



PRODUCT DATA SHEET

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QUARTZ FLOORING

Sikafloor® Quartzite® HDB System

TROWELLED EPOXY UNDERLAYMENT AND DECORATIVE, MULTICOLOURED QUARTZ FINISH

Description Sikafloor® Quartzite® HDB System is a decorative, 5 mm (3/16 in) thick, two layer epoxy floor system. The first layer consists of a 3 mm (1/8 in) thick, trowel-applied heavy-duty epoxy underlayment used to re-profile rough or deteriorated concrete surfaces or to create thin-set slope changes in wet areas in order to provide positive slopes to drains. The second layer is a 2 mm (5/64 in) thick, broadcast and sealed epoxy floor, composed of multicoloured quartz aggregates finished with transparent top coats to produce a seamless and aesthetic finish. Final surface appearance options include: integral cove base, gloss, satin or matte surface sheen and variable surface texture to produce a range of slip-resistant improved traction finishes.

- Where to Use**
- Cafeterias and commercial kitchens.
 - Supermarket food preparation areas.
 - Hospitals and healthcare facilities.
 - Pharmaceutical plants.
 - Laboratories.
 - Educational facilities.
 - Showers and locker rooms.
 - Prisons and correctional facilities.
 - Arenas and stadiums.
 - Offices and government buildings.

- Advantages**
- Heavy duty yet decorative finish.
 - Permanently attractive, multicoloured patterns.
 - Durable, Impermeable and seamless.
 - Superior mechanical and chemical resistance.
 - Does not support growth of bacteria or fungus.
 - Rejuvenates existing or protects new concrete.
 - Resurfaces worn or rough floors to a uniform finish.
 - Can be used to create thin set slopes changes in wet areas.
 - Low odour / low VOC.
 - Variable surface texture to produce a range of slip-resistant improved traction finishes.
 - Glossy superior aesthetic finish.
 - Optional satin or matte surface sheen top coats.
 - Optional integral cove base and curbs.
 - Optional crack bridging, flexible membrane available.
 - Conformity with LEED® v4 MRC 2 (Option 1): Building Product Disclosure and Optimization – Environmental Product Declarations.
 - Meets the requirements of CFIA and USDA for use in food plants.

Technical Data

Packaging	<p>Sikafloor®-156CA 10 L and 30 L (2.6 and 7.9 US gal.) units</p> <p>Sikafloor® Aggregate PT 20 kg (44 lb) bag</p> <p>Sikafloor®-2002 10 L and 30 L (2.6 and 7.9 US gal.) units</p> <p>Sikafloor® Broadcast Quartz Aggregate 22.7 kg (50 lb) bag</p>
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Colour	12 standard colour patterns (see Sikafloor® Quartzite Colour Guide) (custom colour blends available on request)
Yield Primer	Sikafloor®-156^{CA} 4 m ² /L (160 ft ² /US gal.) at 10 mils w.f.t.
Screed Mortar	Sikafloor®-156^{CA} A + B + Sikafloor® Aggregate PT (3.0:1.0 = 4 L) 2 x 20 kg Sikafloor® Aggregate PT Yield = 5.5 m ² at 3 mm thick (60 ft ² at 1/8")
1st Broadcast	Sikafloor®-156^{CA} 2.6 m ² /L (106 ft ² /US gal.) at 15 mils w.f.t. Sikafloor® Broadcast Quartz Aggregate 3 kg/m ² (60 lb/100 ft ²)
2nd Broadcast	Sikafloor®-156^{CA} 2.0 m ² /L (80 ft ² /US gal.) (20 mils w.f.t.) Sikafloor® Broadcast Quartz Aggregate 4 kg/m ² (80 lb/100 ft ²)
Top Coat	Sikafloor®-2002 2 - 4 m ² /L (80 - 160 ft ² /US gal.) at 10 - 20 mils w.f.t.
NOTE:	Yield and coverage figures provided above do not allow for surface profile, porosity or wastage.
Shelf Life	2 years for resins in original unopened packaging. Store dry between 5 and 32 °C (41 and 89 °F). Condition product between 18 and 30 °C (65 and 86 °F) before using.
Service Temperature (min. / max.)	0 °C / 50 °C (32 °F / 122 °F)
Cure Time at 23 °C	
Foot Traffic	~ 12 hours
Light Traffic	~ 3 days
Normal Traffic	~ 7 days
Chemical Exposure	~ 7 days
Properties at 23 °C (73 °F) and 50 % R.H.	
Shore D Hardness ASTM D2240	
7 days	~ 85
Pull-off Strength ASTM D7234	> 2,7 MPa (> 400 psi) (100% concrete failure)
Tensile Strength ASTM D638	~ 6 MPa (870 psi)
Compressive Strength ASTM C579	~ 91 MPa (13 198 psi)
Flexural Strength ASTM C580	~ 28 MPa (4061 psi)
Flammability ASTM D635	Self-extinguish
Water Absorption ASTM D570	
2 hr boil	< 0,36 %
VOC Content	< 25 g/L
Chemical Resistance	Consult Sika Canada
<i>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.</i>	

HOW TO USE

Surface Preparation	All concrete surfaces must be clean and sound. Remove any dust, laitance, grease, oil, dirt, curing agents, impregnations, wax, foreign matters, existing coatings and deleterious material, from the surface by any appropriate mechanical means, in order to achieve a profile equivalent to ICRI-CSP 3-9. The compressive strength of the concrete substrate should be at least 25 MPa (3625 psi) at 28 days and at least 1.5 MPa (218 psi) in tension at the time of application of Sikafloor® 156 ^{CA} primer.
Mixing	<p>Prime Coat - Screed Mortar Resin- Broadcast Binder and Top Coat</p> <p>Pre-stir each component separately. Into a clean and suitably sized mixing vessel, measure and empty Component B in the correct mix ratio to Component A (see individual Product Data Sheets for specific product mix ratio information). Mix the combined components for at least three (3) minutes, using a low-speed drill (300 - 450 rpm) to minimize entrapping air. Use an <i>Exomixer</i>® type mixing paddle (recommended model) suited to the size of the mixing container. 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. The combined Sikafloor® liquids should be uniform in colour and consistency. Mix only that quantity which can be used within its pot life.</p> <p>Screed Mortar</p> <p>Transfer the mixed Sikafloor®-156^{CA} binder (Components A+B) into a suitable Kol-type mixer; incorporating a motor spun mixing pail and a shear angle mixing blade. Gradually add Sikafloor® Aggregate PT (Component C) to the binder to avoid excessive air entrapment. Once all ingredients are combined, mix continuously and thoroughly for three (3) minutes to ensure complete mixing. 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 blending of all components. Mix only that quantity which can be used within its pot life.</p>
Application	Prime Coat: Apply the Sikafloor®-156 ^{CA} primer using a squeegee and backroll to achieve uniform coverage. Note: Mortar must be placed onto wet primer, if the primer becomes tack-free, re-prime the substrate. Porous or extremely absorbent concrete may require additional primer.

Application continued...

Screed Mortar: Maintain all control joints and expansion joints through the screed where movement is expected. Place Sikafloor®-156^{CA} screed mortar onto the wet Sikafloor® 156^{CA} primer and spread to an appropriate thickness using a large wood float, rake or screed box. Allow loose mortar to stand for a few minutes to permit entrapped air to escape. Using a float or stainless steel finishing trowel, uniformly compact and smooth the surface. Screed around drains, at elevation changes or terminations must be folded into squared and keyed recesses to maintain a minimum 3 mm (1/8 in) thickness.
Note: Do not feather edge.

1st Broadcast: When the screed mortar has cured sufficiently to allow foot traffic, lightly abrade the surface to remove surface imperfections, then vacuum the area to remove all traces of dust and loose particles. Apply a neat broadcast binder coat of Sikafloor®-156^{CA} by squeegee and backroll immediately with a roller to provide a uniform surface. Broadcast pre-blended Sikafloor® Broadcast Quartz Aggregate into the wet Sikafloor®-156^{CA} binder, to “saturation”. Broadcast in a manner so that the aggregate falls vertically into the binder. Allow the 1st broadcast layer to cure sufficiently to be able to resist foot traffic, without damaging the surface, before proceeding with the second broadcast application.

2nd Broadcast: Remove excess aggregates from the 1st broadcast layer by sweeping up, followed by vacuuming until the surface is free of all loose particles and dust. **Note:** When necessary, lightly abrade the surface to remove imperfections after sweeping up aggregate and before final vacuuming. Apply a neat broadcast binder coat of Sikafloor®-156^{CA} using a squeegee and backroll immediately with a roller to provide a uniform surface. Broadcast pre-blended Sikafloor® Broadcast Quartz Aggregate into the wet binder to “rejection”. Broadcast in a manner so that aggregate falls vertically into the binder. Allow the 2nd broadcast layer to cure sufficiently to be able to resist foot traffic, without damaging the surface, before proceeding with the top coat.

Top Coat: Remove excess aggregates from the 2nd broadcast layer by sweeping up, followed by vacuuming until the surface is free of all loose particles and dust. **Note:** When necessary, lightly abrade the surface to remove imperfections after sweeping up aggregate and before final vacuuming. Apply Sikafloor®-2002 top coat using a non-marking squeegee or flexible steel trowel, followed by backrolling to provide a uniform texture and gloss finish.

Note: The final surface texture and glossy appearance of the finished floor is highly dependant upon the specific application rate of the Sikafloor®-2002 top coat. Application at 10 mils will produce a medium texture with good gloss; application at 20 mils will produce a fine texture with a high gloss appearance.

Optional Top Coats: can be applied to change the surface sheen and improve long term UV resistance to colour change; Sikafloor®-317 UV will produce a matte appearance, Sikafloor®-318 UV will produce a satin finish. Sika Canada strongly recommends that a test area be applied to confirm specific top coat selection and application rates required to produce the desired final appearance.

Clean Up

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

Limitations

- Sikafloor® Quartzite® HDB System is best installed by experienced applicators. Consult Sika Canada for advice and recommendations.
- 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 ≤ 4 % by mass (pbw – part by weight) as measured with a Tramex®CME/ CMExpert type concrete moisture meter on mechanically prepared surface according to this product data sheet (preparation to ICRI / CSP 3 - 9). Do not apply to concrete substrate with moisture levels exceeding 4 % mass (pbw– part by weight) as measured with Tramex® CME / CMExpert type concrete moisture meter. If moisture content of concrete substrate exceeds 4 % by mass (pbw – part by weight) as measured with Tramex® CME /CMExpert type concrete moisture meter, use Sikafloor®-1610 or Sikafloor®-81 EpoCem®CA.
- ASTM F2170 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 ≤ 85 %. If values exceed 85 % according to ASTM F2170, use Sikafloor®-1610 or Sikafloor®-81 EpoCem®CA.
- Material temperature: Precondition material for at least 24 hours between 18 to 24 °C (65 to 75 °F)
- Ambient and substrate temperature - Minimum / Maximum: 10 / 30 °C (50 / 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.
- Maximum ambient relative humidity: 85 % (during application and curing).
- Beware of condensation! The 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.
- Do not hand mix Sikafloor® materials. Mechanically mix only.



Limitations continued...

- 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.
- Freshly applied material should be protected from dampness, condensation and water for at least 24 hours.
- Will discolour over time when exposed to sunlight (UV) and under certain artificial lighting conditions.
- 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.
- Any aggregate used with Sikafloor® systems must be non-reactive and oven-dried.
- 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. 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.

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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