



PRODUCT DATA SHEET

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FLUID-APPLIED FLOORING

Sikafloor® Metallic FX

DECORATIVE METALLIC EFFECT SMOOTH FLOOR SYSTEM

Description	Sikafloor® Metallic FX is a decorative self-smoothing flooring system based on Sikafloor®-2002, a two-part, low odour and low viscosity, transparent, epoxy resin, blended with Sika® Metallic Powders which are special effect pigments composed of mica nano-particles coated with various organic and inorganic pigments to create pearlescent and iridescent effects. Sikafloor® Metallic FX floors can also be created using other Sikafloor® transparent flooring products used in conjunction with Sika® Metallic Powder. Sikafloor®-217 transparent epoxy would replace Sikafloor®-2002 to provide increased UV resistance. Sikafloor®-510 and -510 N LPL transparent polyaspartic resins would replace Sikafloor®-2002 to provide superior UV resistance, increased chemical resistance and rapid cure.
Where to Use	Sikafloor® Metallic FX is designed as a decorative system for use in environments such as: <ul style="list-style-type: none"> ▪ Life science, pharmaceutical industries and health care industry. ▪ Education (e.g. schools and universities). ▪ Leisure & culture (e.g. museums, stadiums, galleries). ▪ Retail (e.g. shopping malls, department stores). ▪ Corridors, garage floors, banks, restaurants, kitchens, hotels, etc.
Advantages	<ul style="list-style-type: none"> ▪ High aesthetic qualities, customized designs, wide range of colours. ▪ Low maintenance. ▪ Low VOC-content with natural odour. ▪ Smooth, matte or gloss finish, as well slip resistant surface possible. ▪ Durable, impermeable and seamless. ▪ High abrasion resistance. ▪ Stylish and unique designs with multi-dimensional colour hues.

Technical Data	
Packaging	Sikafloor®-2002: 10 L and 30 L (2.64 and 7.92 US gal.) units Sika® Metallic Powder: 355 mL (12 oz) jar
Colour	Please refer to the Sika® Metallic Powder colour chart.
Yield	Primer Coat: Sikafloor-261^{CA}: applied at 4 - 5 m ² /L (160 - 200 ft ² US gal.) (8 - 10 mils w.f.t.) Metallic Coat: Sikafloor®-2002: Applied at 1.6 - 2.6 m ² /L (65 - 105 ft ² /US gal.) (15 - 25 mils w.f.t.) Sika® Metallic Powder: Addition rate 16 - 47 mL per mixed litre (2 - 6 oz per mixed US gal.) by volume. <i>Note: Variation of the metallic powder addition rate has a significant influence on final colour intensity. Test areas are recommended to establish the correct addition rate to achieve an acceptable final appearance.</i>
Shelf Life	2 years 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.
Mix Ratio	Sikafloor®-2002: A:B = 2:1 + Sika® Metallic Powder (see Yield section for addition rate)
Properties at 23 °C (73 °F) and 50 % R.H.	
Viscosity	~ 800 cps (mixed)
Pot Life, 250g (8.8 oz.)	30 - 40 min
Drying Times	
Recoat	minimum 8 hours / maximum 48 hours
Foot Traffic	24 hours
Full cure	7 days
Shore D (7 days) ASTM D2240	~ 85
Elongation ASTM D638	~ 4 %
Tensile Strength ASTM D638	~ 28 MPa (4061 psi)
Compressive Strength ASTM C579	~ 70 MPa (10 152 psi)
Modulus of Elasticity ASTM C580	~1287 MPa (186 663 psi)
Water Absorption ASTM D570	< 0.36 % (2 h boil)
VOC Content	< 50 g/L
Chemical Resistance	Contact 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

Surface must be clean, sound and dry. Remove dust, laitance, grease, curing compounds, any bond inhibiting impregnations, waxes or any other contaminants. All projections, rough spots, etc. should be dressed off to achieve a level surface prior to the application.

Concrete - Should be cleaned and prepared to achieve a laitance and contaminant-free, open textured surface by shot blasting or equivalent mechanical means (ICRI / CSP 3 - 4). Sweep and vacuum any remaining dirt and dust with a wet/dry vacuum. Removing residual dust will help ensure a tenacious bond between the primer/coating and the substrate. Whenever "shot-blasting" is utilized, be careful to leave concrete with a uniform texture. "Over-blasting" will result in reduced coverage rates of the primer and/or subsequent topcoats. The "shot blast" pattern may show through the last coat, known as "tracking". The compressive strength of the concrete substrate should be at least 24 MPa (3,500 psi) at 28 days and at least 1.5 MPa (215 psi) in tension at the time of application. For other substrates, contact Sika Canada.

Priming

Prime prepared substrate with Sikafloor®-261^{CA} in a solid colour selected to compliment the translucent Sikafloor® Metallic FX pigment colour. The opaque solid colour of Sikafloor-261^{CA} primer will influence the overall appearance. Example: a white or light primer background colour will create a lighter final appearance; conversely a black or dark primer background colour will darken the metallic appearance. Ensure that the primer is pore- and pinhole-free and provides uniform and complete coverage over the entire substrate. Allow the primer to cure (varies with temperature and humidity) until tack-free before applying subsequent layer of Sikafloor® Metallic FX mix.

Mixing

Mixing Ratio: Sikafloor®-2002 – A:B = 2:1 by volume. For bulk packaging, when not mixing full units, each component must be pre-mixed separately to ensure product uniformity.

Premix each component separately. Empty Component B (Hardener) in the correct mix ratio into Component A (Resin). Mix the combined components for at least one (1) minute; add Sikafloor® Metallic Powder and mix for two (2) additional minutes. The recommended dosage of metallic powder is 16 - 47 mL per 1 mixed litre (2 - 6 oz. per 1 mixed US gal.) of resin by volume. Use a low speed drill (300 - 450 rpm) fitted with an *Exomixer*® or *Jiffy* type paddle suited to the volume of the mixing container to minimize entrapped air. Be careful 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.

Do not mix more material than can be applied within the working time limits (i.e. pot life) at the actual field temperature.

Application

Pour a bead of product or 2 - 3 products (multicoloured option) onto the surface to be coated in an irregular pattern, then spread with a notched squeegee or pin rake to the recommended application rate of 80 - 100 ft²/US gal., at 16 mils - 20 mils (0.41 mm - 0.51 mm) thickness. Roll immediately (within max. 10 minutes of application) with a 9 mm (3/8") nap roller to ensure even thickness. Do not over roll product with multicoloured systems as the colours will mix together and change the look or colour of system.

Once the coating evenly covers the substrate it is time to freely swirl the roller in a random figure-eight motion to mimic the look of natural stone or rock formations. At this point, denatured alcohol may also be spritzed randomly over the epoxy coated surface to create other unique metallic effects.

To obtain a more irregular appearance roll in two diagonal directions at a 90 degree angle by passing only once in each direction. Let product then start to settle and the effect will take place during curing process. The floor will NOT look the same as it appears after rolling. The product will change and blend colours together for the next few hours.

An optional urethane finish (Sikafloor®-315 N or Sikafloor®-317 UV) is available for a less glossy, higher abrasion and UV resistant surface. It is required to screen and clean the floor before applying additional sealer coats.

Clean Up

Clean all tools and equipment immediately with Sika® Epoxy Cleaner. Once cured, product can only be removed mechanically. Dispose of product in accordance with current applicable local, provincial and federal regulations.

Limitations

- Sikafloor® Metallic FX 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 (1) every three (3) hours, or more frequently whenever conditions change (e.g. Ambient Temperature rise/fall, Relative Humidity increase/decrease, etc.).
- 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}.
- 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}.
- ASTM F2170 testing is not a substitute for measuring substrate moisture content with a Tramex® CME/CMExpert type concrete moisture meter as described above.
- **Material Temperature:** Precondition material for at least 24 hours at temperatures between 18 and 30 °C (65 and 86 °F).
- **Ambient Temperature:** Minimum/Maximum 10 °C / 30 °C (50 °F / 86 °F).
- **Substrate Temperature:** Minimum/Maximum 10 °C / 30°C (50 °F / 86 °F). Substrate temperature must be at least 3 °C (5 °F) above measured Dew Point.

- 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 Ambient Humidity:** Maximum ambient humidity 85 % (during application and curing).
- **Dew Point: 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.
- 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 each component thoroughly and do not allow mixed material to stand and settle. Failure to pre-stir and keep product agitated will result in variation in gloss levels appearance and performance.
- Apply the coating to a properly prepared substrate which should be pore- and pinhole-free. If necessary, apply an additional coat of a suitable material to ensure the substrate is pore- and pinhole-free and provides uniform and complete coverage over the entire substrate.
- 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 72 hours.
- 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.
- This product is not designed for negative side waterproofing.
- Typically not recommended for exterior slabs on grade where freeze/thaw conditions may exist.
- Not suitable for exterior direct sunlight exposure; use for interior walls and floors only.
- Direct-fired gas or kerosene heaters produce by-products that can have adverse effects on the curing primer. 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
- Mechanical, chemical & physical properties will be fully achieved at full cure.
- 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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