BUILDING TRUST
CONSTRUIRE LA CONFIANCE

PRODUCT DATA SHEET

Sika® Ucrete® BC 6

(formerly Ucrete® BC 6)

FAST CURING, FLOW-APPLIED, POLYURETHANE-CEMENT HYBRID BASECOAT

PRODUCT DESCRIPTION

Sika® Ucrete® BC 6 is a fast-curing, flow-applied water dispersed hybrid polyurethane-cement mortar applied at a thickness of 6 mm (1/4 in). Sika® Ucrete® BC 6 is used as a base coat and it may also be used as a scratch coat primer under all Sika® Ucrete® flooring systems. The base coat is designed to be broadcasted by aggregate as part of the Sika® Ucrete®.

Note: Sika® Ucrete® BC 6 s not a finished floor in it's own right.

WHERE TO USE

Sika® Ucrete® BC 6 may only be used by experienced professionals.

Sika® Ucrete® BC 6 is primarily used to protect concrete substrates and may be used in installations such as:

- Food processing plants
- Meat, poultry and seafood plants
- Commercial kitchen and restaurants
- Oven areas, freezers and coolers
- Dairy plants
- Beverage and bottling facilities
- Pharmaceutical facilities
- Chemical processing plants
- Manufacturing facilities and workshops
- Warehouses and storage areas

CHARACTERISTICS / ADVANTAGES

- Can be applied on green concrete, typically 7-10 days (28 days cure time is not required) showing >4 % mass (pbw-part by weight)) as measured with Tramex® CME/CMExpert type concrete moisture meter (surface moisture)
- Can be applied to concrete substrates where <100 % relative humidity is measured as per ASTM F2170
- Impermeable to liquids
- Resists a very wide range of organic and inorganic acids, alkalis, amines, salts and solvents (see the **Chemical Resistance** section on pages 2 and 3).
- No additional expansion joints required (when necessary, the existing expansion joints can simply be maintained and extended up through the Sika® Ucrete® Flooring System)
- Similar coefficient of thermal expansion to concrete, allowing movement with the substrate through normal thermal cycling.
- Performs and retains its physical characteristics through a wide temperature range from -40 °C (-40 °F) up to 130 °C (266 °F)
- Non-tainting from the end of mixing, odourless and phthalate-free, avoiding associated toxicity to health and environmental hazards
- Behaves plastically under impact/deforms but will not crack or debond
- High abrasion qualities resulting from its aggregate structure
- Easy maintenance, using commonly employed cleaning methods and phenol-free detergents

ENVIRONMENTAL INFORMATION

- Contributes towards satisfying LEED® v4 EQ Credit - Low-Emitting Materials

APPROVALS / CERTIFICATES

Meets CFIA requirements for use in food plants

PRODUCT INFORMATION

Composition / Manufacturing	Water-dispersed polyurethane-cement hybrid	
Packaging	Refer to the current price list for available packaging variations.	
Colour	Cured colour	Red, Blue, Cream, Green, Charcoal, Grey and Light Grey
Shelf Life	Always refer to the best-before date of the individual packaging.	
Storage Conditions	Store dry at temperatures between 10 °C (50 °F) and 25 °C (77 °F). Protect from freezing. If frozen, discard adequately.	
Density	~2 kg/L (~16.7 lb /US gal)	
CSC MasterFormat®	**09 62 00 | SPECIALTY FLOORING**	

TECHNICAL INFORMATION

Tensile Strength	~7.6 MPa (~1103 psi)	(ASTM C307)
Pull-Off Strength	> 2.0 MPa (concrete failure)	(EN 1542)
Coefficient of Thermal Expansion	4x 10^{-5} °C^{-1} (2.22 x 10^{-5} °F^{-1})	(ASTM C531)
Chemical Resistance	Sika®Ucrete® systems offer exceptional resistance to a wide range of chemical aggressors. For example, Sika® Ucrete® BC 6 can be considered for the following commonly encountered chemicals: ▪ Acetic Acid, 50%: Spirit vinegar is widely used in the food industry, indicative of resistant to vinegar, sauces, etc. ▪ Concentrated Lactic Acid @ 60 °C (140 °F): Indicative of resistance to milk and dairy products) ▪ Oleic Acids, 100% @ 60 °C (140 °F): Representative of the organic acids formed by oxidation of vegetables and animal fats widely encountered in the food industry ▪ Concentrated Citric Acid: As found in citrus fruits and representative of the wider range of fruit acids which can rapidly degrade other resin floors. ▪ Methanol, 100%: Representative of alcohols and the wider range of solvents used in the pharmaceutical industry ▪ Sika® Ucrete® BC 6 can be considered when exposed to a wide range of mineral oils, salts and inorganic acid For further information, please contact Sika® technical support. **IMPORTANT:** Optimal chemical resistance is achieved after 7 days of curing. Stains or discolouration may occur with certain chemicals, depending on the nature of the spill and the contact time with the coating surface. Equally important is adherence to maintenance standards, including strictly following the instructions for diluting the cleaning product used. It should be understood that improper use of the cleaning product (including, but not limited to, using a concentration higher than indicated or mixing cleaning products) can, in some cases, cause more damage than certain chemicals.	

APPLICATION INFORMATION

Consumption	~2.1 m² at 6 mm (~22 ft² at 1/4 in)
Product Temperature	Condition product between 18 °C to 24 °C (65 °F to 75 °F) before use. 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.
Ambient Air Temperature	minimum 7 °C (45 °F) / maximum 30 °C (86 °F)
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 actually be lower than the ambient temperature.
Substrate Temperature	Minimum 7 °C (45 °F) / Maximum 30 °C (86 °F)
Substrate Moisture Content	Sika® Ucrete® BC 6 can be applied on substrate with higher moisture content. Check for moisture rising. The substrate must be visibly dry with no standing water.

Curing Time

Material and substrate temperature	Foot Traffic	Light Traffic	Full Cure
10 °C (50 °F)	~ 24 hours	~ 48 hours	~ 7 days
20 °C (68 °F)	~ 18 hours	~ 24 hours	~ 5 days
30 °C (86 °F)	~ 6 hours	~ 18 hours	~ 3 days

Curing times will vary according to air and substrate temperature and rel ative humidity
Mechanical, chemical and physical properties will be fully achieved at full cure (i.e., 5 days)

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) / 50% r.h. unless stated otherwise.

LIMITATIONS

NOTE: The user is solely responsible for the proper use of the product. Site visits carried out by Sika® personnel are intended solely, when requested by user, to provide written technical application recommendations based on Sika® documentation. They are in no way intended to supervise, approve or control the quality of the work performed on site. The information contained herein does not relieve the user of the products from testing them for the intended application and purpose.

- Do not apply to polymer modified cement mortars (PCC) that may expand when sealed with an impervious resin.
- Do not apply to water-soaked, glistening-wet concrete substrates (i.e., standing water).
- Do not apply on porous surfaces where outgassing conditions are present during the application of Sika® Ucrete® BC 6.
- Do not apply to un-reinforced sand cement screeds, asphaltic or bitumen substrate, glazed tile or non-porous brick, tile and magnesite, copper, aluminum, soft wood, or urethane composition, elastomeric membranes, fiber reinforced polyester (FRP) composites.
- Do not apply Sika® Ucrete® BC 6 to concrete substrate containing aggregates susceptible to ASR (Alkali Silica Reaction) due to risk of natural alkali redistribution below Sika® Ucrete® BC 6 after application. If concrete substrate has or is suspected to have ASR (Alkali Silica Reaction) present, do not proceed. Consult with a design professional prior to use.
- Do not featheredge Sika® Ucrete® BC 6.
- Do not apply to cracked or unsound substrates.
- Do not apply while ambient and

substrate temperatures are rising, as pinholes may occur.
- Do not apply to surfaces where moisture vapour can condense and freeze.
- Do not apply to vertical surfaces. Refer to Sika® Ucrete® RG29 NA.
- Do not use for negative side waterproofing.
- Do not dilute Sika® Ucrete® BC 6. Adding diluents (water, solvent, etc.) will slow curing and reduce the final properties of this product. Diluents must never be added to the mixture. Adding diluent will void any applicable Sika® warranty.

As well, Sika® recommends:

- That 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.).
- That Relative Ambient Humidity: Minimum ambient humidity 30%, Maximum ambient humidity 85% during application and curing.
- To beware of Dew Point condensation.
- To take in account that an early application on green or young concrete before drying shrinkage has stabilized may result in reflective cracks on the finished Sika® Ucrete® BC 6 surface post application.
- To maintain and extend existing expansion joints through the Sika® Ucrete® flooring system".
- That applied material will follow undulations, depressions, lines, etc. of the underlying substrate. Visual appearance of the finished surface may vary, including, but not limited to, reflection of "waviness", wall transitions, etc.
- That any aggregate used with Sika® Ucrete® BC 6 must be non-reactive and oven-dried.
- To take into account that the chemical, mechanical and physical properties are achieved when full curing is complete.
- That freshly applied material should be protected from dampness, condensation and water for at least 24 hours. Protect substrate during application from condensation from pipes or any overhead leaks.
- That colour uniformity cannot be completely guaranteed from batch to batch (numbered). Take care when using Sika® Ucrete® products to draw from inventory in batch number sequence, do not mix batch numbers in a single floor area.
- That some light custom colours may produce noticeable shade variations between Sika® Ucrete® systems (e.g., difference between floor and coving mortars). When achieving a uniform appearance is desired (or required), refer to Sika® Ucrete® TC33 NA applied as a top coat.
- That Sika® Ucrete® BC 6 will discolour over time when exposed to UV light and under certain artificial lighting conditions. Use Sika®Ucrete®-TC 33NA as a solid colour, UV resistant top coat. Use of clear, UV resistant top coats may not prevent discolouration of underlying materials.
- That 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 surface blush, whitening, loss of adhesion or other surface deficiencies.
- To beware of air flow and changes in air flow. Introduction of dust, debris, and particles, etc. may result in surface imperfections and other defects.
- To note that while Sika® Ucrete® BC 6 is supplied in colours, it is not intended and should not be used as a uniform decorative finish, some variation in initial surface sheen is to be expected.
- To protect applied product from exposure to uncured cement products; masonry mortar, drywall compound. Exposure will result in staining that cannot be removed.
- To note that 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.
- That consideration should be given to include a mock-up of at least 10 m² in a discrete area in the project specifications (as part of section 09 62 00). It should also be specified whether the mock-up will remain permanently on the work area and be an integral part of the installation to verify that it meets the owner's expectations regarding appearance, slip resistance, and performance.

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

SUBSTRATE QUALITY

Concrete surfaces must be clean and sound. The

compressive strength of the concrete substrate should be at least 35 MPa (4350 psi) at 28 days and a minimum of 1.5 MPa (217 psi) in tensile strength, at the time of the application.

Substrates must be free of contaminants such as dust, dirt, existing paint films, efflorescence, exudates, laitance, form, hydraulic or fuel oils, brake fluid, grease, fungi, mildew, biological residues or any other contaminants which may prohibit good bond or conditions of the substrate that may reduce the overall performances of Sika® Ucrete® BC 6.

SURFACE PREPARATION

Before work commences, examine the areas to be covered and report any improper condition(s) in writing to the general contractor, architect or engineer (or otherwise, the owner). User shall not proceed with the work until surfaces and conditions comply with the requirements indicated in this document; applicable industry standards; federal, provincial and local regulations, as well as good trade practices. By starting work, the Applicator/User acknowledges that the conditions are acceptable.

Prepare the surface by any appropriate mechanical means, in order to achieve a profile equivalent to a minimum of ICRI CSP 4 (note: ICRI CSP 6 will provide better overall performances where high shear stress from dynamic loads may be present or that can reasonably be expected).

Repairs to cementitious substrates, filling of blowholes, levelling of irregularities, etc. should be carried out using an appropriate Sika profiling mortar. Contact Sika Technical Service for recommendations in writing.

Note: Contact Sika's Technical Service for installation recommendations in writing concerning substrates or conditions not listed.

Edge Terminations

All free edges of a Sika® Ucrete® floor, whether at the perimeter, along gutters or at drains require extra anchorage to distribute mechanical and thermal stresses. This is best achieved by forming or cutting grooves in the concrete. Grooves should have a depth and width of 2 times the thickness of the Sika® Ucrete® floor.

If necessary, protect all free edges with mechanically attached metal strips. Do not featheredge, always turn into an anchor groove.

Expansion Joints

Expansion joints should be provided in the substrates at the intersection of dissimilar materials. Isolate areas subject to thermal stresses, vibration movements or around load-bearing columns and at vessel sealing rings. Communicate with Sika®'s technical services.

The owner and architect should discuss joint details with the flooring contractor before the job starts.

MIXING

Mix Ratio: Parts 1:2:3:4 = 1 (one) x **Part 1** : 1 (one) x **Part 2** : 1 (one) x **Part 3** : 1 (one) x **Part 4**

Note: Mix only complete units

Do not hand mix Sika® Ucrete® materials; mechanically mix only. Mixing will be affected by temperature; condition materials for use to 18 °C to 24°C (65 °F to 75°F) for at least 24 hours before use. On no account should this product be thinned. Addition of thinners (eg. water or solvent) will retard the cure, reduce the ultimate properties of this product and void any applicable Sika warranty.

A *Ted Baugh* type mixer, incorporating a motor spun mixing pail and a shear angle mixing blade, is recommended. Pre-agitate Part 1 and Part 2 separately, making sure all solids, including pigments, are uniformly distributed. Start mixer; add Part 1, Part 2 and Part 4, blending for 30 seconds. Add Part 3 (powder) pouring slowly over a period of 20 seconds. DO NOT DUMP POWDER INTO RESIN, ADD GRADUALLY. Allow Part 3 to further blend for 2-1/2 more minutes after all of the powder is emptied into the resin to ensure all powder is wetted out and a completely uniform mix is achieved. During the mixing operation, and observing good safety practices, ie turning off and removing revolving parts, scrape down the sides and bottom of the mixing container with a flat or straight edge trowel at least once to ensure complete blending of Parts 1+2+3+4. Do not attempt to attend to unmixed material that may gather on the sides of the mixing container while mechanical or electrical parts are in motion.

Immediately discharge the product and place material on substrate to be coated. Mix subsequent batches immediately.

Note: Do not mix more material than can be applied within the working time limits (i.e., Pot Life) at the actual field temperature.

APPLICATION

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.).

Cold substrates: Any application attempted at material, ambient, and substrate temperatures below 18°C (65°F) will result in reduced product workability and a slower curing rate.

Substrate priming is normally not required under typical circumstances. However, due to variations in concrete quality, surface condition, surface preparation, and ambient conditions, it is recommended to conduct baseline tests on application areas to determine if a primer is necessary to prevent blistering, peeling, pitting, and other aesthetic variations. The standard primer application procedure consists of a 15- to 20-mil tack coat of Sika® Ucrete® TC31 NA, followed by a light dusting of dry quartz sand. This method is preferred for concrete substrates.

Spread the mix evenly over the substrate using a pin rake, with pins set to the appropriate depth. Use a steel trowel for edge work. Use a loop or texture roller to lightly roll the surface to assist in levelling the basecoat. Use a spiked roller to produce a smooth even finish. The whole floor should be spike rolled twice. The first pass to assist with flow, and remove pin rake marks. The second pass, the roller should be held lightly on the surface to bring the resin to the surface.

Note: If the Basecoat does not flow sufficiently and pin rake marks remain on the surface, even after spike rolling. Failure to address the problem will result in poor aesthetics, variable surface texture and sub standard finish.

Broadcast

The basecoat must be flat and smooth prior to broadcasting. Imperfections in the surface of the Basecoat will be seen in the finished floor.

The time at which the Basecoat is scattered is critical:

- Too early, and the surface will become uneven
- Too late, and the aggregate will not penetrate
- It is essential that the broadcast is applied early enough to absorb into the surface.

At 20 °C) (68 °F), the broadcast should be started after 10–15 minutes, so typically after a further two to three mixes of Basecoat have been applied. This will be reduced at higher temperatures, one to two mixes, and extended at lower temperatures, three to four mixes. The aggregate is broadcast onto the curing Basecoat. If hand scattering is undertaken, care must be taken to ensure even scatter. Apply to the point of rejection 7.3 kg/m2 (1.5 lbs./ft2). Make sure the aggregate falls vertically onto the surface of the Basecoat, never throw the aggregate at the floor.

CLEAN UP

Clean all tools and equipment with a non-flammable solvent. Once hardened, product can only be removed mechanically.

MAINTENANCE

CLEANING

Sika® Ucrete® floors are easily cleaned using a stiff brushing action and or high-pressure water, preferably hot, and even live steam. Degreasing agents and detergents will assist, but do not use any compounds containing Phenol as the floor colour may be irreparably affected. Consult the cleaning compound manufacturer's instructions before u e.

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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