Product Data Sheet
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Sikafloor®-29NA PurCem

Industrial Flooring

Sikafloor®-29NA PurCem®

High Strength Cementitious Urethane Coving and Detailing Mortar

Description

Sikafloor-29NA PurCem is a vertical grade, three-component, solid color, water dispersed polyurethane-based/cement and aggregate mortar used for detailing 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 at 1⁄8 to 1⁄4 in (3 - 6 mm) thickness.

Where to Use

- Sikafloor-29NA PurCem is primarily used to protect 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.

Advantages

- Can be applied onto Green Concrete (typically 7 -10 days) after adequate preparation and where substrate has tensile bond strength in excess of 218 psi (1.5 MPa) and Sikafloor primer can be applied
- Can be applied to concrete substrates where < 100% relative humidity is measured as per ASTM F2170.
- Resists a very wide range of organic and inorganic acids, alkalis, amines, salts and solvents. Consult Sika Technical Sales for full details. Refer to the Sika PurCem Chemical Resistance Chart
- Designed specifically for trowel applications to vertical surfaces.
- 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).
- Bond strength in excess of the tensile strength of concrete, concrete will fail first.
- Non-taint, odorless.
- Can be applied over partially cured concrete substrates (<10% surface moisture), full 28 days cure t time is not necessary.
- Behaves plastically under impact; deforms but will not crack or debond.
- High abrasion qualities result from its aggregate structure.
- Easily maintained.
- Minimal maintenance costs, superior life cycle cost advantage versus tile.
- Achieves highest performance ratings according to ASTM G21 resistance to fungi and ASTM D3273 resistance to mold growth.
- Meets all USDA Food Code requirements for flooring materials.

TYPICAL 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.

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: 1 US gal (3.78 L) 47.8 lb (21.6 kg)
Components A+B+C: 55.7 lb (25.2 kg)

Colors

Standard colors:

RAL 7046 Telegray 2	RAL 3009 Oxide Red
RAL 7038 Agate Gray	RAL 7042 Traffic Grey A

One standard, non stocking color that requires lead time:
RAL 1001 Beige
Custom colors subject to minimum orders. Certain color may require lead time

Coverage

At 1/8 inch thick & 1 inch radius:
Cove height: 6 in = 25 linear ft
Cove height: 4 in = 30 linear ft
(The above figures do not allow for surface porosity, profile or wastage)

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

Waiting / Recoat Times

Before applying sealer coat on Sikafloor-29NA PurCem allow:

Ambient & Substrate Temperature	Minimum	Maximum
+50°F (10°C)	24 hours	7 days
+68°F (20°C)	12 hours	3 days
+86°F (30°C)	6 hours	2 days

Industrial Flooring

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

Properties Tested at 73°F (23°C) and 50% R.H.

Softening Point		266°F (130°C)
Density	ASTM C905	17.53 lb/US gal. (1.40 kg/L))
Flow		0 in (0 mm)
Compressive Strength	ASTM C579	
	24 hrs	2,901 psi (20 MPa)
	7 days	4,496 psi (31 MPa)
	28 days	5,076 psi (35 MPa)
Tensile Strength	ASTM C307	2.5 MPa (363 psi)
Flexural Strength	ASTM C580	8.1 MPa (1175 psi)
Pull-off Strength	ASTM D4541	> 254 psi (1.75 MPa) (substrate failure)
Thermal Compatibility	ASTM C884	Pass
Shore D Hardness	ASTM D2240	80 - 85
Indentation	MIL -PRF -24613	~ 0%
Impact Resistance	ASTM D2794	6.70 ft - lb (9.08 joules) at 1/8" (3 mm) of thicknesss
Abrasion Resistance	ASTM D4060	CS-17/1,000 cycles/1,000 g (2.2 lb) -0.09 g (-0.0031 oz) H-22/1,000 cycles/1,000 g (2.2 lb) -4.01 g (-0.141 oz)
Coefficient of Friction	ASTM D1894-61T	Steel 0.7 Rubber 0.8
Coefficient of Thermal Expansion	ASTM D696	0.72 x 10-5 n/in/°F (1.3 x 10-5 mm/mm/°C)
Water Absorption	ASTM C413	0.16%
Resistance to Mold Growth	ASTM D3273	Rated 10 (highest resistance)
Shelf Life	Components A+B: 1 year in original unopened packaging Component C: 6 months in original unopened packaging. Store dry between 50°- 77°F (10°- 25°C). Protect from freezing.	
Chemical Resistance	Please consult Sikafloor Technical Services.	

How to Use

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) at 28 days 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 Sales for a recommendation.

Edge Terminations - all free edges of a Sikafloor-29NA 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-29NA PurCem floor. Refer to the edge details provided. If necessary, protect all free edges with mechanically attached metal strips. Never featheredge, always turn into an anchor groove.

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.

Priming

Priming for concrete substrate is required. Prime with either Sikafloor 160, Sikafloor 161 or Sikafloor 1610 at a rate of 160 – 200ft2/gal., using a brush or roller to provide uniform coverage. Primer must be tacky during the application of Sikafloor PurCem 29N mortar. Only mix and apply enough primer that can be overlaid before it cures (approximately 3 hour 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 = 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 and B 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 a further 2 1/2 minutes after all powder is emptied into the resin to ensure complete mixing and that all powders are wetted out. 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).

Industrial Flooring

Application

Mix and apply Sikafloor-29NA PurCem using steel trowels to spread and compact the mortar on vertical surfaces. Bottle coves and other shaped fillets can be achieved using the appropriate tools. 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).

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.

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.

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). **IMPORTANT**: Product must be protected from freezing. If frozen, discard.

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 attempted at Material, Ambient and/or Substrate Temperature conditions less than 65˚F (18˚C) will result in a decrease in product workability and slower cure rates.

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.

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. 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 water-soaked, glistening-wet concrete substrates.
- Do not apply to un-reinforced sand cement screeds, asphaltic or bitumen substrate, glazed tile or non-porous brick, tile and magnesite, copper, aluminium, soft wood, or urethane composition, elastomeric membranes, fibre reinforced polyester (FRP) composites.
- 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.
- 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.

Industrial Flooring

- 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.

Caution

COMPONENT A - CAUTION: IRRITANT. Contains Polyester/Polyether Polyol dispersed in water (Mixture). May cause eye/skin/respiratory irritation. May be harmful if swallowed. Intentional misuse by deliberate concentration and inhalation of vapors may be harmful or fatal.
COMPONENT B - WARNING: IRRITANT, SENSITIZER. Contains Polymeric Diphenylmethane Diisocyanate (CAS 9016-87-9). Causes eye/skin/respiratory irritation. Prolonged and/or repeated contact with skin or by inhalation may cause allergic reaction/sensitization. May be harmful if swallowed.
COMPONENT C - WARNING: IRRITANT, SENSITIZER. Contains Silica Quartz (CAS 14808-60-7) and Portland Cement (CAS 65997-15-1). Causes eye irritation. May cause skin/respiratory irritation. Prolonged and/or repeated skin contact may cause an allergic reaction/sensitization. May cause delayed lung damage (silicosis). May be harmful if swallowed. Deliberate misuse by inhalation of vapors may be harmful or fatal. Strictly follow all usage, handling and storage instructions
WARNING: This product contains a chemical known to the State of California to cause cancer.

First Aid

Eyes - Hold eyelids apart and flush thoroughly with water for 15 minutes. **Skin** - Remove contaminated clothing. Wash skin thoroughly for 15 minutes with soap and water. **Inhalation** - Remove to fresh air. **Ingestion** - Do not induce vomiting. Dilute with water. Contact physician. In all cases contact a physician immediately if symptoms persist.

Handling and Storage

Avoid direct contact with eyes and skin. Wear chemical resistant gloves/goggles/clothing. Avoid breathing vapors. Use with adequate general and local ventilation. In absence of adequate ventilation, use properly fitted NIOSH approved respirator. Wash thoroughly after handling product. Store in a cool, dry, well ventilated area. Keep containers tightly closed.

Clean Up

Wear chemical resistant gloves/goggles/clothing. In absence of proper ventilation use properly fitted NIOSH respirator. Uncured material can be removed with approved solvent. Follow solvent manufacturer's instructions for use and warnings. Cured material (when Component 'A' combined with Component 'B' and Component 'C') can only be removed mechanically. In case of spill, ventilate area and contain spill. Collect with absorbent material (Component 'A' and Component 'B') and place in properly sealed container. Shovel Component 'C' into approved container. Dispose of in accordance with current applicable local, state and federal regulations.

Visit our website at www.sikausa.com **1-800-933-SIKA NATIONWIDE**

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