RESINOUS FLOORING

Sikafloor®-1610
MOISTURE TOLERANT, EPOXY RESIN-BASED PRIMER AND MOISTURE BARRIER FOR Sikafloor®, Sikagard® and Sikalastic® SYSTEMS

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 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 < 90 % 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.

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 mils d.f.t.
- Excellent penetration and stabilization of the cementitious substrates.
- High bond strength.
- Low tensile modulus.
- Meets the requirements of CFIA and USDA for use in food plants.
- Potential contribution for LEED® projects.

Technical Data

<table>
<thead>
<tr>
<th>Packaging</th>
<th>18 L (4.7 US gal.) unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>Translucent Red (after mixing)</td>
</tr>
<tr>
<td>Yield</td>
<td>4 - 5 m²/L (160 - 203 ft²/US gal) at 8 -10 mils w.f.t. per coat</td>
</tr>
</tbody>
</table>

One (1) coat required when the concrete substrate moisture is < 5 % (as measured with Tramex® CME/CMExpert concrete moisture meter).

Two (2) coats required when the concrete substrate moisture is ≥ 5 % to < 6 % (as measured with Tramex® CME/CMExpert concrete moisture meter).

Note: These coverage figures do not allow for substrate porosity, surface profile or wastage.

Shelf Life
2 years in original, unopened packaging under proper storage conditions. Store dry between 4 - 32 °C (40 - 90 °F) and protect from freezing. If frozen, contact Sika Canada. For best results condition product to between 18 - 24 °C (65 - 75 °F) for at least 24 hours before use.

Mix Ratio
A:B (Resin: Hardener) 2:1 by volume

Pot Life

<table>
<thead>
<tr>
<th>Material Temperature</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 °C (50 °F)</td>
<td>~ 50 minutes</td>
</tr>
<tr>
<td>20 °C (68 °F)</td>
<td>~ 25 minutes</td>
</tr>
<tr>
<td>30 °C (86 °F)</td>
<td>~ 15 minutes</td>
</tr>
</tbody>
</table>

Application Temperatures
Minimum 10 °C (50 °F) Maximum 30 °C (86 °F)

Ambient & Substrate
Waiting / Recoat Times
Before applying second coat of Sikafloor®-1610 allow:

<table>
<thead>
<tr>
<th>Ambient &amp; Substrate Temperature</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 °C (50 °F)</td>
<td>~ 24 hours</td>
<td>~ 3 days</td>
</tr>
<tr>
<td>20 °C (68 °F)</td>
<td>~ 12 hours</td>
<td>~ 2 days</td>
</tr>
<tr>
<td>30 °C (86 °F)</td>
<td>~ 8 hours</td>
<td>~ 1 day</td>
</tr>
</tbody>
</table>

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

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</tr>
</tbody>
</table>
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.). Moisture content of concrete substrate must be < 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).

Concrete with Measured Moisture Content < 5 %

Apply one coat of Sikafloor®-1610 with a squeegee at the rate of 4 - 5 m²/L (160 - 203 ft²/US gal) at 8 -10 mils 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.

**How to Use**

**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.

Whenever shot-blasting is utilized, be careful to leave concrete with a uniform texture and not create tracking as this will be visible through coatings and in some cases thin section mortars. Over blasting will also result in reduced coverage rates and increased consumption of the primer. Sweep and vacuum any remaining dirt and dust with a wet/dry vacuum. Removing residual dust will help ensure a tenacious bond between the Sikafloor® primer and substrate.

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)**

For part mixing, i.e. when not mixing full units, each component must be pre-agitated separately to ensure product uniformity.

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 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.

**Note:** Do not try to attend to unmixed material that may gather on the sides of the mixing container while mechanical or electrical parts are in motion.

**Important:** Mixing attempted at material and ambient temperatures below 18 °C (65 °F) will result in a decrease in product workability. Do not mix more material than can be applied within the working time limits (i.e. Pot Life) at the actual field temperature.

**Application**

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.). Moisture content of concrete substrate must be < 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).

Concrete with Measured Moisture Content < 5 %

Apply one coat of Sikafloor®-1610 with a squeegee at the rate of 4 - 5 m²/L (160 - 203 ft²/US gal) at 8 -10 mils 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 %
Apply two (2) coats of Sikafloor®-1610 with a squeegee at the rate of 4 - 5 m²/L (160 - 203 ft²/US gal) at 8 -10 mils 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 with 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® as 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 - 5 m²/L (160 - 203 ft²/US gal.) at 8 -10 mils 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. Wash hands and skin thoroughly with hot soapy water or use Sika® Hand Cleaner towels.

Limitations

- Sikafloor®-1610 is best installed by skilled and experience applicators. Contact Sika Canada for advice and recommendations.
- Minimum/Maximum ambient and substrate temperatures: 10 °C / 30 °C (50 °F / 86 °F).
- 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® as a temporary moisture barrier top coated with Sikafloor®-1610 beneath the intended Sikafloor®, Sikagard® or Sikalastic® system.
- Maximum ambient relative humidity: 85 % during application and curing.
- Beware of condensation! The substrate and uncured floor must be at least 3 °C (5 °F) above the Dew Point at time of application and curing, to reduce the risk of condensation, which may otherwise lead to adhesion failure or “blushing” on the floor resin. It should be noted that the substrate temperature may be lower than the air temperature. Calculate Dew Point from the substrate surface temperature, not the ambient temperature.
- Material temperature: precondition material at temperatures between 18 and 24 °C (65 and 75 °F) for at least 24 hours before use.
- Mixing and application attempted at material, ambient and/or substrate temperature conditions less than 18 °C (65 °C) will result in a decrease in product workability and slower cure rates.
- High temperature and high humidity will reduce pot life and accelerate curing.
- Do not thin 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. Use of thinners will void any applicable Sika® warranty.
- Must be applied as supplied. The product contains a trace dye for quality control purposes so tinting of Sikafloor®-1610 is unnecessary and may result in loss of moisture tolerance.
- 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.
- 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.
- 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® as to prevent osmotic blistering of resin based coatings over damp concrete.
- Freshly applied material should be protected from dampness, condensation and water for at least 72 hours.
- 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.
- This product is not designed for negative side waterproofing.
- Not suitable for exterior, slab-on-grade concrete substrates.
- Use of unvented heaters and certain heat sources may result in defects (e.g. blushing, whitening, debonding, etc.).
- Beware of air flow and changes in air flow. Introduction of dust, debris, and particles, etc. may result in surface imperfections and other defects.
Health and Safety
Information

For information and advice on the safe handling, storage and disposal of chemical products, users should refer to the most recent SAFETY DATA SHEET containing physical, ecological, toxicological and other safety-related data.

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 shelflife. 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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Certified ISO 14001 (CERT-0102791)