BUILDING TRUST

PRODUCT DATA SHEET

Sikafloor®-510 N LPL

Abrasion and UV Resistant Polyaspartic Resin System

PRODUCT DESCRIPTION

Sikafloor®-510 N LPL is a water clear, two-component, high solids, low-viscosity, high strength, fast cure, UV resistant, Polyaspartic urethane coating system with a reduced odor and low VOC. Sikafloor®-510 N LPL has an extended working time and usable pot-life, especially in elevated temperatures and humid conditions.

USES

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

CHARACTERISTICS / ADVANTAGES

- Very low odor
- Resists a very wide range of organic and inorganic acids, alkalis, amines, salts and solvents.
- Rapid return to service, fast turnaround
- Extended working time
- Durable, impermeable and seamless
- Superior mechanical resistance.
- Excellent UV resistance
- Excellent chemical resistance
- Superior aesthetic finish.
- Low maintenance.

PRODUCT INFORMATION

Packaging	Components A	5 US gal. (18.9 L)
	Components B:	3.33 US gal. (12.6L)
	Components A+B:	8.33 US gal. (31.5 L)
Appearance / Color	Clear. Do not pigment.	
Shelf Life	Shelf Life 1 year in original, unopened packaging.	
Storage Conditions	Store dry at 40° - 90°F (4° - 32°C). Condition product between 65° - 85°F (18° - 30°C) before using.	
Volatile organic compound (VOC) content	50 g/l	Components (A+B)
	52 g/l	Components (A+ B+ Sikafloor-372 Urethane Accelerator)

TECHNICAL INFORMATION

Shore D Hardness	80	ASTM D-2240 at 73°F (23°C) and 50% R.H
Abrasion Resistance	37 mg loss (*CS-17 wheel, 1000 cycles, 1000 gm load*)	ASTM D-4060 at 73°F (23°C) and 50% R.H
Tensile Strength	3,224 psi (22.23 MPa)	ASTM C-307 at 73°F (23°C) and 50% R.H
Elongation at Break	8.3%	ASTM D-638 at 73°F (23°C) and 50% R.H
Tensile Adhesion Strength	> 400 psi (2.7 MPa) (100% concrete failure)	ASTM D-4541 at 73°F (23°C) and 50% R.H
Chemical Resistance	Please consult Sikafloor Technical Services.	
Service Temperature	50°F min., 250°F max. (4°C min., 121°C max.)	
Coefficient of Friction	0.51 Dynamic Wet* Smooth coating *Does not directly correlate to other methods of measuring coefficient of friction. Consult technical service for more information.	ANSI 137.1/BOT 3000 73°F (23°C) and 50 % R.H

APPLICATION INFORMATION

Mixing Ratio

3 : 2 by volume.

Coverage

Smooth Finish Coating	Prime coat: 160 - 200 ft2 / US gal (3.9 - 4.9 m2 / L) at 8 - 10 mils (0.20 - 0.25 mm) wet film thickness (w.f.t.)
	Wear coat: 105 - 135 ft2 / US gal (2.6 - 3.3 m2 / L) at 12 - 15 mils (0.30 - 0.38 mm) wet film thickness (w.f.t.)

Product Temperature

Precondition material for at least 24 hours between 65° to 75°F (18° to 24°C)

Ambient Air Temperature

50°F min., 85°F max. (4°C min., 30°C max.)

Pot Life

Material Temperature	Time
+50°F (10°C)	40 minutes
+68°F (20°C)	30 minutes
+86°F (30°C)	20 minutes

Cure Time

Ambient & Substrate Temperature	Foot traffic	Light traffic	Full cure
+68°F (20°C)	4 hours	8 hours	5 days

Waiting / Recoat Times

Before applying second coat of Sikafloor 510N LPL allow:

Ambient & Substrate Temperature	Minimum	Maximum
+68°F (20°C)	90 minutes	24 hours

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

Notes on 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 3 hours, or more frequently whenever conditions change (e.g. Ambient Temperature rise/fall, Relative Humidity increase/decrease, etc.).
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 on mechanically prepared surface according to this product data sheet (preparation to CSP-3 to CSP-4 as per ICRI guidelines).
Do not apply to concrete substrate with moisture levels >4% mass (pbw – part by weight) as measured with Tramex® CME/CMExpert type concrete moisture meter.
If moisture content of concrete substrate is >4% by mass (pbw – part by weight) as measured with Tramex® CME/CMExpert type concrete moisture meter, use Sikafloor 1610 or Sikafloor 22 NA or 24 NA PurCem®.When relative humidity tests for concrete substrate are conducted per ASTM F2170 for project specific requirements, values must be ≤85%. If values are >85% according to ASTM F2170 use Sikafloor 1610 or Sikafloor 22 NA or 24 NA PurCem.
ASTM F2170 testing is not a substitute for measuring substrate moisture content.
Use a Tramex® CME/CMExpert type concrete moisture meter as described above.
Material Temperature: Precondition material for at least 24 hours between 65° to 75°F (18° to 24°C)
Ambient Temperature: Minimum/Maximum 50˚/85˚F (10˚/30˚C)
Substrate Temperature: Minimum/Maximum 50˚/85˚F (10˚/30˚C). Substrate temperature must be at least 5˚F (3˚C) above measured Dew Point.
Mixing and Application must adhere to Material, Ambient and Substrate temperatures listed above or a decrease in product workability and slower cure rates will occur.
Accelerated cure times may be achieved by use of Sikafloor-372 Urethane Accelerator. Refer to Sikafloor-372 Urethane Accelerator product data sheet for complete mixing and use instructions.
Relative Ambient Humidity: Minimum ambient humidity 30%
Maximum ambient humidity 75% (during application and curing) Low Note: Relative Ambient Humidity may result in slower cure.

Dew Point: Beware of condensation!
The substrate must be at least 5˚F (3˚C) above the Dew Point to reduce the risk of condensation, which may lead to adhesion failure or “blushing” on the floor finish. Be aware that the substrate temperature may be lower than the ambient temperature.
Mixing: Do not hand mix Sikafloor materials. Mechanically mix only.
Do not thin this product. Addition of thinners (e.g. water, solvent, etc.) will slow cure and reduce ultimate properties of this product. Use of thinners will void any applicable Sika warranty.
Application If : Sikafloor®-510 N LPL is used as a primer, apply the coating to the prepared substrate using a squeegee and back roll to provide uniform coverage. Ensure that the substrate is pore-free 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-free 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 vapor drive at the time of application. Refer to ASTM D4263, may be used for a visual indication of vapor drive.
- 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.
- Use of unvented heaters and certain heat sources may result in defects (e.g. blushing, whitening, debonding, etc.).
- Beware of air flow and changes in air flow. Introduction of dust, debris, and particles, etc. may result in surface imperfections and other defects.
- For professional use only by experienced applicators.

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

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 removed 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 (CSP-3 to CSP-4 as per ICRI guidelines). 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 “shotblast” pattern may show through the last coat, known as “tracking”. The compressive strength of the concrete substrate should be at least 3,500 psi (24 MPa) at 28 days and at least 250 psi (1.7 MPa) in tension at the time of application. For other substrates, please contact Sikafloor Technical Services.

Priming
Priming for concrete substrate is required. Prime with either Sikafloor 160, Sikafloor 161, Sikafloor 1610, Sikafloor 165 FS or Sikafloor 2570. Allow the primer to cure (varies with temperature and humidity) until tack free before applying subsequent coats. Ensure that the primer is pore-free, pinhole-free and provides uniform and complete coverage over the entire substrate. When using Sikafloor 510N LPL as primer, extra precaution should be taken with substrate preparation and moisture content.

MIXING

Mixing Ratio - 3 : 2 by volume.
For bulk packaging, when not mixing full units, each component must be pre-mixed separately to ensure product uniformity.

Clear Resin
Premix each Component separately. Empty Component B (Hardener) in the correct mix ratio into Component A (Resin). Mix the combined components for at least 3 minutes using a low speed drill (300 - 450 rpm) and Exomixer or Jiffy type paddle suited to the volume of the mixing container to minimize entrapped air. 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.

Pigmented
This product is formulated to be used only as clear product without the addition of any pigment product. For pigmented/colored systems use Sikafloor 511 Polyaspartic product.

APPLICATION

If Sikafloor 510N LPL is used as a primer, apply the coating to the prepared substrate using a squeegee and back roll to provide uniform coverage. Ensure that the substrate is porefree 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-free 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 vapor drive at the time of application. Refer to ASTM D4263, may be used for a visual indication of vapor drive.
- 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.
- Use of unvented heaters and certain heat sources may result in defects (e.g. blushing, whitening, debonding, etc.).
- Beware of air flow and changes in air flow. Introduction of dust, debris, and particles, etc. may result in surface imperfections and other defects.
- For professional use only by experienced applicators.

As a topcoat/sealer coat for smooth or broadcast finish
Squeegee and back roll Sikafloor 510N LPL to provide a uniform coverage without ponding at a thickness of 10 - 15 mils (160 - 107 ft2/gal). If required, repeat this procedure for a second coat.

As a clear topcoat for a broadcast quartz or flake system
Squeegee and back roll Sikafloor 510N LPL to provide a uniform coverage without ponding at a thickness of 10 - 15 mils (160 - 107 ft2/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 510N LPL on a prepared substrate as a primer using a squeegee and roller without ponding at 5 - 10 mils (160 - 320 ft2/gal).
Note: When using Sikafloor 510N LPL as primer, extra precaution should be taken on substrate preparation and moisture content.

Step 2: First Broadcast Application
Squeegee and back roll Sikafloor 510N LPL to provide a uniform coverage without ponding at a thickness of 10 - 15 mils (160 - 107 ft2/gal). Broadcast preblende decorative flakes or colored quartz aggregates into the binder to saturation. Broadcast in a manner so that the flakes or colored 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. Removal of excess flakes/aggregates is carried out by sweeping up the flakes/aggregates, followed by vacuuming, until surface is free of all loose particles and dust.

Step 3: Second Broadcast Application
Squeegee and back roll Sikafloor 510N LPL to provide a uniform coverage without ponding at a thickness of 10 - 15 mils (160 - 107 ft2/gal). Broadcast preblended decorative flakes or colored 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. Removal of excess flakes/aggregates is carried out by sweeping up the flakes/aggregates, followed by vacuuming, until surface is free of all loose particles and dust.
Step 4: Finish Coat - Squeegee and back roll Sikafloor 510N LPL to provide a uniform coverage without ponding at a thickness of 10 - 15 mils (160 - 107 ft2/gal). When required, repeat this procedure.

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.**

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