BUILDING TRUST

PRODUCT DATA SHEET

Sikafloor®-22 NA PurCem®

SELF-LEVELING BROADCAST CEMENTITIOUS URETHANE SLURRY

PRODUCT DESCRIPTION

Sikafloor®-22 NA PurCem® is a self-leveling, solid color, three component, cementitious urethane Mortar designed to provide excellent resistance to abrasion, impact, and chemical attack. Sikafloor®-22 NA PurCem® is broadcast with dried quartz sand and sealed with Sikafloor 31NA PurCem to produce a solid color finish, or can be broadcasted with colored quartz aggregate and sealed with Sikafloor resinous flooring products for a decorative finish. The system is typically installed at 3/16'' to 1/4'' (188 to 250 mils) thickness.

USES

Sikafloor®-22 NA PurCem® may only be used by experienced professionals.

- Sikafloor 22NA PurCem is primarily used to protect concrete substrates in aggressive environments.
- Food processing plants, wet and dry process areas, kitchen and oven areas, freezers and coolers, dairies, breweries, wineries, distilleries, laboratories, chemical process plants, pulp and paper plants, warehouses and storage areas and pharmaceutical facilities.

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 - 22 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 3/16 to 1/4 inch (188 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 :	1 US gallon Pail(3.78 L) (8.53 lb)
	Component B :	0.7 US gallon Pail (2.64 L) (7.33 lb)
	Component C:	43.96 lbs.(19.94 kg) in a bag (powder)
	kits (A+B+C):	59.83 lbs (27.14 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: 1 year in original unopened packaging. Component C: 6 months in original unopened packaging.	
Storage Conditions	Store dry between 50°- 77°F (10°- 25°C). Protect from freezing.	
Density	16.84 lb/US gal. (2.02 kg/L)	ASTM C905 at 73°F (23°C) and 50% R.H
Volatile organic compound (VOC) content	5 g/L	A+B+C: Combined
Shore D Hardness	80-85	ASTM D2240 at 73°F (23°C) and 50% R.H
Indentation	~ 0%	MIL -PRF -24613 at 73°F (23°C) and 50% R.H
Impact Strength	5.02 ft - lb (6.81 joules) at 1/8'' (3 mm) of thickness	ASTM D2794 at 73°F (23°C) and 50% R.H
Abrasion Resistance	CS-17/1,000 cycles/1,000 g -0.110g H-22/1,000 cycles/1,000 g -2.26g	ASTM D4060 at 73°F (23°C) and 50% R.H
Compressive Strength	5,657 Psi (39 MPa) 28 days	ASTM C579 at 73°F (23°C) and 50% R.H:
Flexural Strength	2,790 psi (8.9 MPa)	ASTM C580 at 73°F (23°C) and 50% R.H
Tensile Strength	1,045 psi (6.5 MPa)	ASTM C307 at 73°F (23°C) and 50% R.H
Tensile Adhesion Strength	254 psi (> 1.75 MPa) (substrate failure) Pull -off Strength	ASTM D4541 at 73°F (23°C) and 50% R.H
Coefficient of Thermal Expansion	0.89 x 10^5 in/in/ºF (1.6 x10^5 mm/mm/ºC)	ASTM D696 at 73°F (23°C) and 50% R.H
	Coefficient of Friction 0.69	ANSI 326.3
Chemical Resistance	Please consult Sikafloor Technical Services.	
Microbiological Resistance	Resistance to Fungi Growth Rated 0 (no growth)	ASTM G21 at 73°F (23°C) and 50% R.H
	Resistance to Mold Growth Rated 10 (highest resistance)	ASTM D3273 at 73°F (23°C) and 50% R.H

Water Absorption	0.10%	ASTM C413 at 73°F (23°C) and 50% R.H
Thermal Resistance	Pass	ASTM C884 at 73° F (23° C) and 50% RH
Service Temperature	-40°F (- 40°C) min./248°F (120°C) max.	
Softening point	266°F (130°C)	
Ambient Air Temperature	Minimum/Maximum 40˚/85˚F (4˚/30˚C).	
Coverage	Approx. 37 ft2 (3.4m2) per unit at 160 mils (4.mm) Approx. 31 ft2 (2.8 m2) per unit at 3/16" (4.7 mm) Approx. 25 ft2 (2.3 m2) per unit at 1/4" (6.3 mm) (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)	~ 25 - 30 minutes
+68°F (20°C)	~ 15 - 20 minutes
+86°F (30°C)	~ 5 -10 minutes

Cure Time

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®-22 NA PurCem® when a Scratch primer is used allow;

Substrate Temperature	Minimum	Maximum
+50°F (10°C	24 hours	7 days
+68°F (20°C)	6 hours	72 hours
+86°F (40°C)	4 hours	24 hours

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 tensile at the time of application.

Repairs to cementitious substrates, filling of blowholes, levelling 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 thickness of the Sikafloor PurCem floor.

Refer to the edge details provided at http://usa.sika.com. 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 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 is a 40 – 60 mils (1.0 - 1.5mm) scratch coat of Sikafloor-31NA PurCem or Sikafloor-24NA PurCem and light broadcasting of dry quartz sand. This is the preferred method for concrete substrates. The application is done by steel trowel to the substrate, a continuous coating should be ensured.

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 60 - 70ºF (15 - 21ºC). Premix Components A and B separately, make sure all pigment is evenly distributed. Pour Components A 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 a further 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

Scratch Coat
Typically not required (see priming instructions)
Body Coat: 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.

Mix and pour the Sikafloor®-22 NA PurCem® materials on the floor. Spread to the desired thickness (160 mils - 1/4") using a screed gauge rake or trowel. Take care to spread newly mixed materials across the transition of previous applied mixes before the surface begins to set. Immediately spike roll the surface to release trapped air in the matrix.

Sikafloor®-22 NA PurCem® requires the wet surface to be broadcast to rejection with quartz or mineral aggregates. Aggregate must fall vertically to avoid surface defects / do not broadcast up to the transition line of new mixes, always broadcast 2 - 3 feet beyond the wet edge. Allow broadcast surface to cure sufficiently to be able to resist foot traffic without damaging the surface. Remove excess aggregate by sweeping or vacuuming until surface is free of all loose particles and dust.

A topcoat of Sikafloor 31NA PurCem can be applied to lock in the aggregate. Allow a minimum 24 hour cure period at 68ºF (20ºC) before light traffic after the Sikafloor 31NA PurCem is applied. Please refer to the individual most current and respective Product Data Sheet for specific and detailed information.

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.

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 in a responsible manner in accordance with local, state and federal law
Ambient Temperature: Minimum/Maximum 40˚/85˚F (4˚/30˚C).
Substrate Temperature: Minimum/Maximum 40˚/85˚F (4˚/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.

- 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.
- 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.

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.

OTHER RESTRICTIONS

See Legal Disclaimer.

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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