

## PRODUCT DATA SHEET

# Sikafloor®-218 DF

Versatile UV Resistant Epoxy Resin Binder for Sikafloor DecoDur Granite Flooring System

### PRODUCT DESCRIPTION

Sikafloor®-218 DF is a low odor, 100 % solids, UV resistant, epoxy resin coating system specifically designed for high build intermediate base coats utilizing Sikafloor DecoDur Granite aggregate. Top coated with Sikafloor 304W, a low VOC water-based polyurethane, that produces an attractive matte finish that complements the DecoDur Granite system. Alternative finish coats are available

### USES

Sikafloor®-218 DF may only be used by experienced professionals.

Sikafloor®-218 DF is used as a clear, low odor binder for intermediate base coat when mixed with Sikafloor DecoDur Granite aggregate. Sikafloor®-218 DF can be considered where  $\leq 4\%$  moisture content by mass (pbw – part by weight) is measured on concrete substrate with Tramex® CME/ CMExpert type concrete moisture meter.

Typical applications may include:

- Auto dealerships
- Institutions
- Offices
- Grocery, department, and retail stores
- Pharmaceutical laboratories, production rooms, and offices.
- Museum and galleries.
- Laboratories
- Public areas

### CHARACTERISTICS / ADVANTAGES

- Specially formulated aggregate for superior aesthetics
- 100 % solids as supplied
- Attractive matte or gloss finish
- Tough, smooth, easy to clean, non-porous surface
- Durable and seamless surface
- Good UV and abrasion resistance
- Excellent impact resistance
- Available in eight standard colors

## PRODUCT INFORMATION

|   |  |  |
|---|--|--|
| <b>Packaging</b>  | Component A Sikafloor®-218 DF:<br>3.0 US gal. (11.3 L)                   | Component B Sikafloor 217:<br>1.5 US gal. (5.68 L) |
|   | Total A+B 4.5 US gallons (17.0 L)  | Component C: 35 lb (15.9 kg) bag                   |
| 2 bags required for each full 4.5 gallon A+B mixed unit |  |  |
| <b>Appearance / Color</b>                               | Clear, mixed with Sikafloor DecoDur aggregates. Eight standard colors    |  |
| <b>Shelf Life</b>                                       | 24 months in original unopened container under proper storage conditions |  |
| <b>Storage Conditions</b>                               | Store dry between 40 and 90 °F (4–32 °C)                                 |  |
| <b>Solid Content</b>                                    | ~ 100 % (by volume) / ~ 100 % (by weight)                                |  |
| <b>Volatile organic compound (VOC) content</b>          | 34 g/L (A+Sikafloor 217 Part B Combined)                                 |  |

## TECHNICAL INFORMATION

|                                    |  |   |
|------------------------------------|--|---|
| <b>Shore D Hardness</b>            | 80   | (ASTM D-2240)   |
| <b>Abrasion Resistance</b>         | 76 mg  | (ASTM D-4060)<br>CS-17/1000 cycles/1000g                      |
| <b>Compressive Strength</b>        | 7,250 psi (50 N/mm <sup>2</sup> ) (28 days)  | (ASTM C-579) Resin<br>(filled with DecoDur Granite aggregate) |
| <b>Flexural Strength</b>           | 9,384 psi                                    | (ASTM D-790)  |
| <b>Tensile Strength</b>            | 5,728 psi                                    | (ASTM D-638)  |
| <b>Elongation at Break</b>         | 11 %   | (ASTM D-638)  |
| <b>Tensile Adhesion Strength</b>   | 5,728 psi                                    | (ASTM D-638)  |
| <b>Indentation</b>                 | 1.30 %                                       | (MIL-PRF-24613)   |
| <b>Chemical Resistance</b>         | Please consult Sikafloor Technical Services. |   |
| <b>Water Absorption</b>            | 0.13 %                                       | (2 hours boiling)<br>(ASTM C-413)                             |
| <b>Permeability to Water Vapor</b> | 0.41 g/hour/sq-meter                         | (ASTM E-96)   |
| <b>Gloss level</b>                 | 5–15 (60°) (Sikafloor® 304 W Finish)         | (ASTM D-523)  |
| <b>Coefficient of Friction</b>     | > 0.6 (Sikafloor® 304 W Finish)              | (ASTM D-2047)   |

## APPLICATION INFORMATION

|                     |  |                  |
|---------------------|--|------------------|
| <b>Mixing Ratio</b> | 1.5 gallons (5.7L) of Sikafloor®-218 DF component A<br>0.75 gallon (2.84 L) Sikafloor 217 component B<br>[1] 35 lb (15.9kg) bag of Sikafloor DecoDur Granite aggregate.  | 2 : 1 by volume. |
| <b>Coverage</b>     | With DecoDur Granite aggregate, 75–94 ft <sup>2</sup> / Mixed unit (1A+1B+2C) (7.0–8.7 m <sup>2</sup> ) at 80–100 mils (2.0–2.54 mm) wet film thickness (w.f.t.).<br>One mixed unit consists of 1.5 gallons Sikafloor®-218 DF component A & 0.75 gallon Sikafloor® 217 component B hardener and one [1] 35 lb (15.9kg) bag of Sikafloor® DecoDur Granite aggregate |                  |

|                 |                             |              |
|-----------------|-----------------------------|--------------|
| <b>Pot Life</b> | <b>Material Temperature</b> | <b>Time</b>  |
|                 | 50 °F (10 °C)               | ~ 50 minutes |
|                 | 68 °F (20 °C)               | ~ 25 minutes |
|                 | 86 °F (30 °C)               | ~ 15 minutes |

|                  |  |                     |                      |                  |
|------------------|--|---------------------|----------------------|------------------|
| <b>Cure Time</b> | <b>Ambient &amp; Substrate Temperature</b> | <b>Foot traffic</b> | <b>Light traffic</b> | <b>Full cure</b> |
|                  | 50 °F (10 °C)                              | ~ 24 hours          | ~ 3 days             | ~ 10 days        |
|                  | 68 °F (20 °C)                              | ~ 8 hours           | ~ 2 days             | ~ 7 days         |
|                  | 86 °F (30 °C)                              | ~ 6 hours           | ~ 36 hours           | ~ 4 days         |

|                               |   |                |                |
|-------------------------------|---|----------------|----------------|
| <b>Waiting / Recoat Times</b> | Before applying Sikafloor finish coat on Sikafloor®-218 DF allow: |                |                |
|                               | <b>Ambient &amp; Substrate Temperature</b>                        | <b>Minimum</b> | <b>Maximum</b> |
|                               | 50 °F (10 °C)   | 24 hours       | 72 hours       |
|                               | 68 °F (20 °C)   | 8 hours        | 48 hours       |
|                               | 86 °F (30 °C)   | 6 hours        | 24 hours       |

## BASIS OF PRODUCT DATA

Results may differ based upon statistical variations depending upon mixing methods and equipment, temperature, application methods, test methods, actual site conditions and curing conditions.

## LIMITATIONS

RESULTS MAY DIFFER BASED UPON STATISTICAL VARIATIONS DEPENDING UPON MIXING METHODS AND EQUIPMENT, TEMPERATURE, APPLICATION METHODS, TEST METHODS, ACTUAL SITE CONDITIONS AND CURING CONDITIONS.

**Application Conditions:** 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 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 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 is > 4 % by mass (pbw – part by weight) as measured with Tramex® CME/CMExpert type concrete moisture meter, use Sikafloor 1610 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 are > 85 % according to ASTM F2170 use Sikafloor 1610 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.

**Material Temperature:** Precondition material for at least 24 hours between 65 °F and 75 °F (18–24 °C)

**Ambient Temperature:** Minimum/Maximum 50/85 °F (10/30 °C)

**Substrate Temperature:** Minimum/Maximum 50/85 °F (10/30 °C). Substrate temperature must be at least 5 °F (3 °C) above measured Dew Point. Mixing and Application attempted at conditions less than 65 °F (18 °C) will result in a decrease in product workability and slower cure rates.

**Ambient Relative Humidity:** Maximum ambient and humidity 85 % (during application and curing)

**Dew Point:** Beware of condensation!

The substrate must be at least 5 °F (3 °C) 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.

**Mixing:** 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. Improper mixing procedure or incorrect mixing ratio may result in moisture sensitivity, whitening, slow cure, soft spots, and other defects.

- 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, may be used for a

- visual indication of vapor drive.
- Do not apply in excess of 100 mils in one coat.
- Freshly applied material should be protected from dampness, condensation and water for at least 72 h.
- Will discolor over time when exposed to sunlight (UV) and under certain artificial lighting conditions. Use of clear UV resistant top coat may not prevent discoloration of underlying coatings.
- 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
- 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.
- For professional use only by experienced applicators.

## ENVIRONMENTAL, HEALTH AND SAFETY

For further information and advice regarding transportation, handling, storage and disposal of chemical products, user should refer to the actual Safety Data Sheets containing physical, environmental, toxicological and other safety related data. User must read the current actual Safety Data Sheets before using any products. In case of an emergency, call CHEMTREC at 1-800-424-9300, International 703-527-3887.

## APPLICATION INSTRUCTIONS

### SURFACE PREPARATION

Surface must be clean, sound and dry. Remove dust, laitance, grease, curing compounds, bond inhibiting impregnations, waxes and any other contaminants. All projections, rough spots, etc. should be removed to achieve a level surface prior to the application. Concrete - Should be cleaned and prepared to achieve a laitance-free and contaminant-free, open textured surface by shot blasting or equivalent mechanical means (CSP-3 to CSP-4 as per ICRI guidelines). 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 "shotblast" pattern may show through the last coat, known as "tracking". The compressive strength of the concrete substrate should be at least 3,500 psi (24 MPa) at 28 days and at least 215 psi (1.5 MPa) in tension at the time of application. For other substrates, please contact Sikafloor Technical Services.

### Priming

Priming for concrete substrate is required. Prime with either Sikafloor 160, Sikafloor 161, Sikafloor 1610, Sikafloor 165FS or Sikafloor 2570. Allow the primer to cure (varies with temperature and humidity) until tack free before applying subsequent coats. Ensure that the primer is pore-free, pinhole-free and provides uniform and complete coverage over the entire substrate. Failure to adequately prime the surface may result in pin holes, blisters or other surface defects.

## MIXING

A pigmented primer/color coat is required to ensure complete color coverage of the filled base coat. Use Sikafloor 264 pre-pigmented in the matching color shown in the chart below. Refer to Sikafloor 264 product data sheet for mixing instructions. Alternately, use Sikafloor®-218 DF Epoxy Color Additive-N. See mixing instructions following section. To 4.5 gal. mixed unit, add one quart of Sikafloor Epoxy Color Additive-N. Apply either at 10–12 mils wet film thickness.

### Filled Base coat

Mixing Ratio - 2 : 1 by volume.

One mixed unit consists of 1.5 gallons (5.7L) Sikafloor®-218 DF component A & 0.75 gallon (2.84 L) Sikafloor 217 component B hardener and one [1] 35 lb (15.9kg) bag of Sikafloor DecoDur Granite aggregate. 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 3 minutes using a low speed drill (300–450 rpm) and 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. Add one bag of Sikafloor Decodur aggregate, mix thoroughly for three minutes. **Do not mix more material than can be applied within the working time limits (i.e. Pot Life) at the actual field temperature.**

## APPLICATION

### Pigmented Primer/Color Coat:

Recommended base coat colors, Sikafloor 264 or Sikafloor 281 DF + Sikafloor ECA-N:

| <u>DecoDur Color</u> | <u>Sikafloor Epoxy Color</u> |
|----------------------|------------------------------|
| <u>Black</u>         | <u>Basalt Gray</u>           |
| <u>Contrast</u>      | <u>Oxford Gray</u>           |
| <u>Beach Sand</u>    | <u>Raffia Beige</u>          |
| <u>Light Blue</u>    | <u>Traffic Blue</u>          |
| <u>Hierro</u>        | <u>Pale Green</u>            |
| <u>Ruby Red</u>      | <u>Oxide Red</u>             |
| <u>Apple Green</u>   | <u>Beige</u>                 |
| <u>Classic</u>       | <u>Light Gray</u>            |

**As Intermediate:** Sikafloor®-218 DF with DecoDur Granite aggregate is applied with 1/4 in. (6.3 mm) notched squeegee over a smooth primed and pigmented base coated surface. Back rolling is typically done with a 9 or 18 in. wide spike roller. Back-roll the Sikafloor 218 DF Decodur Granite only enough to level the squeegee applied material. It is important to back-roll the material within a 10–30 minute window (depending on temperature). Over-rolling and late back rolling may cause bubbling and leave roller marks, or other surface defects. Sikafloor®-218 DF is not intended as a stand-alone coating. Use as stand-alone coating will result in unsatisfactory appearance and performance.

**Finish Coat:** Sikafloor®-218 DF is designed to be used with a finish coating. The standard finish coat is Sikafloor 304W matte finish. Increased abrasion resistance is achieved by applying Sikafloor 315N with wear aggregate. Refer to appropriate Sikafloor product data sheet for complete mixing and application instructions and performance data.

## OTHER RESTRICTIONS

See Legal Disclaimer.

## LEGAL DISCLAIMER

- KEEP CONTAINER TIGHTLY CLOSED
- KEEP OUT OF REACH OF CHILDREN
- NOT FOR INTERNAL CONSUMPTION
- FOR INDUSTRIAL USE ONLY
- FOR PROFESSIONAL USE ONLY

Prior to each use of any product of Sika Corporation, its subsidiaries or affiliates ("SIKA"), the user must always read and follow the warnings and instructions on the product's most current product label, Product Data Sheet and Safety Data Sheet which are available at [usa.sika.com](http://usa.sika.com) or by calling SIKA's Technical Service Department at 1-800-933-7452. Nothing contained in any SIKA literature or materials relieves the user of the obligation to read and follow the warnings and instructions for each SIKA product as set forth in the current product label, Product Data Sheet and Safety Data Sheet prior to use of the SIKA product.

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