



PRODUCT DATA SHEET

Sikafloor®-1610

MOISTURE TOLERANT, EPOXY RESIN-BASED PRIMER AND MOISTURE BARRIER FOR SIKAFLOOR®, SIKAGARD®, AND SIKALASTIC® SYSTEMS



PRODUCT DESCRIPTION

Sikafloor®-1610 is a two-component, high solids, low modulus, moisture tolerant epoxy primer that functions as a moisture barrier. This low viscosity resin is highly penetrative, seals substrates, contains a red trace dye to allow coverage to be ensured and is of low VOC content. Sikafloor®-1610 has been formulated to operate as a moisture tolerant adhesion promoter and moisture vapour transmission reduction system beneath Sikafloor®, Sikagard® and Sikalastic® epoxy and urethane coatings, broadcast, or trowelled systems.

WHERE TO USE

Sikafloor®-1610 may only be used by experienced professionals.

- Sikafloor®-1610 is suitable for application on new and refurbished interior concrete substrates.
- Designed for application on concrete where Sikafloor®, Sikagard® and Sikalastic® resin systems are due to be installed where a measured moisture content of < 6 % (p.b.w. – part by weight), as determined with Tramex® CM/E meter, and or < 95 % RH (ASTM F2170) in situ R.H. probes conditions exist.
- Sikafloor®-1610 is used in conjunction with Sikafloor®-81 EpoCem^{CA} to form a permanent moisture barrier on green or hardened concrete with excessive rising moisture > 6 % (p.b.w. – part by weight), as determined with Tramex® CM/E meter and or 100 % R.H. (ASTM F2170) in situ R.H. probes.

CHARACTERISTICS / ADVANTAGES

- Ease of application, low viscosity
- Cured resin resists high moisture (100 % R.H.) and high alkalinity (ph 14)
- Low permeability ~ 0.1 perms at 16 mil d.f.t
- Excellent penetration and stabilization of the cementitious substrates
- Accelerates construction schedules by coating new concrete floors earlier
- Low odor and VOC compliance for use in interior, occupied environments
- High bond strength
- Low tensile modulus

ENVIRONMENTAL INFORMATION

- Conformity with LEED®v4 MR Credit (Option 1): Building Product Disclosure and Optimization – Environmental Product Declarations
- Conformity with LEED®v4 EQ Credit: Low-Emitting Materials
- Conformity with LEED®v4 MR Credit (Option 2): Building Product Disclosure and Optimization - Material Ingredients
- Conformity with LEED®v4 MR Credit (Option 2): Building Product Disclosure and Optimization - Sourcing of Raw Materials

APPROVALS / CERTIFICATES

- Meets the requirements of CFIA and USDA for use in food plants

PRODUCT INFORMATION

CSC MasterFormat®	09 67 23 RESINOUS FLOORING
Packaging	18 L (4.7 US gal.) unit
Shelf Life	2 years in original, unopened packaging under proper storage conditions
Storage Conditions	Store dry at temperatures between 5 °C to 32 °C (41 °F to 89 °F) Protect from freezing. If frozen, contact Sika Canada.
Appearance / Colour	Translucent red (mixed)
Viscosity	~900 cps (mixed)
Volatile organic compound (VOC) content	≤ 50 g/L ASTM D2369

TECHNICAL INFORMATION

Shore D Hardness	~82 (ASTM D7234)
Pull-Off Strength	> 2.7 MPa (> 400 psi) 100 % concrete failure (ASTM D7234)
Service Temperature	Minimum ~0 °C (~32 °F) Maximum ~50 °C (~122 °F)
Water Absorption	~0.14 g/h - m ² (ASTM D570)
Permeability to Water Vapour	~0.1 perms at 16 mil d.f.t (ASTM E96)

APPLICATION INFORMATION

Mixing Ratio	A:B 2:1 by volume
Consumption	4 m ² /L to 5 m ² /L (160 ft ² /US gal to 203 ft ² /US gal.) at 8 to 10 mil w.f.t. per coat Note: Actual coverage rates and material consumption will depend upon porosity and profile of substrates. Test sections are recommended to establish correct coverage.
Product Temperature	Condition product at temperatures between 18 °C and 30 °C (65 °F and 86 °F) before using.
Ambient Air Temperature	Minimum: 10 °C (50 °F) Maximum: 30 °C (85 °F) Mixing and application attempted at material, ambient and/or substrate temperature conditions less than 18 °C (65 °F) will result in a decrease in product workability and slower cure rates.
Relative Air Humidity	Maximum 85 % (during application and curing)
Dew Point	Substrate must be at least 3 °C (5 °F) 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.
Substrate Temperature	Minimum 10 °C (50 °F) / Maximum 30 °C (86 °F) Do not apply while ambient and substrate temperatures are rising, as pinholes may occur. Ensure there is no vapour drive at the time of application. Refer to ASTM D4263, may be used for a visual indication of vapour drive.

Substrate Moisture Content

Moisture content of concrete substrate must not exceed 6 % by mass (p.b.w. – part by weight) as measured with a Tramex® CM/E concrete moisture meter on a mechanically-prepared surface (mechanical preparation to ICRI / CSP 3-4). Do not apply to concrete substrate with moisture levels exceeding 6 % mass (p.b.w. – part by weight) as measured with the above mentioned equipment. If moisture content of concrete substrate exceeds 6 % by mass (p.b.w. – part by weight) as measured with Tramex® CM/E concrete moisture meter, use Sikafloor®-81 EpoCem®CA as a temporary moisture barrier top coated with Sikafloor®-1610 beneath the intended Sikafloor®, Sikagard® or Sikalastic® system.

ASTM F2170 internal probe testing is not a substitute for measuring substrate moisture content with a Tramex® CME / CMExpert type concrete moisture meter as described above. When relative humidity tests for concrete substrate are conducted per ASTM F2170 for project specific requirements, values must be ≤ 95 %. If values exceed 95 %, according to ASTM F2170, use Sikafloor®-81 EpoCem®CA as a temporary moisture barrier top coated with Sikafloor®-1610 beneath the intended Sikafloor®, Sikagard® or Sikalastic® system.

Pot Life	Material Temperature	Time
	10 °C (50 °F)	~50 minutes
20 °C (68 °F)	~25 minutes	
30 °C (86 °F)	~15 minutes	

Curing Time	Ambient & Substrate Temperature	Foot Traffic	Light Traffic	Full cure
	10 °C (50 °F)	~24 hours	~6 days	~10 days
20 °C (68 °F)	~12 hours	~4 days	~7 days	
30 °C (86 °F)	~6 hours	~2 days	~5 days	

Curing times will vary according to ambient air and substrate temperatures and relative humidity.

Freshly applied material should be protected from dampness, condensation and water for at least 72 hours.

Mechanical, chemical and physical properties will be fully achieved at full cure.

Waiting Time / Overcoating	Before applying second coat of Sikafloor®-1610 allow:		
	Ambient & Substrate Temperature	Minimum	Maximum
	10 °C (50 °F)	~24 hours	~3 days
	20 °C (68 °F)	~12 hours	~2 days
	30 °C (86 °F)	~8 hours	~1 day

Before applying Sikafloor® Sikagard® or Sikalastic® products onto Sikafloor®-1610 allow:

Waiting Time / Overcoating	Ambient & Substrate Temperature	Minimum	Maximum
		10 °C (50 °F)	~24 hours
	20 °C (68 °F)	~12 hours	~2 days
	30 °C (86 °F)	~8 hours	~1 day

Note: If the Waiting/ Recoat time has passed the previous coat must be lightly sanded, to remove all gloss; vacuum cleaning and solvent wiping will be necessary to remove all traces of dust. The surface should be a uniform dullness, with no gloss present after clean-up and before applying the next coat.

BASIS OF PRODUCT DATA

Product properties are typically averages, obtained under laboratory conditions. Reasonable variations can be expected on-site due to local factors, including environment, preparation, application, curing and test methods.

Properties tested at 23 °C (73 °F) and 50 % R.H. unless stated otherwise.

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 three (3) hours, or more frequently whenever conditions change (e.g., Ambient Temperature rise/fall, Relative Humidity increase/decrease, etc.)
- 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.
- Do not apply to polymer-modified cement mortars (PCC) that may expand when sealed with an impervious resin.
- Sikafloor®-1610 is a moisture vapour reduction system only. It will not prevent floor failure caused by osmotic blistering. Use Sikafloor®-1610 in combination with Sikafloor®-81 EpoCem®^{CA} to prevent osmotic blistering of resin-based coatings over damp concrete.
- Will discolour over time when exposed to sunlight (UV) and under certain artificial lighting conditions. The product is not intended as a finish and must be overcoated.
- Do not broadcast or add aggregates into Sikafloor®-1610, as it will reduce the moisture vapour reduction effect; apply as neat resin coating only.
- This product is not designed for negative side waterproofing.
- Typically, not recommended for exterior slabs on grade where freeze/thaw conditions may exist.
- Do not apply to substrates exposed to extreme thermal shock.
- Direct-fired gas or kerosene heaters produce by-products that can have adverse effects on the curing product. To avoid this occurrence, heaters must be exhausted to the exterior of the building to avoid defects such as amine blush, whitening, loss of adhesion or other surface deficiencies.
- Beware of air flow and changes in air flow. Introduction of dust, debris, and particles, etc. may result in surface imperfections and other defects.

ENVIRONMENT, HEALTH & SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

APPLICATION INSTRUCTIONS

SURFACE PREPARATION

Concrete surfaces must be clean, sound and dry. Remove all dust, dirt, existing paint films, efflorescence, exudates, laitance, form 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 an open textured profile equivalent to ICRI / CSP 3 - 4. 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 of Sikafloor®-1610.

NOTE: All projections, rough spots, etc. should be dressed off to achieve a level surface prior to the application. Repairs to cementitious substrates, filling of blowholes, levelling of irregularities, etc. should be carried out using an appropriate moisture tolerant, structural Sika® profiling mortar. Contact Sika Canada for recommendations.

MIXING

Mix Ratio: Components A:B = 2:1 (by volume)

Do not hand mix Sikafloor® materials; mechanically mix only.

IMPORTANT: Sikafloor®-1610 must be applied as supplied. The product contains a trace dye for quality control purposes so tinting is unnecessary and may result in loss of moisture tolerance. Do not thin this product. Addition of thinners (e.g. water, solvent, etc.) will slow cure and reduce ultimate properties of this product. Use of thinners will void any applicable Sika® warranty.

Pre-stir Components A and B separately, making sure all solids, including trace dye, are evenly distributed and uniform consistencies are achieved within each individual Component. Empty Component B (Hardener) in the correct mix ratio into Component A (Resin) or empty Component A into a suitably sized and clean pail and add Component B in the correct ratio. Blend the combined components thoroughly at low speed (300 - 450 rpm) for at least three (3) minutes using a drill fitted with an *Exomixer*® or *Jiffy* type paddle suited to the dimensions of the mixing container and keep the mixing paddle in the mix to minimize entrapped air. Take care not to introduce any air bubbles while mixing. Make

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sure the contents are completely mixed to avoid any weak or partially cured spots in the coating. During the mixing operation, scrape down the sides and bottom of the container with a flat or straight edge trowel at least once to ensure complete mixing. When completely mixed, Sikafloor® 1610 should be uniform in appearance and consistency. Do not mix more material than can be applied within the working time limits (i.e. Pot Life) at the actual field temperature.

APPLICATION

Concrete with Measured Moisture Content < 5 %

Apply one (1) coat of Sikafloor®-1610 with a squeegee at the rate of 4 m²/L to 5 m²/L (160 ft²/US gal. to 203 ft²/US gal.) at 8 to 10 mil wet film thickness and back roll with pressure after 20 minutes. Coverage will vary depending on the porosity and profile of the prepared substrate. Do not apply by dipping roller into mixing container or a paint tray; instead pour a bead of the mixed material, in the form of a ribbon, onto the surface to be coated and then spread with a squeegee and back roll. Ensure that the prime coat is pore- and pinhole-free and provides uniform and complete coverage over the entire concrete substrate.

Concrete with Measured Moisture Content ≥ 5 % - < 6 %

IMPORTANT: Moisture content of concrete substrate must not exceed 6 % by mass (pbw – part by weight) as measured with a Tramex® CME/CMExpert concrete moisture meter on the mechanically-prepared surface (see Surface Preparation).

Apply two (2) coats of Sikafloor®-1610 with a squeegee at the rate of 4 m²/L to 5 m²/L (160 ft²/US gal. to 203 ft²/US gal.) at 8 to 10 mil wet film thickness per coat, back rolling both with pressure after 20 minutes. The waiting time between coats will depend upon temperatures but the first coat must be tack-free before the second one is applied, which is typically after ~12 hours at 20 °C (68 °F). Do not apply by dipping roller into mixing container or a paint tray; instead pour a bead of the mixed material, in the form of a ribbon, onto the surface to be coated and then spread by squeegee and back roll. Ensure that the second coat is pore- and pinhole-free and provides uniform and complete coverage over the entire concrete substrate.

Concrete with a Measured Moisture Content > 6 %

Apply a minimum 3 mm thick layer of Sikafloor®-81 EpoCem^{®CA} following the application instructions published on the product data sheet. Once cured, apply one (1) or two (2) coats of Sikafloor®-1610 with a squeegee at the rate of 4 m²/L to 5 m²/L (160 ft²/US gal.

to 203 ft²/US gal.) at 8 to 10 mil wet film thickness per coat, back rolling both with pressure after 20 minutes. The waiting time between coats will depend upon temperatures but the first coat must be tack-free before the second is applied, which is typically after ~12 hours at 20 °C (68 °F). Do not apply by dipping roller into mixing container or a paint tray; instead pour a bead of the mixed material, in the form of a ribbon, onto the surface to be coated and then spread with a squeegee and back roll. Ensure that the second coat is pore- and pinhole-free and provides uniform and complete coverage over the entire concrete substrate.

CLEAN UP

Clean all tools and equipment immediately with Sika® Epoxy Cleaner. Once cured, product can only be removed mechanically.

LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for exact product data and uses.

LEGAL NOTES

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 in accordance with Sika's recommendations. 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 information contained herein does not relieve the user of the products from testing them for the intended application and purpose. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request or may be downloaded from our website at: www.sika.ca

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