

Sikafloor®-19N PurCem®

Heavy Duty Coloured Polyurethane Floor Screed

Description Sikafloor®-19N PurCem® is a trowel grade, heavy duty, solid colour, 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®-19N PurCem® has a textured aggregate surface providing moderate slip resistance. Sikafloor®-19N PurCem® Broadcast has a broadcast aggregate texture for increased slip resistance. Both systems are typically installed at 6 to 9 mm (1/4 to 3/8 in) thickness.

Where to Use

- Sikafloor®-19N PurCem® floors is a primarily used to protect concrete substrates, but are equally effective over most steel surfaces that have been properly prepared and supported.
- 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.

Advantages

- Can be applied onto 7 to 10-day old concrete after adequate preparation and where substrate has tensile bond strength in excess of 1.5 MPa (218 psi).
- Sikafloor® PurCem® screeds and detailing mortars can withstand moisture vapour transmission values of 12 lbs/1,000 ft² when tested in accordance with the ASTM F 1869 Test Method for Measuring Moisture Vapour Emission Rate of Concrete Sub-floor Using Anhydrous Calcium Chloride.
- 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 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°C (-40°F) up to 120°C (248°F).
- Steam cleanable at 6 - 9 mm (1/4 - 3/8 in) thickness.
- Bond strength in excess of the tensile strength of concrete, concrete will fail first.
- Non-taint, odourless.
- Behaves plastically under impact / deforms but will not crack or debond.
- Natural textured surface through the entire life of the product.
- High abrasion qualities result from its pure silica aggregate structure.
- Extra Expansion joints are not necessary; simply maintain and extend existing expansion joints up through the Sikafloor® PurCem® Flooring System.
- USDA acceptance for use in food plants in the U.S.A.
- CFIA acceptance for use in food plants in Canada.
- British Standard Specifications (BSS) acceptance for use in the U.K.

Technical Data																
Packaging	30.28 kg (14.15 L) unit / 66.76 lb (3.74 US gal.) unit. Packaged A+B+C															
Colour	<p>Four standard stock colours:</p> <p>RAL 3009 Oxide Red RAL 7046 Telegrey 2</p> <p>RAL 7038 Agate Grey RAL 1001 Beige</p> <p>Two standard, non-stocking colours that require lead time:</p> <p>RAL 5015 Sky Blue RAL 6010 Grass Green</p> <p>Custom colours subject to minimum orders.</p>															
Yield	<p>Approx. 2.0 m² (23 ft²) per unit at 6 mm (1/4 in)</p> <p>Approx. 1.4 m² (15 ft²) per unit at 9 mm (3/8 in)</p> <p>(These figures do not allow for surface porosity, profile or wastage)</p>															
Shelf Life	<p>Components A+B: 1 year in original unopened packaging.</p> <p>Component C: 6 months in original unopened packaging.</p> <p>Store dry between 10° - 25°C (50° - 77°F). Protect from freezing.</p> <p>Components A:B:C = Mix full units only.</p>															
Mixing Ratio																
Properties at 23°C (73°F) and 50% R.H.																
Application Temperature	7°C (45°F) min. / 30°C (86°F) max.															
Density ASTM C 905	2.14 kg/L (17.8 lb/US gal.)															
Flow	210 mm (8.27 in)															
Service Temperature	-40°C (-40°F) min. / 120°C (248°F) max.															
Cure Time	<table border="0"> <tr> <td>Usable pot life</td> <td>15-20 min</td> <td>at 20°C (68°F)</td> </tr> <tr> <td>Initial join up time</td> <td>20-25 min</td> <td>at 20°C (68°F) / 6 mm (1/4 in)</td> </tr> <tr> <td>Cure to foot traffic</td> <td>10-12 hrs</td> <td>at 20°C (68°F) / 6 mm (1/4 in)</td> </tr> <tr> <td>Cure to light traffic</td> <td>16-18 hrs</td> <td>at 20°C (68°F) / 6 mm (1/4 in)</td> </tr> <tr> <td>Full cure</td> <td>5 days</td> <td>at 20°C (68°F) / 6 mm (1/4 in)</td> </tr> </table>	Usable pot life	15-20 min	at 20°C (68°F)	Initial join up time	20-25 min	at 20°C (68°F) / 6 mm (1/4 in)	Cure to foot traffic	10-12 hrs	at 20°C (68°F) / 6 mm (1/4 in)	Cure to light traffic	16-18 hrs	at 20°C (68°F) / 6 mm (1/4 in)	Full cure	5 days	at 20°C (68°F) / 6 mm (1/4 in)
Usable pot life	15-20 min	at 20°C (68°F)														
Initial join up time	20-25 min	at 20°C (68°F) / 6 mm (1/4 in)														
Cure to foot traffic	10-12 hrs	at 20°C (68°F) / 6 mm (1/4 in)														
Cure to light traffic	16-18 hrs	at 20°C (68°F) / 6 mm (1/4 in)														
Full cure	5 days	at 20°C (68°F) / 6 mm (1/4 in)														
Softening Point	130°C (266°F)															



Compressive Strength ASTM C 579	24 hrs	24.1 MPa (3496 psi)
	3 days	33.1 MPa (4802 psi)
	7 days	35.4 MPa (5136 psi)
	28 days	41.7 MPa (6050 psi)
Tensile Strength ASTM C 307	3.7 MPa (540 psi)	
Flexural Strength ASTM C 580	10.8 MPa (1572 psi)	
Bond Strength ASTM D 4541	> 1.75 MPa (254 psi) (substrate failure)	
Thermal Compatibility ASTM C 884	Pass	
Hardness, Shore D ASTM D 2240	80-85	
Indentation MIL-PRF-24613	~ 0%	
Impact Resistance ASTM D 2794	5.67 joules (4.18 ft-lb) at 3 mm (1/8 in) of thickness	
Abrasion Resistance ASTM D 4060		
CS-17/1000 cycles/1000 g (2.2 lb)	-0.155 g (-0.006 oz)	
H-22/1000 cycles/1000 g (2.2 lb)	-2.18 g (-0.077 oz)	
Coefficient of Friction ASTM D 1894-61T	Steel	0.5
	Rubber	0.7
Coefficient of Thermal Expansion ASTM D 696	1.9 x 10 ⁻⁵ mm/mm/°C (1.06 x 10 ⁻⁵ in/in/°F)	
Water Absorption ASTM C 413	0.28%	
Flexural Modulus ASTM C 580	4335.7 MPa (629 025 psi)	
Resistance to Mold Growth ASTM D 3273	passes, rating of 10 (best)	
Resistance to Fungi Growth ASTM G 21	passes, rating of 0 (best)	
VOC (EPA Method 24)	0 g/L	
Chemical Resistance	Consult Sika Technical Sales	

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 25 MPa (3625 psi) at 28 days and a minimum of 1.5 MPa (218 psi) 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® 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. 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.

Mixing

Mixing will be affected by temperature; condition materials for use to 15° - 21°C (60° - 70°F). 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. **DO NOT DUMP!**

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 (Components A+B+C) to ensure complete mixing. **Mix full units only.**

Note: Improve flowability on cool substrates can be achieved by removing a maximum of 1 kg (2.2 lb) of Component C (powder) per unit.

Application

Sikafloor®-19N PurCem®: trowel grade materials are applied with normal steel plastering or cement-finishing trowel 30 x 10 cm (12 x 4 in). 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 mixer pail along the wet edge. Using considerable top pressure on the trowel, spread material from side to side, push back into the previous mix (wet edge), pull 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 fourth. Excessive trowelling will bring the resin to the surface reducing the anti-slip surface.

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



Clean Up

Clean all tools and equipment with Sika® Equipment Cleaner/Epoxy Thinner. Wash soiled hands and skin thoroughly in hot soapy water or use Sika® Hand Cleaner. Once hardened, product can only be removed mechanically.

Sikafloor® PurCem® floors are easily cleaned using a stiff brushing action and or high-pressure water, preferably hot, and even live steam. Degreasing agents and detergents will assist, but do not use any compounds containing Phenol as the floor colour may be damaged. Consult the cleaning compound manufacturer's instructions before use.

Limitations

- Do not apply below 6°C (43°F) or above 31°C (86°F) / maximum relative humidity 85%.
- 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.
- 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 to concrete if air or substrate temperature is within 3°C (5°F) 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® -29N PurCem®.
- Do not featheredge.
- Do not mix Sikafloor® PurCem® materials by hand; mechanical mix only.
- Do not apply to cracked or unsound substrates.
- Do not use on exterior, on-grade substrates.
- Do not apply to surfaces where moisture vapour can condense and freeze.
- For interior use only.
- Colour 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 light custom colours 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 may be required.

Caution

Component A - Frequent or prolonged skin contact may cause some local short term skin irritation. Avoid eye contact, may cause slight transient irritation.

Component B - Harmful by inhalation. Irritating to eyes, respiratory system and skin. May cause sensitization by inhalation and skin contact.

Component C - Risk of serious damage to eyes. In case of contact with eyes, rinse immediately with plenty of water. May cause skin irritation. Avoid breathing dusts. Respirable dusts could if inhaled over a prolonged period constitute a health hazard.

Consult product label for additional information.

First Aid

In case of skin contact, wash thoroughly with soap and water. For eye contact, flush immediately with plenty of water for at least 15 minutes. Contact a physician immediately. For respiratory problems, transport victim to fresh air.

For more information, consult Sika Material Safety Data Sheet.

**KEEP OUT OF REACH OF CHILDREN
FOR INDUSTRIAL USE ONLY**

The information, and in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions, within their shelf life. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any recommendations, or from any other advice offered. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users should always refer to the most recent issue of the Technical Data Sheet for the product concerned, copies of which will be supplied on request or can be accessed in the Internet under www.sika.ca.

Sika Canada Inc.

601 Delmar Avenue
Pointe-Claire, QC H9R 4A9
Tel.: (514) 697-2610
Fax: (514) 697-3087

Ontario

6915 Davand Drive
Mississauga, ON L5T 1L5
Tel.: (905) 795-3177
Fax: (905) 795-3192

Alberta

18131-114th Avenue N.W.
Edmonton, AB T5S 1T8
Tel.: (780) 486-6111
Fax: (780) 483-1580

1-800-933-SIKA
www.sika.ca

An ISO 9001:2000 certified company
Pointe-Claire : ISO 14001:2004 certified EMS



Construction

