - 35 °C)
Relative Air Humidity	80 % R.H. max.
Dew Point	Beware of condensation. The substrate and uncured coating must be ≥ 5 °F (3 °C) above dew point.
Substrate Temperature	41 - 140°F (5 - 60°C)
Substrate Moisture Content	≤ 4 % moisture content as measured with a Tramex Moisture Meter. No rising moisture according to ASTM (Polyethylene-sheet). If moisture content is above 4 %, use Sikalastic-GDC Primer.
Pot Life	In opened containers, the material will form a film after 1–2 hours approx. at 75 °F (24°C) and 50 % R.H.

Waiting / Recoat Times

Ambient Conditions	Minimum Waiting Time Overcoating
+40 °F / 50 % r.h.	18 hours
+50 °F / 50 % r.h.	8 hours
+70 °F / 50 % r.h.	6 hours

*After 7 days the surface must be cleaned and primed with Sika® Reactivation Primer or Sika® Concrete Primer Lo-VOC before continuing.
Note: 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	Touch Dry	Full Cure
+40 °F / 50 % r.h.	1 hour	12 hours	24 hours
+50 °F / 50 % r.h.	1 hour	6 hours	18–24 hours
+70 °F / 50 % r.h.	1 hour	4 hours	12–18 hours

Note: Times are approximate and will be affected by changing ambient conditions particularly temperature and relative humidity.

BASIS OF PRODUCT DATA

Results may differ based upon statistical variations depending upon mixing methods and equipment, temperature, application methods, test methods, actual site conditions and curing conditions.

LIMITATIONS

- Minimum age of concrete must be 28 days depending on curing and drying conditions
- Do not thin with solvents
- Do not store materials outdoors directly exposed to sunlight and moisture. Cover and protect material with breathable type covers such as canvas tarpaulins to allow venting and protection from weather and moisture. Observe temperature storage and conditioning requirements
- Do not apply to substrate surfaces where moisture vapor transmission will occur during application and cure. This condition may be checked using ASTM D 4263 (Polyethylene sheet method)
- Substrate must be dry prior to application. Do not apply to a frosted, wet or damp surface. Allow sufficient time for the substrate to dry after rain or inclement weather, as there is the potential for bonding problems
- On substrates likely to exhibit outgassing apply during falling ambient and substrate temperature. If applied during rising temperature pinholing or blistering may occur
- Do not use for indoor applications unless sufficient air flow and ventilation are provided to prevent odors and/or vapors from leaving the immediate work area
- Precautions should be taken to prevent odors and/or vapors from entering the building/structure, including but not limited to turning off and sealing air intake vents or other means of ingress for odors and/or vapors into the building/structure during product application and cure
- For areas with direct exposure to heavy or frequent foot traffic, an additional wear coat protection with slip resistant aggregate is required. Opening to traffic prior to cure may result in loss of aggregate or permanent staining and subsequent premature failure
- Do not apply cementitious products, such as tile mortar directly onto Sikalastic®-646 Lo-VOC. See Sikalastic®-644 Lo VOC Product Data Sheet
- Any repairs required to achieve a level surface with proper slope to drain must be performed prior to application (consult a Sika representative for guidance on various product solutions). Surface irregularities may reflect through the cured system
- When applying over existing coatings or membranes, documentation of compatibility and adhesion testing is required
- Opening to traffic prior to cure may result in permanent staining and subsequent premature failure
- On grade concrete decks should not be coated with Sikalastic®-646 Lo-VOC
- Unvented metal pan, split/sandwich slab with encapsulated membrane and/or insulation, cinder fill decks, and lightweight insulating concrete deck overlays should not be covered with Sikalastic®-646 Lo-VOC without additional deck evaluation and subsequent approval by Sika Technical Services
- All asphaltic membrane surfaces are fully reinforced with Sika Reemat Premium
- Do not subject to continuous immersion
- Not recommended for use over ceramic tile

ENVIRONMENTAL, HEALTH AND SAFETY

For further information and advice regarding transportation, handling, storage and disposal of chemical products, user should refer to the actual Safety Data Sheets containing physical, environmental, toxicological and other safety related data. User must read the current actual Safety Data Sheets before using

any products. In case of an emergency, call CHEMTREC at 1-800-424-9300, International 703-527-3887.

APPLICATION INSTRUCTIONS

Substrate Pre-Treatment
Refer to Priming Guide to select primer for properly evaluated and prepared substrate. Refer to separate primer Product Data Sheet for application methods, coverage rates, cure times and recoat windows. Always allow primer to cure thoroughly before applying detail or base resin layer.

Sikalastic® RoofPro-646 Lo-VOC Priming Guide

Substrates and Primer Options
Concrete *1
Sikalastic® Concrete Primer Lo-VOC
Sikalastic® DTE Primer
Sikalastic® GDC Primer
Sikalastic® EP Primer/Sealer
Sikalastic® EP Primer Rapid
Lightweight Structural Concrete *1
Sikalastic® Concrete Primer Lo-VOC
Sikalastic® DTE Primer
Sikalastic® GDC Primer
Sikalastic® EP Primer/Sealer
Sikalastic® EP Primer Rapid
Cement, Gypsum Based Roof Boards
Sikalastic® Concrete Primer Lo-VOC
Sikalastic® EP Primer/Sealer
Sikalastic® EP Primer Rapid
Brick, Stone *3
Sikalastic® Concrete Primer Lo-VOC
Sikalastic® EP Primer/Sealer
Sikalastic® EP Primer Rapid
Bituminous Substrate
Asphalt, Bituminous Felts, Bituminous Coatings, Granulated or Smooth SBS & Aged APP Cap Sheets *2,3
Sikalastic® EP Primer/Sealer
Sikalastic® EP Primer Rapid
Single Ply PVC Membranes *3
Sarnafil, Sikaplan *3
Sikalastic® EP Primer/Sealer
Hypalon *3
Sika® Bonding Primer
TPO, EPDM *3
Sikalastic® EPDM / TPO Primer Lo-VOC
Roof Tiles (unglazed) *3,4
Sikalastic® EP Primer/Sealer
Sikalastic® EP Primer Rapid
Fiberglass *3
Sikalastic® EP Primer/Sealer
Sikalastic® EP Primer Rapid
Polyurethane Foam - Sprayed or Slab Stock
Sikalastic® EP Primer/Sealer
Sikalastic® EP Primer Rapid
Metal *3
Aluminium, Galvanized, Cast Iron, Copper, Lead, Brass, Stainless Steel, Steel, Zinc
Sikalastic® EP Primer/Sealer
Sikalastic® EP Primer Rapid
Pre-Coated Metal *3
Paints & Coatings *3
Aluminized Solar Reflective Coatings *3
Sikalastic® EP Primer/Sealer
Sikalastic® EP Primer Rapid
Wood - Timber & Plywood *5
Sikalastic® EP Primer/Sealer
Sikalastic® EP Primer Rapid
*** Consult Sika.**
1 New cementitious substrates must be Portland base and be cured min. 28 days.
2 The presence of volatile bitumen may cause discoloration of Sikalastic® if not properly primed.
3 Surface evaluation and field adhesion testing.
4 Glazed tile consult Sika.
5 Pressure treated lumber consult Sika.

SUBSTRATE PREPARATION

Substrate Evaluation and Preparation
- All substrate surfaces shall be clean, dry, and sound. Acceptable substrates include: sound concrete, metals, wood, modified bitumen, mineralized felt, EPDM, Hypalon, TPO, sprayed polyurethane foam, brick and stone, and existing liquid applied membranes.
- Where coating will be applied directly to substrate surface, provide local reinforcement of lap seams, cracks, joints, and transitions of dissimilar materials, using either Sika Joint Tape SA or Sika Flexitape Heavy embeded in 30-35 mils resin.

Concrete and Cementitious Substrates
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 (CSP 2-4 per ICRI guidelines). Loose friable material and weak concrete must be completely removed and surface defects such as voids must be fully exposed.
Repairs to the substrate, filling of joints, voids, and surface leveling must be carried out. Consult Sika for product recommendations based on project requirements. High spots must be removed by grinding or similar method. Outgassing is a naturally occurring phenomenon of concrete that can produce pinholes in liquid-applied materials. The concrete must be carefully assessed for moisture content, air entrapment, and surface finish prior to any roofing work. Particular requirements for priming must also be considered. Installing the primer and membrane either when the concrete temperature is falling or stable can reduce outgassing. It is beneficial, to apply the primer and embedment coat in the late afternoon or evening.

Gypsum and Cement-Based Sheathing
Sheathing boards shall be clean, dry, and dust-free, and shall be properly secured to the structure. Loose, damaged, or contaminated boards shall be removed and replaced.
Brick and Stone
Mortar joints must be sound and preferably flush pointed. Power wash and use biodegradable non-sudsing detergent with clean water rinse as required.
Asphalt
Asphalt contains volatiles which can cause bleeding and slight non-detrimental staining. The asphalt must be carefully assessed for moisture and/or air entrapment, grade, and surface finish. Power wash and use biodegradable non-sudsing detergent with clean water rinse as required. All major cracks should be sealed to allow continuity of the Sikalastic® RoofCoat system.
Bituminous Felt
Ensure that bituminous felt is firmly adhered or mechanically fixed to the substrate. Bituminous felt shall not contain badly degraded areas.
Bituminous Coatings
Remove any loose or degraded coatings. Bituminous coatings shall not have sticky or mobile surfaces. Volatile mastic coatings, or old coal tar coatings are not acceptible. Power wash and use biodegradeable non-sudsing detergent with clean water rinse as required. Treat blisters by star cutting and removing any underlying water. Allow to dry and re-adhere using suitable adhesive.
Metals
Metals must be in sound condition. Ferrous metals should be thoroughly cleaned by grinding or blast cleaning prior to priming (SSPC-SP3 to near-white metal). Non-ferrous metals are prepared by removing any deposits of dust and oxidation and abrading to bright metal. Wire brushing can be used for soft metal such as lead. The surface must be clean and free from grease which, if present, must be removed with a solvent wipe or wash with detergent, rinse and dry. Stainless Steel must be mechanically abraded or ground to create an appropriate anchor profile.
Paints and Coatings
Remove any loose or degraded coatings. Ensure the surface is clean and free from grease. Ensure the existing material is sound and firmly adhered.
Existing Sikalastic® RoofPro Systems
The existing Sikalastic® RoofPro System shall be soundly adhered to the substrate. Clean the membrane using a pressure washer at approximately 140bar (2000 psi) and biodegradable non-sudsing detergent with a clean water rinse. Allow the membrane surface to dry.
Wooden Substrates
Timber and timber based roof decks require additional reinforcement such as the installation of plywood, approved insulation, or cover board. Small timber protrusions and suitable decks may be treated directly, provided that the timber is of exterior quality, e.g. plywood. Fill joints flush with Sikaflex® sealant.
Sikaplan®/Sarnafil® Membranes
Clean the membrane using a pressure washer at approximately 140bar (2000 psi) and biodegradable non-sudsing detergent with a clean water rinse. Allow the membrane surface to dry.

APPLICATION

Detailing

Non-structural Cracks Up To 1/16"
Detail application not necessary. Apply base coat per below.
Non-structural Cracks Between 1/16" and 1/4"
Rout and seal with Sikaflex®-11 FC sealant. Allow Sikaflex®-11 FC to skin over. Apply 30-35 mil resin layer embedding 3'' Sika Flexitape Heavy centered over the crack. Alternatively, allow Sikaflex®-11 FC to cure then apply Sika® Joint Tape SA centered over the crack. Apply base coat per instruction.
Metal Seams, Plywood, Board Joints
Apply 30-35 mil resin layer embedding 3 or 6'' Sika® Flexitape Heavy centered over seams. Alternatively, Sika® Joint Tape SA can be applied centered over seams. Apply base coat per instruction.
Transitions Between Dissimilar Materials
Apply appropriate primer for each substrate as indicated in the primer guide. Apply 30-35 mil of Sikalastic®-646 Lo-VOC embedding 6" Sika® Flexitape Heavy centered over the edge. Apply base coat per instruction.
Vertical to Horizontal Transitions
Apply appropriate primer for each substrate as indicated in the primer guide. Apply a 1/2" cant bead of Sikaflex®-11 FC at the transition from horizontal to vertical. Allow Sikaflex®-11 FC to skin over. Apply 30-35 mil resin layer embedding 6'' Sika® Flexitape Heavy centered over the cant bead. Alternatively, allow Sikaflex®-11 FC to cure then apply Sika® Joint Tape SA centered over the cant bead. Apply base coat per instruction.

Lap Seams
Prior to applying the roof coating cover lap seams with 3" or 6" Sika Joint Tape SA or Sika Flexitape Heavy embeded with 30-35 mils of resin. Follow by applying base coat per instruction.

Applying Base Coat and Top Coat
Mixing not required. Apply Sikalastic®-646 Lo-VOC at the coverage rate per instuction to achieve the intended/specified RoofCoat System. Resin can be applied with a 1/2'' nap phenolic resin core roller, squeegee or airless spray pump. Allow base coat to cure through before applying the top coat. Use the overcoat instruction as a guide for approximate cure times for various climate conditions. Keep base coat clean and dry then apply the top coat resin layer within 7 days. If the window is exceeded clean with non-sudsing detergent and clean water rinse, and allow to dry then apply Sika® Concrete Primer Lo-VOC or Sika® Reactivation Primer. Top coats can be applied by the same means as the base coat. Apply at the coverage rate per instruction to achieve the intended/specified RoofCoat System. Sika recommends using a different color for the base and top coats for quality control.

Seed and Back Roll Option
The Seed and Backroll option is primarily intended for use as maintenance traffic roof walkway applications where enhanced slip resistance is required. Apply Sikalastic®-646 Lo-VOC resin at 15 mils wet film thickness to the installed, cured RoofCoat system. While the supplemental resin application is still wet seed with kiln-dried, iron-free aggregate. Back roll the surface to encapsulate the aggregate in the Sikalastic®-646 Lo-VOC resin.

Full Broadcast and Seal Option
The Full Broadcast and Seal option is intended for use for applications where both enhanced slip resistance and physical protection of the roofing membrane is required. Apply Sikalastic®-646 Lo-VOCresin at 15 mils wet film thickness to the installed, cured RoofCoat system. While the supplemental resin application is still wet broadcast to rejection (full broadcast, beach) with kiln-dried, iron-free aggregate. Remove excess aggregate after cure. Seal with an additional 15 mil coat of Sikalastic®-646 Lo-VOC.

CLEANING OF TOOLS

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

OTHER RESTRICTIONS

See Legal Disclaimer.

LEGAL DISCLAIMER

- **KEEP CONTAINER TIGHTLY CLOSED**
- **KEEP OUT OF REACH OF CHILDREN**
- **NOT FOR INTERNAL CONSUMPTION**
- **FOR INDUSTRIAL USE ONLY**
- **FOR PROFESSIONAL USE ONLY**

Prior to each use of any product of Sika Corporation, its subsidiaries or affiliates (“SIKA”), the user must always read and follow the warnings and instructions on the product’s most current product label, Product Data Sheet and Safety Data Sheet which are available at usa.sika.com or by calling SIKA’s Technical Service Department at 1-800-933-7452. Nothing contained in any SIKA literature or materials relieves the user of the obligation to read and follow the warnings and instructions for each SIKA product as set forth in the current product label, Product Data Sheet and Safety Data Sheet prior to use of the SIKA product.

SIKA warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical properties on the current Product Data Sheet if used as directed within the product’s shelf life. User determines suitability of product for intended use and assumes all risks. User’s and/or buyer’s sole remedy shall be limited to the purchase price or replacement of this product exclusive of any labor costs. **NO OTHER WARRANTIES EXPRESS OR IMPLIED SHALL APPLY INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES. SIKA SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.**

Sale of SIKA products are subject to the Terms and Conditions of Sale which are available at https://usa.sika.com/en/group/SikaCorp/termsandconditions.html or by calling 1-800-933-7452.

Sika Corporation
201 Polito Avenue
Lyndhurst, NJ 07071
Phone: +1-800-933-7452
Fax: +1-201-933-6225
usa.sika.com