

PRODUCT DATA SHEET

Sikafloor®-316 N

Aliphatic Polyurethane Floor Coating Containing UV Blocker Technology For Use with Sikafloor® SCO Color Additives

PRODUCT DESCRIPTION

Sikafloor®-316 N is a 100% solids, low VOC, abrasion resistant aliphatic polyurethane coating. This high performance coating contains unique UV blocker technology that provides superior color retention performance of the underlying floor system. Sikafloor®-316 N delivers excellent wear resistance properties when over-coating epoxy or polyurethane substrates. It has excellent resistance to a wide range of chemical. Sikafloor®-316 N includes optional wear aggregate to increase traction and abrasion resistance.

USES

Sikafloor®-316 N may only be used by experienced professionals.

Sikafloor®-316 N with SCO Color additive is typically used in environments such as:

- Laboratories, Life Sciences, Pharmaceutical industries and Health Care industry.
- Education (e.g. Schools and Universities).
- Leisure & Culture (e.g. Museums, Stadiums).
- Retail (e.g. Shopping Malls).
- Manufacturing facilities and warehouses.

PRODUCT INFORMATION

Packaging	Component A:	0.75 US gal. (2.8 L)
	Component B:	2.00 US gal. (7.6 L)
	Sikafloor SCO Color Additive:	0.25 US gal. (0.95 L)
	Wear Aggregate:	9 lb (4.1 kg) Optional
	Component A+B+C:	3.0 US gal. (11.4 L)

Appearance / Color	Sikafloor SCO Color Additives, 18 standard colors. Not included in kit, order separately. Do not use with any other color additive or pigment.		
Shelf Life	2 years in original unopened container under proper storage conditions.		
Storage Conditions	Store in dry and cool conditions at temperatures ranging between 40 and 90 °F (4 and 32°C).		
Volatile organic compound (VOC) content	86 g/l 89 g/l	Components A+B Components A+B+ Sikafloor®-372 Urethane Accelerator	
Shore D Hardness	73 - 78	ASTM D2240 at 73°F (23°C) and 50% R.H	
Abrasion Resistance	18 mg loss (smooth high gloss) Taber Abraser, Wheel CS 17/1000g (2.2 lb) /1000 cycles	ASTM D4060 at 73°F (23°C) and 50% R.H	
Tensile Strength	4,641 psi. (32 Mpa)	ASTM D638 at 73 °F (23°C) and 50 % R.H	
Elongation at Break	85%	ASTM D638 at 73 °F (23°C) and 50 % R.H	
Tensile Adhesion Strength	> 363 psi (2.5 MPa) (100% concrete failure)	ASTM D4541 at 73 °F (23°C) and 50 % R.H	
Gloss Level	90 (smooth high gloss) 65 (textured semi gloss)	ASTM D523 60 degrees	
Pot Life	Material Temperature		Time
	+50°F (10°C)		~ 40 minutes
	+68°F (20°C)		~ 25 minutes
	+86°F (30°C)		~15 minutes
	*Do not apply after indicated Pot Life is exceeded. End of Pot Life is not visible. Material will appear liquid, but is unusable and will result in poor adhesion.		
Cure Time	Ambient & Substrate Temperature	Foot traffic	Light traffic
	+50°F (10°C)	~ 48 hours	~ 36 hours
	+68°F (20°C)	~ 24 hours	~ 2 days
	+86°F (30°C)	~ 18 hours	~ 36 hours
			Full cure
			~10 days
			~7 days
			~5 days
	Reduced cure times may be achieved using Sikafloor-372 Urethane Accelerator. Please refer to the Sikafloor-372 Urethane Accelerator product data sheet for complete use and mixing instructions.		
Waiting / Recoat Times	Before applying second coat of Sikafloor 316 N allow:		
	Ambient & Substrate Temperature	Minimum	Maximum
	+50°F (10°C)	18 hours	72 hours
	+68°F (20°C)	12 hours	48 hours
	+86°F (30°C)	8 hours	24 hours

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 "shotblasting" 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 final 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 215 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. Please refer to the individual most current and respective Product Data Sheet for specific and detailed information.

MIXING

Mix Ratio: 0.75 Part A: 0.25 Part Sikafloor SCO Color Additive: 2 Parts B by volume

Premixing of Part A is necessary to ensure product uniformity. If mixing a partial unit, it is essential that the Part A component be mixed immediately prior to measuring out. Material separates quickly, measure out necessary quantity immediately after mixing. Mix for one [1] minute until uniform. Add one [1] quart of Sikafloor SCO color additive and mix for an additional 2 minutes until pigment is completely consolidated. Empty the entire contents of the Component B (Hardener) and Component A (Resin) into a clean bucket/container large enough to accommodate the mix size quantity. Mix at low speed for 3 minutes (300 - 450 rpm) and until uniform.

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 tool at least once to ensure complete mixing.

Note: Care must be taken not to use product beyond its recommended pot life. Material will appear liquid, but is unusable and will result in poor adhesion.

Semi-gloss Finish: Requires use of the Wear Aggregate. Slowly add the Component C (Wear Aggregate) to the mix material under agitation. Mix for an additional 2 minutes.

Note: Do not dump wear aggregate into mix. 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. Do not mix more material than can be applied within the working time limits (i.e. pot life) at actual ambient temperature.

APPLICATION

General Requirements

It is extremely important to thoroughly clean the substrate before application of Sikafloor®-316 N. Dust particles, dirt, steel shot and other contaminants will be permanently sealed into the cured film appearing as surface defects on high gloss, thin mil coatings. Roller covers should be low nap, lint free and of high quality to minimize the appearance and frequency of entrapped roller fibers.

Glossy Finish using Dip and Roll method

Apply with an 18 inch (454 mm) nap roller, 1/4 or 3/8-inch (6 or 10 mm), solvent resistant roller cover at a thickness of 4 – 10 mils.

The floor area to be coated should be divided into sections that can be done completely in one application sequence. Sections should be divided at expansion joints or doorways when possible. The end of a section should be taped off to form a straight clean edge for an adjacent section.

Pour the material in a roller tray and saturate the roller, remove the excess material by lightly rolling it in the tray. Apply 3 pairs of 8 - 10 foot long paths on to the floor. Spread the material with roller passes perpendicular to the originally applied paths. This material may be aggressively rolled to even out the application. It is extremely important to apply the coating at a rate of 4 - 6 mils to achieve proper appearance, texture, and color stability. If material is applied too heavy, the coating may create micro-blisters. If the material is applied too thin, the coating gloss levels may vary. Product will not cure properly if applied at excessive thickness. Do not exceed 10 mils.

Glossy Finish using a Flat Squeegee

(only recommended without use of wear aggregate)
Pour a thin ribbon, approximately 6''- 8'' wide of Sikafloor®-316 N onto the floor surface. Using a flat squeegee spread the material at the recommended rate. Avoid leaving puddles of the Sikafloor®-316 N on the floor surface. Using a 3/8'' nap roller, back roll the material in the opposite direction that it was squeegee applied. Continue to back roll the material to achieve even coverage across the floor.

The Sikafloor®-316 N can be rolled aggressively to remove any color shading. It is extremely important to apply this material at a rate of 4- 10 mils (WFT). To finish, the Sikafloor®-316 N should be cross rolled; uninterrupted across the entire width of the floor. This will help reduce roller marks. If material is applied too heavy, the coating may create micro-blisters, if the material is applied too thin, the coating gloss levels may vary. Product will not cure properly if applied at excessive thickness. Do not exceed 10 mils.

Semi-Gloss Finish using Dip and Roll method

Use of the Component C Wear Aggregate required Sikafloor®-316 N is applied with an 18 inch (454 mm) wide short nap roller, 1/4 or 3/8 - inch (6 or 10 mm), solvent-resistant roller cover at a thickness of 2 - 4 mils (0.075 mm). The floor area to be coated should be divided into sections that can be completed in one application sequence. Sections should be divided at expansion joints or doorways when possible. The end of a section should be taped off to form a straight clean edge for an adjacent section.

Pour the material in a roller tray and saturate the roller, remove the excess material by lightly rolling it in the tray. It is important to apply the coating uniformly at a rate of 2 - 4 mils to achieve proper appearance. If material is applied too heavy, the coating may create micro blisters or result in loss of aggregate texture. If material is applied too thin, the coating gloss level may vary. Do not exceed 4 mils.

It is very important to remix the material often with the roller in the tray to keep the aggregate. It is important to remix the remaining material in the mixing container before the material is poured into the tray. This will ensure that the Wear Aggregate is evenly dispersed in the Sikafloor®-316 N. Cross roll the entire area with straight uninterrupted passes across the entire width of the floor. This will reduce roller marks. If appearance is still not uniform after a few of these passes, repeat this procedure.

Note: Care must be taken not to use product beyond its recommended pot life. Material will appear liquid, but is unusable and will result in poor adhesion.

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 $\leq 4\%$ 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 22NA/24NA PurCem®.

When relative humidity tests for concrete substrate are conducted per ASTM F2170 for project specific requirements, values must be $\leq 85\%$. If values are $> 85\%$ according to ASTM F2170 use Sikafloor 1610 or Sikafloor 22NA/24NA 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.

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. **Relative Ambient Humidity:** Minimum ambient humidity 30% Maximum ambient humidity 75% (during application and curing)

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.

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 D 4263, 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.
- Typically not recommended for exterior slabs on grade where freeze/thaw conditions may exist.
- Use of unvented heaters and certain heat sources may result in defects (e.g. blushing, whitening, debonding, etc.).
- Mechanical, chemical & physical properties will be fully achieved at full cure.
- 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. DO NOT MIX ANY COMPONENTS FROM Sikafloor-315 with Sikafloor®-316 N, Sikafloor SCO Color Additives should be used only with Sikafloor®-316 N, Do not use with Sikafloor 315N Clear. Consult Sikafloor Technical Service for more information.

Product Data Sheet

Sikafloor®-316 N

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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.

OTHER RESTRICTIONS

See Legal Disclaimer.

ENVIRONMENTAL, HEALTH AND SAFETY

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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