BUILDING TRUST
CONSTRUIRE LA CONFIANCE

PRODUCT DATA SHEET

Sikafloor® Duochem-942

HIGH-GLOSS, ABRASION AND UV RESISTANT, SMOOTH URETHANE COATING FOR FLOORS AND WALLS, CLEAR OR PIGMENTED

PRODUCT DESCRIPTION

Sikafloor® Duochem-942 is a two-component, clear or pigmented, smooth aliphatic urethane coating specifically formulated to provide abrasion and UV-resistance to floors and walls. Sikafloor® Duochem-942 Clear is available in three gloss levels: matte, satin and gloss. Sikafloor® Duochem-942 Pigmented is available in gloss only.

WHERE TO USE

Sikafloor® Duochem-942 may only be used by experienced professionals.

- Sikafloor® Duochem-942 is suitable for a wide range of applications requiring outstanding protective properties, including resistance to abrasion and corrosive environments.
- For applications where a high-gloss finish, exhibiting excellent clarity or colour retention is needed.
- As an abrasion resistant and high gloss, easy to clean wall coating (consult Sika Canada for guidance).
- As a decorative, thin-film sealer on concrete, steel, hard wood and existing epoxy floor surfaces to improve gloss and colour retention and long-term wear resistance.

CHARACTERISTICS / ADVANTAGES

- Excellent hiding properties in pigmented version
- Gloss retention in clear and coloured versions
- Ultra violet light-resistant, non-yellowing
- High resistance to abrasion and wear
- Good chemical-resistance, especially within corrosive environments
- Forms hard yet flexible film
- Provides improved impact-resistance
- Convenient 2 : 1 mixing ratio
- Enhanced stain-resistance
- Easy to clean and maintain

APPROVALS / CERTIFICATES

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

PRODUCT INFORMATION

CSC MasterFormat®	**09 67 00 | FLUID-APPLIED FLOORING**
Packaging	11.34 L (3 US gal.) units
Shelf Life	Gloss 1 year in original, unopened packaging Satin & Matte 6 months in original, unopened packaging.

Storage Conditions	Store and transport dry at 5 °C to 32 °C (41 °F to 89 °F). Condition product between 18 °C to 30 °C (65 °F to 86 °F) before using.	
Appearance / Colour	Clear (gloss, matte or satin), Special colours on request (gloss only).	
Solid content by volume	Clear	~60 %
	Pigmented	~65 % (dependent upon colour)
Volatile organic compound (VOC) content	< 240 g/L	

TECHNICAL INFORMATION

Abrasion Resistance	~82 mg loss	(ASTM D4060) Taber Abraser CS-17 Wheel/ 1000 g (2.2 lb)/1000 cycles
Tensile Strength	~37.2 MPa (~5400 psi)	(ASTM D638) Type IV
Elongation at Break	~6.2 %	(ASTM D638) Type IV
Pull-Off Strength	> 2.7 MPa (> 400 psi) (concrete failure)	(ASTM D7234) (concrete epoxy sealed)
Coefficient of Friction	~0.23 Wet (smooth high gloss) ~0.97 Dry (smooth high gloss) ~0.47 Wet (optional Sikafloor® 4 Texture - ceramic spherical wear aggregate)	ANSI A326.3 BOT 3000e
Permeability to Water Vapour	~0.48 g/h/m²	(ASTM E96) Water procedure B / Film 0.01 cm (0.004”)
	Permeance: ~1 perm	(ASTM E96) Water procedure B
Chemical Resistance	Contact Sika Canada	

APPLICATION INFORMATION

Mixing Ratio	A : B = 2 : 1 by volume
Consumption	**Primer:** Sikafloor® 2002 (clear coating) or Sikafloor® 261 (pigmented coating) applied at a rate of 4 m²/L (165 ft²/US gal.) at 10 mil d.f.t. per coat. **Finish Coat:** Sikafloor® Duochem-942 applied at a rate of 9.5 m²/L to 10 m²/L (385 ft²/US gal. to 405 ft²/US gal.) at 4 mil w.f.t. / 2.3 mil d.f.t. per coat. Two (2) coats are recommended. **Thinning Solvent:** Sika Urethane Thinner and Cleaner: maximum 10 % by volume (if required). 100 mL/L (12.8 oz / US gal.) contact Sika Technical Services for additional information. Actual coverage rates and material consumption will depend upon porosity and profile of substrates. Allowance must be also made for variation in film thickness or number of coats required to achieve opacity with light (ie white) or bright colours (i.e. reds and yellows) and dark substrates. Test sections are recommended to establish correct coverage.
Product Temperature	Condition product between 18 °C to 30 °C (65 °F to 86 °F) before using.
Ambient Air Temperature	Minimum 16 °C (61 °F) Maximum 30 °C (85 °F)
Relative Air Humidity	Minimum 30 % / Maximum 75 % (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 16 °C (61 °F) Maximum 30 °C (85 °F) Mixing and Application attempted at Material, Ambient and/or Substrate Temperature conditions lower than 18 °C (65 °F) will result in a decrease in product workability and slower cure rates. Do not apply while ambient and substrate temperatures are rising, as pinholes may occur. Ensure there is no vapor drive at the time of application. Refer to ASTM D4263 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 CSP-3 to CSP-4 as per ICRI guidelines). Do not apply to concrete substrate with moisture levels > 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®, 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®, 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	~2 hours at 21 °C (70 °F)
Curing Time	Tack-free ~2 hours Foot traffic ~24 hours Full cure ~5 days to ~7 days Freshly applied material should be protected from dampness, condensation and water for at least 72 hours. Curing times will vary according to anbient air, substrate temperature and relative air humidity.
Waiting Time / Overcoating	Recoat time ~8 hours to ~24 hours 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 (1) every three (3) hours, or more frequently whenever conditions change (e.g. Ambient Temperature rise/fall, Relative Humidity increase/decrease, etc.)

- Apply the coating to the properly prepared substrate which should be pore-free and pinhole-free. If necessary, apply an additional coat of a suitable material to ensure the substrate is pore-free and pinhole-free and provides uniform and complete coverage over the entire substrate.
- Do not apply Sikafloor®products 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.
- 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 the exteriour 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.
- Product is sensitive to moisture during storage and application. Once component B is opened, it must be used immediately.
- Not recommended for use on surfaces which will be immersed once in service.
- May be incompatible with certain epoxy coatings, contact Sika Canada for guidance before specifying or application.
- Published Dynamic Coefficient of Friction (DCOF) wet and dry test results are approximate values based on laboratory test samples produced in a controlled environment following the application instructions published on the product data sheet. Resin flooring products are hand applied finishes subject to minor variations in surface texture due to influences partly beyond Sika Canada's control. Substrate profile, environmental conditions, variable regional aggregate size, shape and gradation, aggregate distribution, uniformity of applied resin mil thickness, and application technique can all affect the final DCOF test results achieved. Adequate provision should be made by the client throughout the selection and installation process to ensure the finished surface texture meets the end user's traction requirements.

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

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 - 4 for floors or ICRI / CSP 2 - 3 for walls. 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 the Sikafloor® 2002 (clear coating) or Sikafloor® 261 (pigmented coating) primer or epoxy flooring.
NOTE: Epoxy or polyurethane coatings that have exceeded their overcoating time must be sanded and vacuumed, then wiped with a solvent-moistened rag to remove all traces of dust prior to Sikafloor® Duochem-942 application

MIXING

Mixing Ratio (A:B) = 2:1 by volume.
Do not hand mix Sikafloor® materials. Mechanical mixing only. Pre-stir each component to ensure all solids are evenly distributed and even colours and consistencies are achieved within each component.Where supply format permits, empty Component B into A or, in the ratio of 2 : 1 by volume Component A: Component B, empty material into a suitably sized and clean mixing vessel and thoroughly mix for three (3) minutes using a low-speed drill (300 - 450 rpm) fitted with an Exomixer® type mixing-paddle (recommended model). To minimize entrapping air, ensure mixing paddle is kept in the material. During the mixing operation, scrape down the sides and bottom of the pail with a flat orstraight-edge trowel at least once to ensure thorough mixing. Sikafloor® Duochem-942 should be uniform in colour or clarity and consistency before use.
Mix only the quantity you can use within its pot life.
Optional Sikafloor®-4 Texture - Ceramic Spherical Wear Aggregate See Sikafloor®-4 Texture individual product data sheet for addition rate and Mixing Instructions.

APPLICATION

Primer: Apply Sikafloor® 2002 (clear coating) or Sikafloor® 261 (pigmented coating) over the slab as a primer using a notched squeegee and/or roller at a uniform coverage rate of approximately 4 m^2/L (165 ft^2 /US gal.) without ponding. Allow the primer to cure for 12 hours at 23 °C (73 °F) before applying Sikafloor® Duochem-942.

Finish Coat: Sikafloor® Duochem-942 may be applied using conventional or airless spray, high quality, short nap rollers (lint-free), natural bristled brush or squeegee and backrolled. Waiting time between coats will be

approximately 8 hours to 24 hours dependent upon temperatures.

CLEAN UP

Clean tools and brushes with Sika® Urethane Thinner & Cleaner. Once hardened, 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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