BUILDING TRUST
CONSTRUIRE LA CONFIANCE

PRODUCT DATA SHEET

# Sikafloor® Duochem-5235 HHT

Heat and Humidity Resistant, Smooth-Finish, Epoxy Coating

## PRODUCT DESCRIPTION

Sikafloor® Duochem-5235 HHT is a two component, solvent free, low odour, solid colour, glossy, high build epoxy coating. It is specifically formulated to provide improved amine blush resistance to allow application beyond the typical heat and humidity micro-environment limitations of traditional epoxy coatings.

## WHERE TO USE

Sikafloor® Duochem-5235 HHT may only be used by experienced professionals.

- Suitable for interior applications over new or existing horizontal concrete substrates.
- Allows application during extreme job site micro-environment conditions; high heat up to 38 °C (100 °F) and high relative humidity up to 90%.
- Used as a protective coating to dust proof and protect concrete against deterioration.

## CHARACTERISTICS / ADVANTAGES

- Aesthetic, smooth non-textured, glossy appearance that demonstrates excellent scruff resistance.
- Superior mechanical resistance allows application in areas exposed to light to medium duty traffic.
- General Service, broad spectrum chemical resistance.
- Blush resistant formulation allows application to proceed under extreme conditions.
- Low odour formulation suitable for application in occupied facilities.
- Environmentally friendly; low VOC content that meets LEED® requirements.

## PRODUCT INFORMATION

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| **CSC MasterFormat®** | **09 67 00 I FLUID- APPLIED FLOORING** |
| **Packaging** | Component A: 12 L (3.17 US gal)<br>Component B: 6 L (1.58 US gal)<br>Components A+B: 18 L (4.75 US gal) unit |
| **Shelf Life** | 2 years in original unopened packaging. |
| **Storage Conditions** | Store dry between 5 °C to 32 °C (41 °F to 89 °F). |
| **Appearance / Colour** | W1600 Tile Red, DW1787 Light Grey, U1503 Beige<br>Custom colours available upon request. |
| **Viscosity** | ~1000 cps (A+B mixed) |

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| **Volatile organic compound (VOC) content** | ~2 g/L |

## TECHNICAL INFORMATION

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| **Shore D Hardness** | ~70 | (ASTM D2240) |
| **Abrasion Resistance** | ~61 mg loss | (ASTM D4060)<br>(CS 17/1000 cycles/1000 g (2.2 lbs.) |
| **Resistance to Impact** | ~2.7 joules (~23.84 lbs•in) | (ASTM D3029) |
| **Tensile Strength** | ~39 MPa (~5,656 psi) | (ASTM D2370) |
| **Elongation at Break** | ~15.8% | (ASTM 2370) |
| **Pull-Off Strength** | > 2 MPa (> 290 psi) (substrate failure) | (ASTM D7234) |
| **Service Temperature** | Minimum ~0 °C (~32 °F) Maximum ~50 °C (~122 °F) | |
| **Water Absorption** | Immersion (24 hrs.) ~1.60 %<br>Immersion (7 days) ~1.790 % | (ASTM D570) |

## APPLICATION INFORMATION

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| **Mixing Ratio** | A: B = 2:1 by volume |
| **Consumption** | **Prime Coat**<br>5 m²/L to 8 m²/L (200 ft²/US gal to 325 ft²/US gal) (5 mil to 8 mil w.f.t.)<br>**Wear Coat**<br>1.6 m²/L to 3.3 m²/L (65 ft²/US gal to 135 ft²/US gal) (12 mil to 25 mil w.f.t.)<br><br>**NOTE:** 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 (i.e. white) or bright colours (i.e. reds and yellows) on dark substrates. Test sections are recommended to establish correct coverage. |
| **Product Temperature** | Condition at 18 °C to 30 °C (65 °F to 86 °F) before using. |
| **Ambient Air Temperature** | Minimum 10 °C (50 °F) Maximum 38 °C (100 °F)<br>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 Air Humidity** | Maximum 90% (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: 38 °C (100 °F)<br>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. |

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| **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). 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.<br>ASTM F2170 internal probe 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. | |
| **Pot Life** | ~25 min | 250 g (8.8 oz) |
| **Curing Time** | Tack Free<br>Full Cure<br>Ready for Service<br>Curing times will vary according to ambient air and substrate temperatures and relative humidity.<br>Freshly applied material should be protected from dampness, condensation and water for at least 24 hours.<br>Mechanical, chemical and physical properties will be fully achieved at full cure. | ~6 hours to ~8 hours at 23 °C (73 °F)<br>~15 days at 23 °C (73 °F)<br>~24 hours at 23 °C (73 °F) |
| **Waiting Time / Overcoating** | Minimum ~8 hours Maximum ~48 hours at 23 °C (73 °F) | |

## 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 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® Duochem-5235 HHT 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.
- 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 by-products that can have adverse effects on the curing product. 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.

## 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 clean and sound. Remove any dust, laitance, grease, oil, dirt, curing agents, impregnations, wax, foreign matter, coatings and detritus from the surface by appropriate mechanical means, in order to achieve a profile equivalent to ICRI-CSP 3-4. 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® Duochem-5235 HHT.

### MIXING

**Mixing Ratio - A:B = 2:1 by volume**
Do not hand mix Sikafloor® materials. Mechanically mix only.
Pre-mix each component separately. Empty component B in the correct mix ratio to component A. Mix the combined components for at least 3 minutes, using a low-speed drill (300 - 450 rpm) to minimize entrapping air. Use an Exomixer® type mixing paddle (recommended model) suited to the volume of the mixing container. 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. When completely mixed, Sikafloor® Duochem-5235 HHT should be uniform in colour and consistency. Mix only that quantity which can be used within its pot life at actual field temperature.

### APPLICATION

**Prime Coat:** Apply the Sikafloor® Duochem-5235 HHT as a prime coat onto the substrate using a brush, roller or squeegee, at a uniform coverage without puddling.

**Wear Coat:** Once the prime coat is tack free, apply the wear coat using a squeegee or roller and backroll to achieve even coverage.

**IMPORTANT:** If time between coats exceeds 48 hours at 23 °C (73 °F), 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.

### CLEAN UP

Clean all tools and equipment with Sika® Epoxy 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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