

PRODUCT DATA SHEET

Sikafloor®-510 N LPL

Abrasion and UV Resistant Polyspartic Resin System, Clear or Pigmented

PRODUCT DESCRIPTION

Sikafloor®-510 N LPL is a two-component, solvent-free, high solids, low VOC, low-viscosity, high strength, UV resistant, polyaspartic coating system. Sikafloor®-510 N LPL is formulated to have an extended pot life and working time in elevated temperatures and humid conditions. Typically installed as a clear, glossy topcoat over decorative multicoloured quartz or flake broadcast systems where a fast cure, flexible, UV resistance finish coat is necessary. Sikafloor®-510 N LPL is available in clear or can be pigmented with Sikafloor® SCO Color Additive or Sikafloor® Metallic FX powders to achieve a variety of colors.

WHERE TO USE

Sikafloor®-510 N LPL may only be used by experienced professionals.

- Sikafloor®-510 N LPL can be used as a concrete primer, binder, and sealer especially when fast cure times and UV resistance are required.

CHARACTERISTICS / ADVANTAGES

- Clear or pigmented using Sikafloor® SCO Color Additive or Sikafloor® Metallic FX powders
- Fast cure, allowing a rapid return to service
- Extended working time and reduced odour
- Durable, impermeable and seamless
- Superior aesthetic glossy finish
- Superior mechanical resistance
- Excellent UV resistance
- Excellent chemical resistance to a wide range of organic and inorganic acids, alkalis, amines, salts and solvents
- High density prevents dirt penetration, which provides easy cleaning
- VOC Compliant

ENVIRONMENTAL INFORMATION

- Potential contribution for LEED® projects.

APPROVALS / CERTIFICATES

- Meets the requirements of CFIA and USDA for use in food plants.

PRODUCT INFORMATION

Packaging	Component A: 7.57 L (2 US gal.) Component B: 5.03 L (1.33 US gal.) Components A+B: 12.6 L (3.33 US gal.)
Appearance / Colour	Clear
Shelf Life	1 year in original, unopened packaging.

Storage Conditions	Store and transport dry at temperatures between 4 and 32 °C (40 and 90 °F). Condition product at temperatures between 18 and 24 °C (65 and 75 °F) before using.
Volatile organic compound (VOC) content	< 50 g/L
Viscosity	~ 500 cps (Clear) (Components A + B Mixed)
CSC MasterFormat®	09 67 00 FLUID-APPLIED FLOORING

TECHNICAL INFORMATION

Shore D Hardness	~ 80	(ASTM D2240)
Abrasion Resistance	~ 0.037 g (0.0013 oz) (CS-17 wheel, 1000 cycles, 1000 g load)	(ASTM D4060)
Tensile Strength	~ 22.23 MPa (3224 psi)	(ASTM C307)
Elongation at Break	~ 8.3 %	(ASTM D638)
Pull-Off Strength	> 2.7 MPa (400 psi) (100 % concrete failure)	(ASTM D7234)
Chemical Resistance	Consult Sika Canada	
Coefficient of Friction	~ 0.38 Wet (smooth high gloss) ~ 0.99 Dry (smooth high gloss)	(ANSI A137.1 / ANSI A326.3) (DCOF - BOT 3000e)

APPLICATION INFORMATION

Mixing Ratio	Clear: A:B = 3:2 by volume.	
Consumption	Smooth Finish Coating: Prime coat: 3.9-4.9 m ² /L (160-200 ft ² /US gal.) at 0.20-0.25 mm (8-10 mil) wet film thickness (w.f.t.) Wear coat: 2.6-3.3 m ² /L (105-135 ft ² /US gal.) at 0.30-0.38 mm (12-15 mil) wet film thickness (w.f.t.) Thinning Solvent - If required, use Sika® Urethane Thinner and Cleaner - maximum 5 % by volume 50 ml/L - (6.4 oz/US gal.) Contact Sika Canada for additional information.	
Product Temperature	Precondition material for at least 24 hours between 18 to 24 °C (65 to 75 °F)	
Ambient Air Temperature	Min. 10 °C (50 °F) Max. 30 °C (85°F) Mixing and application attempted at material, ambient and/or substrate temperature conditions less than 18 °C (65 °F) will result in a decrease in product workability and slower cure rates.	
Relative Air Humidity	Min. 30 % Max. 75 % (during application and curing) Note: Low Relative Ambient Air Humidity may result in slower cure.	
Dew Point	Substrate must be at least 3 °C (5 °F) above the Dew Point to reduce the risk of condensation, which may lead to adhesion failure or “blushing” on the floor finish.	
Substrate Temperature	Min. 4 °C (40 °F) Max. 30 °C (86 °F)	
Substrate Moisture Content	Moisture content of concrete substrate must be ≤4 % by mass (pbw – part by weight) as measured with a Tramex® CME/CMExpert type concrete moisture meter.	

Pot Life	Material Temperature		Time	
	10 °C (50 °F)		40 minutes	
	20 °C (68 °F)		30 minutes	
	30 °C (86 °F)		20 minutes	
Curing Time	Ambient & Substrate Temperature	Foot traffic	Light traffic	Full cure
	20 °C (68 °F) and 50 % R.H.	~ 4 hours	~ 8 hours	~ 5 days
Waiting Time / Overcoating	Before applying second coat of Sikafloor®-510 N LPL allow:			
	Ambient & Substrate Temperature	Minimum	Maximum	
	20 °C (68 °F) & 50 % R.H.	~ 90 minutes	~ 24 hours	

BASIS OF PRODUCT DATA

Product properties are typically averages, obtained under laboratory conditions. Reasonable variations can be expected on-site due to local factors, including environment, preparation, application, curing and test methods.

Properties tested at 23 °C (73 °F) and 50 % R.H. unless stated otherwise.

LIMITATIONS

- Prior to application, measure and confirm Substrate Moisture Content, Ambient Relative Humidity, Ambient and Surface Temperature and Dew Point. During installation, confirm and record above values at least once every three (3) hours, or more frequently whenever conditions change (e.g. Ambient Temperature rise / fall, Relative Humidity increase/decrease, etc.).
- Moisture content of concrete substrate must be ≤ 4 % by mass (pbw – part by weight) as measured with a Tramex® CME/CMExpert type concrete moisture meter on mechanically prepared surface according to this product data sheet (preparation to ICRI / CSP 3-4). Do not apply to concrete substrate with moisture levels exceeding 4 % by mass (pbw – part by weight) as measured with Tramex® CME/CMExpert type concrete moisture meter. If moisture content of concrete substrate exceeds 4 % by mass (pbw – part by weight), as measured with Tramex® CME/CMExpert type concrete moisture meter, use Sikafloor®-1610, Sikafloor®-81 EpoCem®CA or Sikafloor®-22 NA PurCem®.
- ASTM F2170 testing is not a substitute for measuring substrate moisture content with a Tramex® CME/CMExpert type concrete moisture meter as described above. When relative humidity tests for concrete substrate are conducted per ASTM F2170 for project specific requirements, values must be ≤ 85 %.

If values exceed 85 %, according to ASTM F2170, use Sikafloor®-1610, Sikafloor®-81 EpoCem®CA or Sikafloor®-22 NA PurCem®.

- If Sikafloor®-510 N LPL is used as a primer, apply the coating to the prepared substrate using a squeegee and backroll to provide uniform coverage. Ensure that the substrate is pore- and pinhole-free and provides uniform and complete coverage over the entire substrate. If necessary, apply an additional coat to ensure the substrate is pore- and pinhole-free and provides uniform and complete coverage over the entire substrate.
- Do not apply while ambient and substrate temperatures are rising, as pinholes may occur. Ensure there is no vapour drive at the time of application. Refer to ASTM D4263, may be used for a visual indication of vapour drive.
- Freshly applied material should be protected from dampness, condensation and water for at least 72 hours.
- Use of clear UV resistant top coat may not prevent discoloration of underlying coatings.
- Do not apply Sikafloor® to concrete substrate containing aggregates susceptible to ASR (Alkali Silica Reaction) due to risk of natural alkali redistribution below the Sikafloor® product after application. If concrete substrate has or is suspected to have ASR (Alkali Silica Reaction) present, do not proceed. Consult with design professional prior to use.
- Any aggregate used with Sikafloor® systems must be non-reactive and oven-dried.
- This product is not designed for negative side waterproofing.
- Typically not recommended for exterior slabs on grade where freeze/thaw conditions may exist.
- Direct-fired gas or kerosene heaters produce by-products that can have adverse effects on the curing resin. To avoid this occurrence, heaters must be exhausted to the exterior of the building to avoid defects such as amine blush, whitening, loss of adhesion or other surface deficiencies.

- Beware of air flow and changes in air flow. Introduction of dust, debris, and particles, etc. may result in surface imperfections and other defects.
- Published Dynamic Coefficient of Friction (DCOF) wet and dry test results are approximate values based on laboratory test samples produced in a controlled environment following the application instructions published on the product data sheet. Resin flooring products are hand applied finishes subject to minor variations in surface texture due to influences partly beyond Sika Canada's control. Substrate profile, environmental conditions, variable regional aggregate size, shape and gradation, aggregate distribution, uniformity of applied resin mil thickness, and application technique can all affect the final DCOF test results achieved. Adequate provision should be made by the client throughout the selection and installation process to ensure the finished surface texture meets the end user's traction requirements.

ENVIRONMENT, HEALTH & 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

SURFACE PREPARATION

Surface must be clean, sound and dry. Remove dust, laitance, grease, curing compounds, bond inhibiting impregnations, waxes and any other contaminants. All projections, rough spots, etc. should be dressed off to achieve a level surface prior to the application.

Concrete - Should be cleaned and prepared to achieve a laitance-free and contaminant-free, open textured surface by shot blasting or equivalent mechanical means (ICRI / CSP 3-4). Sweep and vacuum any remaining dirt and dust with a wet/dry vacuum. Removing residual dust will help ensure a tenacious bond between the primer and substrate. Whenever "shot-blasting" is utilized, be careful to leave concrete with a uniform texture. "Over-blasting" will result in reduced coverage rates of the primer and/or subsequent topcoats. The "shot blast" pattern may show through the last coat, known as "tracking". The compressive strength of the concrete substrate should be at least 24 MPa (3500 psi) at 28 days and at least 1.5 MPa (215 psi) in tension at the time of application. For other substrates, please contact Sika Canada.

Priming

Priming for concrete substrate is required. Prime with either Sikafloor®-156^{CA} or Sikafloor®-1610 or Sikafloor®

-165 FS. Allow the primer to cure (varies with temperature and humidity) until tack-free before applying subsequent coats. Ensure that the primer is pore- and pinhole-free and provides uniform and complete coverage over the entire substrate. When using Sikafloor®-510 N LPL as primer extra precaution has to be taken on the substrate preparation and on the moisture content, see product limitations for further details.

MIXING

Mixing Ratio - A:B = 3:2 by volume.

For bulk packaging, when not mixing full units, each component must be pre-mixed separately to ensure product uniformity.

Mixing: Do not hand mix Sikafloor® materials.

Mechanically mix only. Mix only that quantity which can be used within its pot life at actual field temperature.

Clear Resin

Premix each Component separately. Empty Component B (Hardener) in the correct mix ratio into Component A (Resin). Mix the combined components at low speed (300-450 rpm) for at least three (3) minutes using a drill fitted with an Exomixer® or Jiffy type paddle suited to the volume of the mixing container to minimize air entrapment. Be careful not to introduce any air bubbles while mixing. Make sure the contents are completely mixed to avoid any weak or partially cured spots in the coating. During the mixing operation, scrape down the sides and bottom of the container with a flat or straight edge trowel at least once to ensure complete mixing.

Field Pigmented

Premix each Component separately. If color is desired, Sikafloor® SCO Color Additive is added to Component A at a rate of 0.95 L (1 quart) per 7.57 L (2 US gal.) of Part A and 5.03 L (1.33 US gal.) of Part B for all colours. Combine and mix at low speed (300 - 450 rpm) Component A and Sikafloor® SCO Color Additive for three (3) minutes, or until a uniform color is achieved, with a drill fitted with an Exomixer® or Jiffy type paddle suited to the volume. Empty component B (Hardener) in the correct mix ratio to Component A (Resin) and mix for additional two (2) minutes. Be careful not to introduce any air bubbles while mixing. Make sure the contents are completely mixed to avoid any weak or partially cured spots in the coating. During the mixing operation, scrape down the sides and bottom of the container with a flat or straight edge trowel at least once to ensure complete mixing. **Note:** Sikafloor® SCO Colour Additive will shorten the working time of Sikafloor®-510 N LPL by approximately five (5) minutes at 20 °C (68 °F).

APPLICATION

As a pigmented topcoat/sealer coat for smooth or broadcast finish: Squeegee and back roll Sikafloor®-510 N LPL to provide a uniform coverage without ponding at a thickness of 0.25 - 0.38 mm (10 - 15 mil), at a rate of 2.6 - 3.9 m²/L (107 - 160 ft²/US gal). If required, repeat this procedure for a second coat.

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As a clear topcoat for a broadcast quartz or flake

system: Apply using a squeegee and back roll Sikafloor®-510 N LPL to provide a uniform coverage without ponding at a thickness of 0.25 - 0.38 mm (10 - 15 mil), at a rate of 2.6 - 3.9 m²/L (107 - 160 ft²/US gal.). If required, repeat this procedure for a second coat.

As a stand-alone double broadcast quick cure decorative quartz and flake system:

Step 1: Primer - Apply neat coat of Sikafloor®-510 N LPL on a prepared substrate as a primer using a squeegee and roller without ponding at 0.12 - 0.25 mm (5 - 10 mil), at a rate of 3.9 - 7.8 m²/L (160 - 320 ft²/US gal.).

Note: When using Sikafloor®-510 N LPL as a primer, extra precaution has to be taken with regard to substrate preparation and moisture content, see product limitations for further details.

Step 2: First Broadcast Application - Apply using a squeegee and back roll Sikafloor®-510 N LPL to provide a uniform coverage without ponding at a thickness of 0.25 - 0.38 mm (10 - 15 mil), at a rate of 2.6 - 3.9 m²/L (107 - 160 ft²/US gal.). Broadcast pre-blended decorative flakes or coloured quartz aggregates into the binder to saturation. Broadcast in a manner so that the flakes or coloured quartz aggregates fall vertically into the binder. Broadcast to rejection. Ensure that broadcast flakes/aggregates cover entire surface. Allow broadcast system to cure sufficiently to be able to resist foot traffic without damaging the surface. Remove excess flakes/aggregates from the surface by sweeping up and vacuuming, until surface is free of all loose particles and dust.

Step 3: Second Broadcast Application - Apply using a squeegee and back roll Sikafloor®-510 N LPL to provide a uniform coverage without ponding at a thickness of 0.25 - 0.38 mm (10 - 15 mil), at a rate of 2.6 - 3.9 m²/L (107 - 160 ft²/US gal.). Broadcast pre-blended decorative flakes or coloured quartz aggregates into the binder to saturation. Broadcast in a manner so that aggregates fall vertically into the binder. Broadcast to rejection. Ensure that broadcast flakes/aggregates cover entire surface. Allow broadcast system to cure sufficiently to be able to resist foot traffic without damaging the surface. Remove excess flakes/aggregates from the surface by sweeping up and vacuuming, until surface is free of all loose particles and dust.

Step 4: Finish Coat - Apply using a squeegee and back roll Sikafloor®-510 N LPL to provide a uniform coverage without ponding at a thickness 0.25 - 0.38 mm (10 - 15 mil), at a rate of 2.6 - 3.9 m²/L (107 - 160 ft²/US gal.). When required, repeat this procedure for a second coat.

Critical Recoat/Overcoat Time

It is important to apply subsequent coats of this and other products within 6 to 24 hours (under normal curing conditions). If this coating is allowed to cure longer than the 24 hours before subsequent recoats, light sanding, vacuum cleaning and solvent wiping will be necessary. The floor surface should be sanded/abraded to the effect that a uniform dullness is achieved. There should be no gloss present on the floor after vacuuming and before applying the next coat.

CLEAN UP

Uncured material can be removed with Sika® Urethane Thinner and Cleaner. Cured materials (Component A combined with Component B) can only be removed mechanically.

MAINTENANCE

Please refer to Sikafloor® Systems - Protection, Cleaning and Maintenance Guidelines product data sheet.

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 recommendations, or from any other advice offered.

The information contained herein does not relieve the user of the products from testing them for the intended application and purpose. 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 or may be downloaded from our website at: www.sika.ca

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