BUILDING TRUST

PRODUCT DATA SHEET

# Sikafloor®-29 NA PurCem®

HIGH STRENGTH CEMENTITIOUS URETHANE COVING,VERTICAL AND DETAILING MORTAR

## PRODUCT DESCRIPTION

Sikafloor®-29 NA PurCem® is a vertical grade, three-component, solid color, water dispersed polyurethane based/cement and aggregate mortar used for detailing, vertical work and coving. It has a finely textured smooth aggregate appearance that provides excellent resistance to abrasion, impact, chemical attack and other physical aggression. System is typically installed to any height from at 1/8'' to 1/4'' (125 to 250 mils) thickness.

## USES

Sikafloor®-29 NA PurCem® may only be used by experienced professionals.

- Sikafloor-29NA PurCem is primarily used for vertical application of cove/cant on concrete substrates
- Typically used in food processing plants, wet and dry process areas, freezers and coolers, dairies, breweries, wineries, distilleries, laboratories, chemical process plants, pulp and paper plants, warehouses and storage areas.

## CHARACTERISTICS / ADVANTAGES

- Can be applied on green concrete, typically 7-10 days. Full 28 days cure time is not necessary.
- Can be applied over partially cured concrete substrates (> 4% mass (pbw –part by weight) as measured with Tramex® CME/CMExpert type concrete moisture meter surface moisture).
- Can be applied to concrete substrates where <100 % relative humidity is measured as per ASTM F2170.
- Substrate has tensile bond strength in excess of 218 psi (1.5 MPa). Substrate has tensile bond strength in excess of 218 psi (1.5 MPa).
- Resists a very wide range of organic and inorganic acids, alkalis, amines, salts and solvents. Consult Sika Technical Service for full details. Refer to the Sikafloor -29 NA Purcem Chemical Resistance Chart.
- Similar coefficient of thermal expansion to concrete allowing movement with the substrate through normal thermal cycling. It will perform and retain its physical characteristics through a wide temperature range from -40 °F (-40 °C) up to 248 °F (120 °C).
- Steam cleanable at 1/8'' to 1/4'' (125 to 250 mils) thickness.
- Non-tainting, odorless.
- Behaves plastically under impact / deforms but will not crack or debond.
- High abrasion qualities result from its aggregate structure.
- Extra Expansion joints are not necessary; maintain and extend existing expansion joints up through the Sikafloor PurCem Flooring System.
- Minimal maintenance costs, superior life cycle cost advantage versus tile.
- Meets the requirements of USDA for use in food plants.

## PRODUCT INFORMATION

| | | |
|---|---|---|
| **Packaging** | Component A: | 0.5 US gal (1.89 L) 4.25 lb (1.94 kg) |
| | Component B: | 0.35 US gal (1.32 L) 3.65 lb (1.66 kg) |
| | Component C: | 47.92 lbs (21.74 kg) in a bag (powder) |
| | Components A+B+C: | A+B+C: 55.82 lb (25.31 kg) |
| **Appearance / Color** | RAL 7012 Basalt Gray<br>RAL 7038 Agate Gray<br>RAL 7042 Traffic Grey<br>RAL 3009 Oxide Red<br>RAL 1001 Beige | |
| **Shelf Life** | Components A+B: 1 year in original unopened packaging<br>Component C: 6 months in original unopened packaging | |
| **Storage Conditions** | Store dry between 50°- 77°F (10°- 25°C). Protect from freezing. | |
| **Density** | 17.53 lb/US gal. (1.40 kg/L) | ASTM C905<br>at 73°F (23°C) and 50% R.H |
| **Volatile organic compound (VOC) content** | 5 g/L | (A+B+ C Combined) |

## TECHNICAL INFORMATION

| | | |
|---|---|---|
| **Shore D Hardness** | 80 - 85 | ASTM D2240<br>at 73°F (23°C) and 50% R.H |
| **Indentation** | ~ 0% | MIL -PRF -24613<br>at 73°F (23°C) and 50% R.H |
| **Impact Strength** | 6.70 ft - lb (9.08 joules)<br>at 1/8" (3 mm) of thicknesss | ASTM D2794<br>at 73°F (23°C) and 50% R.H |
| **Abrasion Resistance** | CS-17/1,000 cycles/1,000 g (2.2 lb) -0.09 g (-0.0031 oz)<br>H-22/1,000 cycles/1,000 g (2.2 lb) -4.01 g (-0.141 oz) | ASTM D4060<br>at 73°F (23°C) and 50% R.H |
| **Compressive Strength** | 2,901 psi (20 MPa) 24 hrs | ASTM C579<br>at 73°F (23°C) and 50% R.H |
| **Flexural Strength** | 8.1 MPa (1175 psi) | ASTM C580<br>at 73°F (23°C) and 50% R.H |
| | >254 psi (1.75 MPa) (substrate failure)<br>Pull-off Strength | ASTM D4541<br>at 73°F (23°C) and 50% R.H |
| **Tensile Strength** | 2.5 MPa (363 psi) | ASTM C307<br>at 73°F (23°C) and 50% R.H |
| **Coefficient of Thermal Expansion** | 0.72 x 10-5 n/in/°F (1.3 x 10-5 mm/mm/°C) | ASTM D696<br>at 73°F (23°C) and 50% R.H |
| **Chemical Resistance** | Please consult Sikafloor Technical Services. | |
| **Microbiological Resistance** | Resistance to Fungi Growth Rated 0 (no growth) | ASTM G21<br>at 73°F (23°C) and 50% R.H |
| | Resistance to Mold Growth Rated 10 (highest resistance) | ASTM D3273<br>at 73°F (23°C) and 50% R.H |

| | | |
|---|---|---|
| **Thermal Compatibility** | Pass | ASTM C884<br>at 73°F (23°C) and 50% R.H |
| **Water Absorption** | 0.16% | ASTM C413<br>at 73°F (23°C) and 50% R.H |
| **Softening point** | 266°F (130°C)<br>Flow | at 73°F (23°C) and 50% R.H<br>0 in (0 mm) |
| **Ambient Air Temperature** | Minimum/Maximum 40˚/85˚F (4˚/30˚C). | |
| **Coverage** | At 1/8 inch thick & 1 inch radius:<br>Cove height: 6 in = 25 linear ft<br>Cove height: 4 in = 30 linear ft<br>(The above figures do not allow for surface porosity, profile or waste) | |
| **Substrate Temperature** | Minimum/Maximum 40˚/85˚F (4˚/30˚C). | |

**Pot Life**

| Material Temperature | Time |
|---|---|
| + 50°F (10°C) | ~ 30 - 35 minutes |
| + 68°F (20°C) | ~ 20 - 25 minutes |
| + 86°F (30°C | ~ 10 - 15 minutes |

**Cure Time**

| Ambient & Substrate Temperature | Full cure |
|---|---|
| + 50°F (10°C) | ~ 10 days |
| + 68°F (20°C) | ~ 7 days |
| + 86°F (30°C) | ~ 5 days |

**Waiting / Recoat Times**

Before applying sealer coat on Sikafloor-29NA PurCem allow

| Substrate Temperature | Minimum | Maximum |
|---|---|---|
| +58°F (10°C) | 24 hours | 7 days |
| +68°F (20°C) | 12 hours | 3 days |
| +86°F (30°C) | 6 hours | 2 days |

## SURFACE PREPARATION

Concrete surfaces must be clean and sound. Remove all dust, dirt, existing paint films, efflorescence, exudates, laitance, forms oils, hydraulic or fuel oils, brake fluid, grease, fungus, mildew, biological residues or any other contaminants which may prohibit good bond. Prepare the surface by any appropriate mechanical means, in order to achieve a profile equivalent to ICRI-CSP 3-6. The compressive strength of the concrete substrate should be at least 3,625 psi (25 MPa) and a minimum of 218 psi (1.5 MPa) in tension at the time of application.

Repairs to cementitious substrates, filling of blowholes,leveling of irregularities, etc. should be carried out using an appropriate Sika profiling mortar. Contact Sika Technical Service for a recommendation.

**Edge Terminations**

All free edges of a Sikafloor PurCem floor, whether at the perimeter, along gutters or at drains require extra anchorage to distribute mechanical and thermal stresses. This is best achieved by forming or cutting grooves in the concrete. Grooves should have a depth and width of 2 times the thickness of the Sikafloor PurCem floor. Contact Sikafloor Technical Service for more information and construction details.

If necessary, protect all free edges with mechanically attached metal strips. Do not featheredge, always turn into an anchor groove.

### Expansion Joints
Expansion joints should be provided in the substrates at the intersection of dissimilar materials. Isolate areas subject to thermal stresses, vibration movements or around load-bearing columns and at vessel sealing rings. Refer to details at https://usa.sika.com/flooring.

### Priming
Priming for concrete substrate is required. Prime with either Sikafloor 160, Sikafloor 161,Sikafloor 165 FS or Sikafloor 1610 at a rate of 160 – 200 ft2/gal., using a brush or roller to provide uniform coverage. Primer must be tacky during the application of Sikafloor®-29 NA PurCem® mortar. Only mix and apply enough primer that can be overlaid before it cures (approximately 3 hours at 68ºF/20ºC). If the primer loses tackiness, remove any surface contaminates then recoat with additional primer coat.

Please refer to the individual most current and respective product Data Sheet for specific and detailed information.

### MIXING

**Mix Ratio:** Components A : B : C
Note: Mix full units only
A “kol” type mixer, incorporating a motor spun mixing pail and a shear angle mixing blade, or a forced action mixer is recommended. Mixing will be affected by temperature; condition materials for use to 65 - 75º F (18 - 24º C). Premix Components A and B separately, make sure all pigment is evenly distributed. Pour Components A into a clean mixing bucket/container large enough to accommodate the mix size quantity. and mix for 30 seconds. Add Component C (powder) pouring slowly over a period of 20 seconds.
Note: Do not dump powder into resin! Allow Component C to blend for an additional 2 1/2 minutes after all powder is emptied into the resin to ensure complete mixing and that all powders are evenly distributed. During the mixing operations, scrape down the sides and bottom of the container with a flat or straight edge trowel at least once to ensure complete mixing (Components A+B+C).

### APPLICATION

Mix and apply Sikafloor®-29 NA PurCem® using steel trowels to spread and compact the mortar on vertical surfaces. Minimum of a 3/4'' radius cove trowel recommended. A light brushing while the mortar is still workable will close any surface voids. Allow a minimum 10 hour cure period at 68°F (20°C).Low level halogen light will assist in identifying trowel marks and waves while finishing the cove base.

## 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.).
Material Temperature: Precondition material for at least 24 hours between 65° to 75°F (18° to 24°C).
IMPORTANT: Product must be protected from freezing. If frozen, discard.
Ambient Temperature: Minimum/Maximum 40˚/85˚F (4˚/30˚C).
Substrate Temperature: Minimum/Maximum 40˚/85˚F (40˚/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 85% (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. Calculate Dew Point from the substrate surface temperature, not the ambient temperature.
Do not Mixing: 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. On no account should thinners be added to the mix. Adding thinners will void any applicable Sika warranty.

### Application

- Do not apply to polymer modified cement mortars (PCC) that may expand when sealed with an impervious resin.
- Do not apply to water-soaked, glistening-wet concrete substrates. (i.e standing water)
- Do not use on exterior, on-grade substrates; for interior use only.
- Do not apply to surfaces where moisture vapor can condense and freeze.
- Do not apply to un-reinforced sand cement screeds, asphaltic or bitumen substrate, glazed tile or non-porous brick, tile and magnesite, copper, aluminum, soft wood, or urethane composition, elastomeric membranes, fiber reinforced polyester (FRP) composites.
- Do not apply while ambient and substrate temperatures are rising, as pinholes may occur.
- Freshly applied material should be protected from dampness, condensation and water for at least 24 hrs.
- Protect substrate during application from condensation from pipes or any overhead leaks.
- Do not featheredge.
- Color uniformity cannot be completely guaranteed from batch to batch (numbered). Take care when using Sikafloor PurCem products to draw from inventory in batch number sequence, do not mix batch numbers in a single floor area.
- Some colors may produce noticeable shade variations between Sikafloor PurCem systems (e.g. difference between floor and coving mortars). In order to achieve a uniform appearance, the use of top coats (e.g. Sikafloor-31NA) throughout entire area may be required.
- Will discolor over time when exposed to sunlight (UV) and under certain artificial lighting conditions. 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.
- For professional use only by experienced applicators.

## 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.

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.**

Sale of SIKA products are subject to the Terms and Conditions of Sale which are available at https://usa.sika.com/en/group/SikaCorp/termsandconditions.html or by calling 1-800-933-7452.

**Sika Corporation**
201 Polito Avenue
Lyndhurst, NJ 07071
Phone: +1-800-933-7452
Fax: +1-201-933-6225
usa.sika.com

**Sika Mexicana S.A. de C.V.**
Carretera Libre Celaya Km. 8.5
Fracc. Industrial Balvanera
Corregidora, Queretaro
C.P. 76920
Phone: 52 442 2385800
Fax: 52 442 2250537