BUILDING TRUST

PRODUCT DATA SHEET

Sikafloor®-511

ABRASION AND UV RESISTANT PIGMENTABLE POLYASPARTIC RESIN SYSTEM

PRODUCT DESCRIPTION

Sikafloor®-511 is a two-component, solvent-free, high solids, low-viscosity, high strength, polyaspartic resin system. Sikafloor®-511 is designed to be available in clear that can used over a quartz or flake broadcast system where a low VOC, quick cure, flexible, UV resistance finish coat is necessary. Sikafloor®-511 is pigmentable with Sikafloor® SCO ColorAdditive to achieve a variety of colors.

USES

Sikafloor®-511 may only be used by experienced professionals.

Typically used in decorative applications, chemical storage areas, warehouses, washrooms, laboratories, food preparation areas and chemical process plants.

CHARACTERISTICS / ADVANTAGES

- Resists a very wide range of organic and inorganic acids, alkalis, amines, salts and solvents. Refer to Sikafloor® chemical resistance guide
- Cures quickly, fast turnaround
- Durable, impermeable and seamless
- Superior mechanical resistance
- Excellent chemical resistance
- Superior aesthetic finish
- Excellent UV resistance
- Low maintenance
- Does not support growth of bacteria or fungus
- High density prevents dirt penetration, which provides easy cleaning
- Solvent-free

PRODUCT INFORMATION

Packaging	Component A:	5 US gal (18.9L) fill in 5 gal pail
	Component B:	3.33 US gal (12.6L) fill in 5 gal pail
	Components A+B:	8.33 US gal (31.5L)
Appearance / Color	Clear or pigmented only with Sikafloor SCO Color Additive; 1 quart (1 L) per 2.5 gal. (9.463 L) of mixed material (A+B)	
Shelf Life	12 months in original unopened packaging	
Storage Conditions	Store dry between 50 °F and 77 °F (10–25 °C)	
Volatile organic compound (VOC) content	34.4 g/l	(A+B Combined)

TECHNICAL INFORMATION

Shore D Hardness	75	ASTM D2240 at 73 °F (23 °C) and 50 % R.H
Abrasion Resistance	-0.054g (CS-17) 1000 rotations/1000g	ASTM D4060 at 73 °F (23 °C) and 50 % R.H
Tensile Strength	6,500 psi (44.8 MPa)	ASTM C307 at 73 °F (23 °C) and 50 % R.H
Tensile Adhesion Strength	> 400 psi (2.7 MPa) (100 % concrete failure)	(ASTM D-1583)
Chemical Resistance	Please consult Sikafloor® Technical Services.	
Thermal Resistance	Pass	ASTM C884 at 73 °F (23 °C) and 50 % R.H
Service Temperature	50°F min., 250°F max. (4°C min., 121°C max.)	
Water Absorption	0.44%	ASTM C413 at 73 °F (23 °C) and 50 % R.H
Permeability to Water Vapor	0.3g/h-m2	ASTM E96 at 73 °F (23 °C) and 50 % R.H
Coefficient of Friction	0.69	ANSI 137.1 at 73 °F (23 °C) and 50 % R.H

APPLICATION INFORMATION

Mixing Ratio

1.5:1 by volume

Coverage

Prime coat:
160–266 ft² / US gal (3.9–6.5 m² / L) at 6–10 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.)

Pot Life

Substrate Temperature	Time
50 °F (23 °C)	~20 minutes
68 °F (20 °C)	~15 minutes
86 °F (30 °C)	~10 minutes

Pot Life is based on clear resin.

Cure Time

Substrate Temperature	Light traffic	Foot traffic	Full cure
+50°F (10°C)	~ 32 hours	~ 72 hours	4 days
+68°F (20°C)	~ 24 hours	~ 36 hours	48 hours
+86°F (30°C)	~ 24 hours	~ 30 hours	40 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 Sikafloor® 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® 22NA or 24NA 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 °F and 75 °F (18–24 °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.

Relative Ambient Humidity: Minumum ambient humidity 30 %, Maximum ambient humidity 75% (during application and curing)
Note: Low 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®-511 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 coating 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 coating 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.
- 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/ coating and the 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 3626 psi (25 MPa) with a minimum pull off strength of 218 psi (1.5 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. Sikafloor® 511 may be used as a direct to-concrete primer. When using Sikafloor® 511 as a primer, extra precaution should be taken on substrate preparation and moisture content. See Limitations section.

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 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:
If color is desired, Sikafloor® SCO Additive is added to Component A at a rate of 1 quart per 2.5 mixed gal. (i.e. Components A+B) for all colors. Mix Component A and Sikafloor SCO Color Additive for 2 minutes or until a uniform color is achieved with a low speed drill (300–450 rpm) and 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 2 minutes. Be careful not to introduce any air 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.

APPLICATION

As a pigmented topcoat/sealer coat for smooth or broadcast finish
Squeegee and back roll Sikafloor®-511 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®-511 to provide 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 fast cure decorative quartz and flake system
Step 1: Primer - Apply a neat coat of Sikafloor®-511 on a prepared substrate as a primer using a squeegee and roller without ponding at 6–10 mils (160–266 ft²/gal). Note: When using Sikafloor®-511 as primer extra precaution should be taken on the substrate preparation and moisture content.

Step 2: First Broadcast Application
Squeegee and back roll Sikafloor®-511 to provide uniform coverage without ponding at a thickness of 10–15 mils (160–107 ft²/gal). Broadcast pre-blended 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®-511 to provide a uniform coverage without ponding at a thickness of 10–15 mils (160–107 ft²/gal). Broadcast pre-blended 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®-511 to provide a uniform coverage without ponding at a thickness of 10–15 mils (160–107 ft²/gal). When required, repeat this procedure for a second coat.

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.

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