

## PRODUCT DATA SHEET

# Sikafloor®-315 N

ALIPHATIC POLYURETHANE FLOOR COATING CONTAINING UV BLOCKER TECHNOLOGY, LOW VOC, LOW ODOR, HIGH GLOSS SMOOTH FINISH OR OPTIONAL SEMI-GLOSS FINE AGGREGATE TEXTURE FINISH

### DESCRIPTION

Sikafloor®-315 N is a high solids, low VOC, low odor, highly abrasion resistant, aliphatic polyurethane coating. This high performance system contains unique UV blocker technology that provides superior ultraviolet light screening properties that significantly improves color retention values of the underlying resin floor system. It has excellent clarity when applied as a two part clear high gloss smooth coating, or as a three-part semi-gloss textured finish with the addition of pre-packaged optional wear aggregate. Sikafloor 315N Clear provides excellent adhesion and wear resistance properties when overcoating epoxy or polyurethane substrates. It has excellent chemical resistance.

### USES

Sikafloor®-315 N may only be used by experienced professionals.

Sikafloor®-315 N is typically used in light to heavy traffic areas 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

Mix Unit: Component A: 1.0 US gal. (3.78 L) Resin  
 Component B: 2.00 US gal. (7.56 L) Hardener  
 Component C: 9 lb (4.1 kg) Optional, Wear Aggregate  
 Components A+B: 3 US gal. (11.34 L)

#### Appearance / Colour

Clear only, do not add any type of color additive.

<b>Shelf life</b>	2 years in unopened container
<b>Storage conditions</b>	Store dry between 40° - 90°F (4° - 32°C)
<b>Volatile organic compound (VOC) content</b>	5.1 g/L (A+B Clear) Sikafloor® 315 N clear Part A + Sikafloor® 315 N Part B Combined 54 g/l Sikafloor®-315 N clear Part A + Sikafloor® 315 N Part B + Sikafloor® 372 Urethane Accelerator Combined.

## TECHNICAL INFORMATION

<b>Shore D Hardness</b>	73-78	(ASTM D-2240)
<b>Abrasion Resistance</b>	Taber Abraser, Wheel CS 17/1000g (2.2 lb) / 1000 cycles 8 mg loss (smooth high gloss)	(ASTM D-4060)
<b>Tensile Strength</b>	4,641 psi. (32 Mpa)	(ASTM D-638)
<b>Elongation at Break</b>	85%	(ASTM D-638)
<b>Tensile Adhesion Strength</b>	<b>Pull-off Strength - Primed Concrete</b> > 360 psi (2.5 MPa) (100% concrete failure)	(ASTM D-4541)
<b>CHEMICAL RESISTANCE</b>	Please consult Sikafloor Technical Services.	
<b>Water Absorption</b>	0.68% (2 hours boiling)	(ASTM C-413)
<b>Gloss Level</b>	90 (smooth high gloss) 65 (textured semi gloss)	(ASTM D-523) 60 degrees
<b>Coefficient of Friction</b>	<b>ANSI-NFSI B101.3 / ANSI A137.1 BOT 3000</b> 0.32 Wet (smooth high gloss) 0.48 Dry (smooth high gloss) 0.53 Wet (textured semi gloss) 0.62 Dry (textured semi gloss)	(DCOF)

## APPLICATION INFORMATION

<b>Mixing ratio</b>	1:2 See special mixing instruction for partial mixes.	
<b>Consumption</b>	Coverage of materials on a primed or prepared substrate will vary depending on the porosity or density, profile and texture of the substrate. The theoretical coverages are:  <b>Smooth Glossy Finish:</b> Sikafloor 315N Clear applied at 4 - 10 wet mils (160 - 401 sq. ft./gal) per coat  <b>Textured Semi-Gloss Finish:</b> Sikafloor 315N applied at 2 - 4 wet mils (401 - 801 sq. ft./gal) per coat. Note: This requires the addition of the Part C wear additive. Product will not cure properly if applied at excessive thickness.	
<b>Product Temperature</b>	Precondition material for at least 24 hours between 65° to 75°F (18° to 24°C)	
<b>Ambient Air Temperature</b>	Minimum/Maximum 50°/85°F (10°/30°C)	
<b>Relative Air Humidity</b>	Minimum ambient humidity 30% Maximum ambient humidity 75% (during application and curing)	
<b>Dew Point</b>	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.

**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.

**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 22NA or 24NA 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 with a Tramex® CME/CMExpert type concrete moisture meter as described above.

**Pot Life**

Material Temperature	Time
+50°F (10°C)	50 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.**

**Curing time**

Ambient & Substrate Temperature	Foot traffic	Light traffic	Full cure
+50°F (10°C)	48 hours	3 days	10 days
+68°F (20°C)	24 hours	2 days	7 days
+86°F (30°C)	18 hours	36 hours	5 days

Cure times may be significantly decreased with the use of Sikafloor-372 Urethane Accelerator. Refer to the Sikafloor-372 Urethane Accelerator for complete technical information.

**Waiting Time / Overcoating**

Before applying second coat of Sikafloor 315N 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

**APPLICATION INSTRUCTIONS**

**SUBSTRATE QUALITY / PRE-TREATMENT**

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 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 215 psi (1.5 MPa) in tension at the time of applic-



ation. 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**

##### **Mixing for Clear Application = Part A Clear + Part B Mix Ratio: 1 Part A : 2 Part 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. Empty the entire contents of the Component B (Hardener) into the Component A (Resin) in a clean bucket/container large enough to accommodate the mix size quantity. Mix at low speed for 3 minutes (300 - 450 rpm). 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. Premix as above. Empty the entire contents of the Component B (Hardener) into the Component A (Resin) into a clean bucket/container large enough to accommodate the mix size quantity. Mix at low speed for 1 minute (300 - 450 rpm). Slowly add the Component C (Wear Aggregate) to the mix material under agitation. Mix for 2 minutes.

**Note:** Do not dump wear aggregate into mix! 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.

**Do not mix more material than can be applied within the working time limits (i.e. Pot Life) at actual temperature.**

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**

**General Requirements:** It is extremely important to thoroughly clean the substrate before application of Sikafloor®-315 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.

##### **Application of \$v(name) for Glossy Finish using a Roller:**

Sikafloor 315N is applied with an 18 inch (454 mm) roller, 1/4 or 3/8-inch (6 - 10 mm) nap, 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 into 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 microblisters. 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.

##### **Application of Sikafloor®-315 N for Glossy Finish using a Flat Squeegee, only for use without wear aggregate:**

Pour a thin ribbon, approximately 6" - 8" wide of Sikafloor 315N onto the floor surface. Using a flat squeegee spread the material at the 160 - 400 sq. feet per gallon. Avoid leaving puddles of the Sikafloor®-315 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. It is extremely important to apply this material at a rate of 4 – 10 mils (WFT). To finish, the Sikafloor 315N 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.

##### **Application of Sikafloor®-315 N for Semi Gloss Finish using a Roller, Use of the Wear Aggregate required:**

Sikafloor®-315 N is applied with an 18 inch (454 mm) roller, 3/8-inch (10 mm) nap, 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 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. It is important to apply the coating uni-

formly 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 from settling at the bottom of the mixing container. 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®-315 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.

**Application:** Apply the coating to the prepared substrate which should be pore-free and pinhole-free. If necessary, apply an additional coat of a suitable material 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.
- Sikafloor 315N UV blocking aliphatic polyurethane coating may not completely prevent discoloration of underlying coatings in some applications
- 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. The previous version of Sikafloor-315 is not compatible with this new formulation. Do not mix com-

ponents from Sikafloor-315 and Sikafloor-315N

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Product Data Sheet

Sikafloor®-315 N

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## IMPORTANT CONSIDERATION

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.).

## BASIS OF PRODUCT DATA

All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

## LOCAL RESTRICTIONS

Please note that as a result of specific local regulations the declared data for this product may vary from country to country. Please consult the local Product Data Sheet for the exact product data.

## ECOLOGY, HEALTH AND SAFETY

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Safety Data Sheet (SDS) containing physical, ecological, toxicological and other safety-related data.

## 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 written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. 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.

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