BUILDING TRUST
CONSTRUIRE LA CONFIANCE

PRODUCT DATA SHEET

Sikafloor® Terrazzo

THIN-SET, PIGMENTED EPOXY TERRAZZO MATRIX RESIN / 6 MM TO 9 MM (1/4 IN TO 3/8 IN)

PRODUCT DESCRIPTION

Sikafloor® Terrazzo is a two-component, solid colour, low VOC, low odour, self-priming, thin-set epoxy resin binder available in an unlimited colour selection. Vibrant epoxy matrix colours can be combined in varying percentages with fine and or coarse mineral aggregates (marble or granite), coloured or recycled glass, mirror particles, plastic chips and non-corrosive metal fragments to produce limitless custom design options. Sikafloor® Terrazzo is an extremely durable seamless finish that has excellent resistance to abrasion and common chemicals. The finished surface can be top-coated with Sikafloor® Duochem-305, a one-part visually enhancing acrylic glaze coat/sealer, or Sikafloor® Duochem-942 or Sikafloor®-315 N two-part polyurethane coatings for improved chemical resistance.

WHERE TO USE

Sikafloor® Terrazzo may only be used by experienced professionals.

Sikafloor® Terrazzo is the ideal choice to provide extreme durability and easy of maintenance in heavy traffic commercial and institutional areas such as:

- Hospitals and healthcare facilities
- Pharmaceutical production and research centres
- Educational facilities
- Offices and government buildings
- Shopping centres and grocery stores
- Airport terminals and train stations
- Convention centres
- Arenas and stadiums
- Casinos and hotels

CHARACTERISTICS / ADVANTAGES

- Meets the Terrazzo, Tile and Marble Association of Canada (TTMAC) and the National Terrazzo and Mosaic Association (NTMA) standards for epoxy terrazzo.
- Unmatched design versatility with custom capabilities.
- Thin set for easy jointing with adjacent floor finishes.
- Lightweight to reduce loading on floors.
- Seamless, waterproof and easy to clean and maintain.
- Exceptional abrasion resistance and durability.
- Unlimited colours, no minimum required.
- Very low life cycle costs compared to other floor finishes.

ENVIRONMENTAL INFORMATION

- Potential of contribution towards LEED®v4 credits. Contact Sika Canada.

APPROVALS / CERTIFICATES

- Meets CFIA and USDA requirements for use in food plants.

PRODUCT INFORMATION

CSC MasterFormat®	**09 66 23,16 | EPOXY-RESIN TERRAZZO FLOORING**
Packaging	20.15 L (5.3 US gal.) unit
Appearance / Colour	White /custom colours available on request. Refer to current price list for availability.
Shelf Life	1 year when stored in original, unopened containers.
Storage Conditions	Store dry at temperatures between 5 °C to 32 °C (41 °F to 89 °F).
Volatile organic compound (VOC) content	< 50 g/L

TECHNICAL INFORMATION

Shore D Hardness	~84	(ASTM D2240)
Abrasion Resistance	~0.19 g loss CS-17/1000 cycles/1000 g (2.2 lb.)	(ASTM DS4060)
Compressive Strength	> 68.94 MPa (> 10 000 psi)	(ASTM C579)
Tensile Strength in Flexure	~10,375 Mpa (~1,504,767 psi)	(ASTM C580)
Tensile Strength	~31.2 Mpa (~4530 psi)	(ASTM-D638)
Pull-Off Strength	> 2.5 MPa (> 363 psi) concrete failure	(ASTM D7234)
Indentation	< 1 %	(Mil D31134)
Thermal Compatibility	Pass	(ASTM C884)
	Coefficient of Thermal Expansion ~2 x $10e^{-5}$ mm/mm/°C (~11.1 X $10e^{-6}$ in/in/°F)	(ASTM D696)
Chemical Resistance	Consult Sika Canada	
Water Absorption	~0.037 %	(ASTM C413)

APPLICATION INFORMATION

Mixing Ratio	**Epoxy Terrazzo Matrix (Only):** A:B = 3:1 (by volume)
Consumption	~0.3 m^2/L (~12 ft^2/US gal.) at 6 mm (1/4 in), when filled as recommended ~0.2 m^2/L (~8 ft^2/US gal.) at 9 mm (3/8 in) thick, when filled as recommended **NOTE:** Due to the wide variety of aggregate chips used to create an unlimited design pallet, it is impractical to produce a single specific mix design that will meet the needs of all parties involved. The Sikafloor® Terrazzo mix design provided on this data sheet is a starting point that requires further refinement. It is the responsibility of the terrazzo applicator to conduct additional project specific mix design mock-ups, to finalize adjustments to the mix to achieve an acceptable final appearance, establish production rates, predict pinhole frequency and finalize aggregate and epoxy consumption.
Product Temperature	Condition product between 18 °C to 26 °C (65 °F to 80°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 workabitity 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 (85 °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 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 - 4). 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 or Sikafloor® 22NA or 24NA PurCem®. 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 or Sikafloor® 22NA or 24NA PurCem®. ASTM F2170 testing is not a substitute for measuring substrate moisture content with a Tramex® CME / CMExpert type concrete moisture meter as described above.
Pot Life	~50 minutes at 23 °C (73 °F) (matrix only, unfilled) 250 g (8.8 oz.)
Curing Time	~18 hours to ~24 hours at 23 °C (73 °F) (prior to inital grinding) ~7 days at 23 °C (73 °F) (full cure) Curing times will vary according to air and substrate temperature and relative humidity. Protect from dampness, condensation and water contact during the initial 72 hour cure period. Mechanical, chemical and physical properties will be fully achieved at full cure.

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

- Sikafloor® Terrazzo is best installed by skilled and 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.)

- 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.
- Do not apply to polymer modified cement mortars (PCC) that may expand when sealed with an impervious resin.
- This product is not designed for negative side waterproofing.
- Do not apply to cracked or unsound substrates.
- Do not use on exterior, on-grade substrates; for interior use only.
- Do not apply to surfaces where moisture vapour can condense and freeze.
- Will discolour over time when exposed to sunlight (UV) and under certain artificial lighting conditions.
- Do not apply to substrates exposed to extreme thermal shock.
- Direct-fired gas or kerosene heaters produce byproducts that can have adverse effects on the curing resin. To avoid this occurrence, heaters must be exhausted to 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

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Safety Data Sheet (SDS) containing physical, ecological, toxicological and other safety-related data.

APPLICATION INSTRUCTIONS

SURFACE PREPARATION

Concrete: The concrete surface must be dry, clean and sound. Remove any dust, laitance, oil, dirt, curing agent, impregnations, wax, foreign matter, coatings and disintegrated material from the surface by any appropriate mechanical means, in order to achieve a profile equivalent to ICRI / CSP 3 - 6. The compressive strength of the 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® Terrazzo.

Metal: Prepare steel substrates by appropriate mechanical means, such as abrasive blast-cleaning or mechanical wire brushing, in order to achieve clean, dry white metal profile equivalent to SSPC-SP10, Near White Metal, 2 to 4 mil anchor profile and apply materials immediately, before oxidation of the steel occurs.

Plywood: The plywood surface must be clean and sound. Remove any dust, friable wood, grease, oil, dirt, impregnations, wax, foreign matter, coatings and deleterious material from the surface by appropriate means. Plywood sub-floors should consists of at least two (2) layers of well secured or bonded, exterior grade plywood, a minimum of 32 mm (1.25 in) in thickness and meet, as a minimum, the deflection parameters of L/360 (live and dead loads taken into consideration).

MIXING

Mixing Ratio - A:B = 3:1 by volume (epoxy matrix only)
Do not hand mix Sikafloor® materials. Mechanically mix only.
On no account should this product be thinned. Addition of thinners (eg solvent or water) will retard the cure, reduce the ultimate properties of this product and void any applicable Sika warranty.
Pre-stir thoroughly each component to ensure that any soft settled material is mixed back into suspension and all solids and pigments are evenly distributed. Uniform colour and consistency must be achieved within each component.
Where supply format permits, empty Component B into Component A. Alternatively and in the correct ratio of 3:1 by volume Component A: Component B, empty material into a suitably sized and clean mixing vessel and thoroughly mix using a low-speed drill (300 - 450 rpm) and Exomixer®-type mixing-paddle (recommended model). To minimize entrapping air, ensure mixing paddle is kept immersed in the material during mixing. To the 20.15 L (5.3 US gal.) mixed unit, slowly add marble dust filler and selected aggregate chips. During the mixing operation, scrape down the sides and bottom of the pail with a flat or straight-edge trowel at least once to ensure thorough mixing. When completely mixed Sikafloor® Terrazzo should be uniform in colour, aggregate chips should be thoroughly wetted out and the consistency should be homogeneous before use. Mix only that quanitity which can be used within its pot life at actual field temperature.

MIX DESIGN

Sikafloor® Terrazzo epoxy matrix can be combined with a wide range of fine and coarse mineral aggregate chips (marble or granite), coloured or recycled glass, mirror particles, plastic and non-corrosive metal fragments. The inherent characteristics of the selected aggregate chips; weight / density, resin absorption, size, shape, colour and amount of uncontrolled dust in these aggregates can all significantly affect the application properties, coverage rate achieved and final appearance.

The applicator's preferred installation technique (slurry and broadcast or traditional screed and trowel) methodology will determine an individual contractor's preference for thixotropy. The addition rate of marble dust is variable as it absorbs resin, thickening the matrix, allowing the applicator to make adjustments to meet their specific application technique or site environmental conditions. Due to the wide variety of aggregate chips used to create an unlimited design pallet, it is impractical to produce a single specific mix design that will meet the needs of all parties involved.

IMPORTANT: The Sikafloor® Terrazzo mix design provided below is a starting point that requires further refinement. It is the responsibility of the terrazzo applicator to conduct additional project specific mix design mock-ups, to finalize adjustments to the mix to achieve an acceptable final appearance, establish production rates, predict pinhole frequency and finalize aggregate and epoxy consumption.

Sikafloor® Terrazzo Mix Design:

- Sikafloor Terrazzo Matrix (A+B) 20.15 L (5.3 US gal.)
- Marble Dust 2.5 kgs to 12 kgs (5.5 lb to 26.4 lbs)
- Marble Chips Blended (#0 & #1) 60kg to 72 kgs (132 lb to 159 lb)

Alternative aggregate chips types, i.e. glass, plastic and non-corrosive metal can be incorporated into the mix design, consult Sika Canada for advice.

APPLICATION

As Sikafloor® Terrazzo is formulated to be resin rich, priming of substrates is not usually necessary 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.
Pour Sikafloor® Terrazzo onto the floor, immediately spread and compact the mortar to the desired thickness using a 75 mm (3 in) wide steel trowel. Take care to spread newly mixed materials across the transition of previous applied mixes before the surface begins to set.

Allow the applied terrazzo to cure for 18 hours at 23 °C (73 °F) before initiating the grinding operation.
Once sufficiently set and grinding operations are complete, Sikafloor® Terrazzo can be sealed with Sikafloor® Duochem-305 for aesthetic improvement or Sikafloor® Duochem-942 or Sikafloor®-315 N two-part polyurethane coatings for improved chemical resistance (refer to separate Product Data Sheet).

CLEAN UP

Clean all tools and equipment with Sika® Epoxy Cleaner. One 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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