

PRODUCT DATA SHEET

Sikafloor®-19 PurCem®

Heavy Duty Trowel Applied Cementitious Urethane Mortar

PRODUCT DESCRIPTION

Sikafloor®-19 PurCem® is a trowel grade, heavy duty, solid color, three-component, water dispersed polyurethane-based/cement and aggregate screed, designed to provide excellent resistance to abrasion, impact, chemical attack and other physical aggression. Sikafloor®-19 PurCem® has a textured aggregate surface providing moderate slip resistance. Sikafloor®-19 PurCem® Broadcast has a broadcast aggregate texture for increased slip resistance. Both systems are typically installed at 1/4 to 3/8 in (6 to 9 mm) thickness.

USES

Sikafloor®-19 PurCem® may only be used by experienced professionals.

- Sikafloor®-19 PurCem® is primarily used to protect concrete substrates in severe environments.
- Typically used in food processing plants, wet and dry process areas, freezers and coolers, thermal shock areas, 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) after preparation (see surface prep section) and where substrate has tensile bond strength in excess of 218 psi (1.5 MPa).
- 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 Service for full details. Refer to the Sikafloor 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 1/4–3/8 in (6–9 mm) thickness.
- Bond strength in excess of the tensile strength of concrete, concrete will fail first.
- Non-tainting, odorless.
- Behaves plastically under impact / deforms but will not crack or debond.
- High abrasion qualities result from its aggregate structure.
- Can be applied over partially cured concrete substrates (<10 % surface moisture), full 28 days cure time is not necessary.
- 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.
- Achieves highest performance ratings according to ASTM G21 resistance to fungi and ASTM D3273 resistance to mold growth.
- Meets the requirements of USDA for use in food plants.

PRODUCT INFORMATION

Packaging	Component A: 1 US gal. (3.78 L) 8.53 lb (3.87 kg) Component B: 0.7 US gal. (2.64 L) 7.33 lb (3.325 kg) Component C: 2 x 39.66 lb. (18.02 kg) in bags (powder) Components A+B+C: 95.18 lb. (43.17 kg)
Appearance / Color	RAL 7012 Basalt Gray RAL 3009 Oxide Red RAL 7038 Agate Gray RAL 1001 Beige RAL 7042 Traffic Grey
Shelf Life	Components A & B: 12 months in original unopened packaging. Component C: 12 months in original unopened packaging.
Storage Conditions	Store dry between 50 °F and 75 °F (10–25 °C). Protect from freezing
Density	17.8 lb./US gal. (2.14 kg/L) (ASTM C-905)
Volatile organic compound (VOC) content	Components A+B+C: 5 g/L A+B+C+Sikafloor-15NA Accelerator: 5.2 g/l

TECHNICAL INFORMATION

Shore D Hardness	82 (ASTM D-2240)
Compressive Strength	6,050 psi (41.7 MPa) 28 days (ASTM 579)
Flexural Strength	1,572 psi (10.8 MPa) (ASTM C-580)
Modulus of Elasticity in Flexure	6.29 x 105 psi (4.34 x 103 MPa) (ASTM C-580)
Tensile Strength	540 psi (3.7 MPa) (ASTM C-307)
Tensile Adhesion Strength	> 400 psi (> 2.5 MPa) (substrate failure) (ASTM D-4541)
Coefficient of Thermal Expansion	1.06 x 105 in/in/°F (1.9 x 105 mm/mm/°C) (ASTM D-696)
Microbiological Resistance	Resistance to Fungi Growth Rated 0 (no growth) (ASTM G-21) Resistance to Mold Growth Rated 10 (highest resistance) (ASTM D-3273)
Thermal Resistance	Pass (ASTM C-884)
Service Temperature	- 40°F (- 40°C) min. / 248°F (120°C) max.

APPLICATION INFORMATION

Coverage	Approx. 31 ft ² (2.8 m ²) per unit at 1/4" (6 mm) Approx. 20 ft ² (1.8 m ²) per unit at 3/8" (9 mm) (The above figures do not allow for surface porosity, profile or waste)								
Pot Life	<table><thead><tr><th>Material Temperature</th><th>Time</th></tr></thead><tbody><tr><td>50 °F (10 °C)</td><td>~ 25–30 minutes</td></tr><tr><td>68 °F (20 °C)</td><td>~ 15–20 minutes</td></tr><tr><td>86 °F (30 °C)</td><td>~ 5–10 minutes</td></tr></tbody></table>	Material Temperature	Time	50 °F (10 °C)	~ 25–30 minutes	68 °F (20 °C)	~ 15–20 minutes	86 °F (30 °C)	~ 5–10 minutes
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Cure Time	Ambient & Substrate Temperature	Foot traffic	Light traffic	Full cure
	50 °F (10 °C)	~ 24 hours	~ 6 days	~ 10 days
	68 °F (20 °C)	~ 12 hours	~ 4 days	~ 7 days
	86 °F (30 °C)	~ 6 hours	~ 2 days	~ 5 days

Reduced cure times may be achieved by using Sikafloor 15NA Accelerator. See the Sikafloor 15NA product data sheet for complete use and mixing information.

Waiting / Recoat Times	Before applying Sikafloor®-19 PurCem® when a scratch primer is used allow:		
	Ambient & Substrate Temperature	Minimum	Maximum
	50 °F (10 °C)	24 hours	7 days
	68 °F (20 °C)	6 hours	72 hours
	86 °F (30 °C)	4 hours	24 hours

APPLICATION INSTRUCTIONS

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 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 - 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 provided at <http://usa.sika.com>.

Priming

Substrate priming is normally not required under typical circumstances. Compressive strength of the concrete

substrate of at least 3,625 psi (25 MPa) and at least 218 psi (1.5 MPa) in tensile is required. However, due to variations in concrete quality, surface conditions, surface preparation and ambient conditions, test areas are recommended to determine whether priming is required to prevent the possibility of blisters, debonding, pinholes and other aesthetic variations.

Standard primer procedure consists of a 40–60 mils (1.0–1.5 mm) scratch coat of Sikafloor-31NA/24NA PurCem and light broadcasting of dry quartz sand. This is the preferred method for concrete substrates. The application is carried out using a steel trowel, ensuring a continuous coating is achieved.

MIXING

Mix Ratio: Components A : B : C (“C” Consist of two bags of 39.7 lbs each) = **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 65–75 °F (18–24 °C). Premix Components A and B separately, make sure all pigment is evenly distributed. Pour Components A and B into a clean mixing bucket 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). Note: Improved flowability on cool substrates can be achieved by removing a maximum of 2.2 lb (1.0 kg) of Component C (powder) per unit.

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

APPLICATION

Sikafloor®-19 PurCem®: trowel grade materials are applied with standard steel plastering or cement-finishing trowel 12 x 4 in (30 x 10 cm). Do not use serrated hand trowels. Priming of concrete substrates is not usually required under typical circumstances. However, due to variations in concrete quality, surface conditions, surface preparation and ambient conditions, reference test areas are recommended to determine whether priming is required to prevent the possibility of blisters, debonding, pinholes and other aesthetic variations.

Pour the material from the mixing pail, working to terminations or along the wet edge of previous pours. Using considerable top pressure on the trowel, spread material from side to side, pushing back into the previous mix (wet edge), pulling forward to establish the thickness and then, with a lighter pressure, trowel from side to side to close up. The last few strokes should always be in one direction only, left to right or right to left, but never back and forth. Excessive trowelling will bring the resin to the surface reducing the anti-slip surface. Screed box applicators may be used with Sikafloor 19NA PurCem. It is recommended to not use screed boxes greater than 24-inch width.

Sikafloor®-19 PurCem® Broadcast: mix and apply materials as outlined above in Mixing and Application. Sikafloor®-19 PurCem® Broadcast requires quartz color aggregate to be broadcast on to the wet surface. Evenly distribute the matching solid color aggregate by hand, covering all areas to avoid bald spots. Allow a minimum 10 hours cure at 68 °F (20 °C) before foot traffic. Alternatively, selected mineral aggregates can be broadcast on to the wet surface and sealed with a top coat of Sikafloor-31NA PurCem to lock in the aggregate. This application method requires a minimum 14 hours cure period at 68 °F (20 °C) before foot traffic, see Sikafloor-31NA PurCem Product Data Sheet.

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 °F to 75 °F (18 °C to 24 °C).

IMPORTANT: Product must be protected from freezing. If frozen, discard in a responsible manner in accordance with local, state and federal law.

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 %

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. Under no circumstance 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 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 to cracked or unsound substrates.
- 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.
- Protect applied product from exposure to uncured cement products; masonry mortar, drywall compound. Exposure will result in staining that can not be removed.
- Do not apply to surfaces where moisture vapor can condense and freeze.
- Do not apply to vertical or overhead surfaces/ for vertical surfaces refer to Sikafloor-29NA PurCem.
- Do not featheredge.
- Applied material will follow undulations, depressions, lines, etc. of the underlying substrate. Visual appearance of the finished floor may vary, including,

but not limited to, reflection of

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

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.

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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Product Data Sheet

Sikafloor®-19 PurCem®
November 2018, Version 02.01
020814020020000011

Sikafloor-19PurCem-en-US-(11-2018)-2-1.pdf

