

Sikafloor® PurCem® 20N

High Strength, Screed Applied Cementitious Urethane Slurry

Description Sikafloor PurCem 20N is a resin rich, easy to apply, heavy duty, solid color, three component, cementitious urethane slurry designed to provide excellent resistance to thermal stress, abrasion, impact, and chemical attack. Sikafloor PurCem 20N has a textured aggregate surface providing medium to heavy profile slip resistance. Typically installed at 1/4 to 3/8 in. (6-9 mm) thickness.

Where to Use

- Sikafloor PurCem 20N floors are primarily used to protect concrete substrates, but are equally effective over most metallic and wood surfaces.
- Suitable for both interior and exterior exposures.
- Typically used in food processing plants, wet & dry process areas, freezers & coolers, thermal shock areas, dairies, breweries, wineries, distilleries, laboratories, chemical process plants, pulp and paper plants, warehouses and storage areas.

Advantages

- Resists a very wide range of organic and inorganic acids, alkalis, amines, salts and solvents. Refer to the Sikafloor PurCem Chemical Resistance Chart. Consult Sika Technical Service for full additional information.
- Natural textured surface provides anti-slip surface.
- Rapid one-step application. No concrete primer or topcoat sealer required. Production down time minimized.
- 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 live steam 240°F (115°C).
- Non-taint, odorless.
- Can be applied over partially cured concrete slabs (<10% moisture), full 28 day cure time is not necessary.
- Easy installation requiring less labor to install than traditional trowel grade materials.
- Minimal maintenance costs, superior life cycle cost advantage versus tile.
- Meets USDA requirements for incidental food contact.

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 appropriate mechanical means, i.e., steel shotblasting or planetary grinding to achieve (CSP 3-6). The compressive strength of the concrete substrate should be at least 3,500 psi (24 MPa) at 28 days and a minimum of 250 psi (1.7 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 product. Contact Sika Technical Service for recommendations.

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 the thickness of the PurCem floor. If necessary, protect all free edges with mechanically attached metal strips. Never featheredge, always turn into an anchor groove. **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.

Typical Data

Packaging	58.3 lb. (3.3 gal) / 26.5 kg (12.6 L) unit: 1 jug (A), 1 jug (B) and 1 jug (C) Component A: Carton containing (4)* jugs Component B: Carton containing (4)* jugs Component C: 48 lb bag * Order one carton of Part A (4 Jugs per carton), one carton of Part B (4 jugs per carton) and 4 bags of Part C.
Colors	Four standard stock colors: Telegray 2 (RAL 7046) Oxide Red (3009) Agate Gray (RAL 7038) Beige (1001) Two standard, non-stocking colors that require lead time: Sky Blue (RAL 5015) Grass Green (RAL 6010) Custom colors subject to minimum orders.
Yield	Approximately 20.5 ft ² (1.8 m ²) per unit at 1/4 in. (6 mm) Approximately 14 ft ² (1.3 m ²) per unit at 3/8 in. (9 mm) (These figures do not allow for surface porosity, profile or wastage)



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.
Mixing Ratio	Components A:B:C = Mix full units only.
Properties at 73°F (23°C) and 50% R.H.	
Application Temperature	45°F min., 85°F max. (7°C min., 30°C max.)
Curing Time at 68°F (20°C) at 1/4 in. (6 mm)	
	Usable pot life 18-22 min.
	Initial joint up time 23-27 min.
	Cure to foot traffic 10-12 hrs.
	Cure to light traffic 16-18 hrs.
	Full cure 5 days
Compressive Strength (ASTM C-579)	6,410 psi
Density (ASTM C-905)	17.53 lbs./gal. (2.10 kg/L)
Service Temperature	-40°F (-40°C) min. / 240°F (115°C) max.
Tensile Strength (ASTM C-307)	766 psi
Flexural Strength (ASTM C-580)	1962 psi
Bond Strength (ASTM D-4541)	>250 psi (1.75 MPa) (substrate failure)
Hardness, Shore D (ASTM D-2240)	80-85
Indentation MIL-PRF-24613	~ 0%
Impact Resistance (ASTM D-2794)	7.53 ft/lbf (10.21 joules) at 1/8 in. (3 mm) of thickness
Abrasion Resistance (ASTM D-4060)	
	H-22/1000 cycles/1000 g -1.83 g
	CS-17/1000 cycles/1000 g 0.110 g
Coefficient of Friction (ASTM D-1894)	1.25
Coefficient of Thermal Expansion (ASTM D-696)	1.56x10 ⁻⁵ in./in./°F (2.8x10 ⁻⁵ mm/mm/°C)
Water Absorption (ASTM C-413)	0.18%
Flexural Modulus (ASTM C580)	573989 psi (3956.4 MPa)

Mixing Mixing will be affected by temperature; condition materials for use to 60-70°F (15-21°C). Premix Components A and B separately, make sure all pigment is uniformly distributed. Start mixer; add Components A and B, blend for 30 seconds. Add Component C (powder) pouring slowly over a period of 15 seconds. Allow Component C to further blend for 2 more minutes to ensure complete mixing and that all powders are wetted out. During the 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) *Mix full units only.*

Application There is sufficient resin in the system to wet the concrete (no primer) required under normal circumstances. Place mortar on surface and spread to appropriate thickness using a pin rake or screed box. Take care to spread newly mixed materials across the transition of previous applied mixes before the surface begins to set. Allow mortar to stand for a few minutes to permit entrapped air to escape. Remove screed lines and fill in hard to reach areas with a steel trowel, then back roll with a plastic loop roller or mohair roller to remove surface imperfections and trowel marks. NOTE: Excessive trowelling or rolling will bring resin to the surface reducing the anti-slip surface.

- Limitations**
- **IMPORTANT:** Product must be protected from freezing. If frozen, discard.
 - Do not apply below 45°F (7°C) or above 85°F (29°C) / maximum relative humidity 85%.
 - Do not apply thicker than maximum recommended thickness of 3/8".
 - 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, or epoxy mortars and coatings.
 - Do not apply to wet or green concrete or polymer modified patches if the moisture content is > 10%.
 - Do not apply to concrete if air or substrate temperature is within 5°F (3°C) of dew point.
 - Protect substrate during application from condensation from pipes or any overhead leaks.
 - Do not apply to vertical or overhead surfaces. For vertical surfaces, refer to Sikafloor® PurCem® 29N.
 - Do not featheredge.
 - Do not mix Sika PurCem materials by hand. Mechanically mix only.
 - Color uniformity cannot be completely guaranteed from batch to batch (numbered). Take care when using Sika PurCem products to draw from inventory in batch number sequence, do not mix batch numbers in a single floor area.

Industrial Flooring

Caution	<p>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.</p> <p>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.</p> <p>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</p> <p>WARNING: This product contains a chemical known to the State of California to cause cancer.</p>
First Aid	<p>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.</p>
Handling and Storage	<p>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.</p>
Clean Up	<p>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.</p>

KEEP CONTAINER TIGHTLY CLOSED • KEEP OUT OF REACH OF CHILDREN • NOT FOR INTERNAL CONSUMPTION • FOR INDUSTRIAL USE ONLY

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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 Technical Data Sheet if used as directed within shelf life. User determines suitability of product for intended use and assumes all risks. Buyer's sole remedy shall be limited to the purchase price or replacement of product exclusive of labor or cost of labor.

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