BUILDING TRUST
CONSTRUIRE LA CONFIANCE

PRODUCT DATA SHEET

Sika® Ucrete® RG29 NA

HIGH STRENGTH POLYURETHANE-CEMENT COVE BASE, VERTICAL AND DETAILING MORTAR

PRODUCT DESCRIPTION

Sika® Ucrete® RG29 NA is a vertical grade, solid color, water dispersed polyurethane-cement and aggregate mortar used for detailing, vertical work and cove base. Sika® Ucrete® RG29 NA is installed at between 3 mm to 6 mm (1/8 in to 1/4 in) thickness and can be applied vertically. Typical height for cove base is 100 mm to 150 mm (4 in to 6 in) but can be applied higher. Sika® Ucrete® RG29 NA has a fine-textured smooth aggregate appearance that provides excellent resistance to abrasion, impact, a wide range of chemicals and other physical aggression

Sika® Ucrete® RG29 NA is sealed with Sika® Ucrete® TC31 NA (or with Sika® Ucrete® 33 NA where a top coat resistant to discolouration by UV is desired) to produce a solid colour finish.

WHERE TO USE

Sika® Ucrete® RG29 NA may only be used by experienced professionals.

Sika® Ucrete® RG29 NA is primarily used for vertical application of cove/cant on concrete substrates and may be used in installations such as:

- Food processing plants
- Kitchen and restaurants
- Oven areas, freezers and coolers
- Dairies
- Breweries, wineries and distilleries,
- Laboratories
- Pulp and paper plants,
- chemical process plants,and
- Warehouses and storage areas
- Wet and dry 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
- 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 of concrete allowing movement with the substrate through normal thermal cycling. It will perform and retain its physical characteristics through a wide temperature range from -40 °C (-40 °F) up to 120 °C (248 °F)
- Steam cleanable at 3 mm to 6 mm (1/8 in to 1/4 in) thickness
- 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 result from its aggregate structure.
- Easy maintenance, using commonly employed cleaning methods and phenol-free detergents

ENVIRONMENTAL INFORMATION

- Conformity with LEED®v4 IEQ Credit: Low-Emitting Materials
- Conformity with LEED®v4 MR Credit (Option 1): Building Product Disclosure and Optimization - Sourcing of Raw Materials

APPROVALS / CERTIFICATES

Sika® Ucrete® RG29 NA meets the requirements of CFIA for use in food plants.

PRODUCT INFORMATION

Composition / Manufacturing	Water-dispersed polyurethane-cement hybrid	
Packaging	202.64 kg - 95.14 L unit Consists of 3 parts: part 1 + part 2 + part 3 Part 1: 8 x 1.93 kg foil pouches in a cardboard box. Part 2: 8 x 1.66 kg foil pouches in a card board box. Part 3: 8 x 21.74 kg multi-wall paper bags. **NOTE:** A 202.64 kg unit will produce 8 x 25.33 kg mixes	
Colour	Cured colour	Red, Blue, Cream, Green, Charcoal, Grey and Light Grey
Shelf Life	12 months in original unopened packaging	
Storage Conditions	Store dry at temperatures between 10 °C (50 °F) and 25 °C (77 °F). Protect from freezing. If frozen, discard.	
Density	~2.13 kg/L (~17.75 lb/US gal.)	(ASTM C905)
Volatile organic compound (VOC) content	Part 1 + Part 2 + Part 3 = ~5 g/L	
CSC MasterFormat®	**09 62 00 | SPECIALTY FLOORING**	

TECHNICAL INFORMATION

Shore D Hardness	~85		(ASTM D2240)
Abrasion Resistance	~0.17 g loss: CS-17 wheel / 1000 g / 1000 cycles ~2.65 g loss: H-22 wheel / 1000 g) / 1000 cycles		(ASTM D4060)
Resistance to Impact	~9.08 joules (~6.70 ft*lb) at 3 mm (1/8") of thickness		(ASTM D2794)
Compressive Strength	24 hours 3 days 7 days 28 days	~25 MPa (~3626 psi) ~33 MPa (~4786 psi) ~34 MPa (~4931 psi) ~35 MPa (~5076 psi)	(ASTM C579)
Tensile Strength in Flexure	~8.1 MPa (1175 psi)		(ASTM C580)
Tensile Strength	~3.89 MPa (~564 psi)		(ASTM C307)
Pull-Out Resistance	>1.75 MPa (254 psi) (substrate failure)		(ASTM D4541)
Thermal Compatibility	Pass		(ASTM C884)
Coefficient of Thermal Expansion	~2.6 x 10^{-5} mm/mm/°C (~1.44 x 10^{-5} in/in/°F)		(ASTM D696)
Chemical Resistance	Sika®Ucrete® systems offer exceptional resistance to a wide range of chemical aggressors. For example, Sika® Ucrete® RG29 NA 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® RG29 NA 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.

Microbiological Resistance	Resistance to Fungi Growth	Rated 0 (no growth)	(ASTM G21)
	Resistance to Mold Growth	Rated 10 (highest resistance)	(ASTM D3273)
Indentation	~ 0%		(MIL-PRF-24613)
Water Absorption	~0.16%		(ASTM C413)
Softening Point	~130 °C (~266 °F)		

APPLICATION INFORMATION

Consumption

Sikafloor® Vertical Epoxy Primer:
~4 m^2/L (~160 ft^2/US gal.) ~10 mil w.f.t.

Sika® Ucrete® RG29 NA
1 x 25.33 kg mix of Sika® Ucrete® RG29 NA consisting of:

1 (one) x **Part 1** + 1 (one) x **Part 2** + 1 (one) x **Part 3** will yield:

~3.6 m^2 per 25.33 kg mix (~39 ft^2) at 3 mm (1/8 in) w.f.t.
~1.8 m^2 per 25,33 kg mix (~19.5 ft2) at 6 mm (1/4 in) w.f.t.

NOTE: Actual coverage rates and material consumption will depend upon porosity and profile of substrates. Allowance must also be made for variation in film thickness or number of coats required to achieve complete coverage of surfaces. Test sections are recommended to establish correct coverage.

Product Temperature

Condition product at temperatures between 18 °C (65 °F) and 24 °C (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 be lower than the ambient temperature.
Substrate Temperature	Minimum 7 °C (45 °F) / Maximum 30 °C (86 °F)
Substrate Moisture Content	Sika® Ucrete® RG29 NA can be applied on substrates with higher moisture content. Check for rising moisture. The substrate must be visibly dry without standing water.

Pot Life

Material Temperature	Time
10 °C (50 °F)	~ 30 - 35 minutes
20 °C (68 °F)	~ 20 - 25 minutes
30 °C (86 °F)	~ 10 - 15 minutes

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

Waiting Time / Overcoating

Before applying sealer coat on Sika® Ucrete® RG29 NA, allow for the following waiting times:

Substrate Temperature	Minimum	Maximum
10 °C (50 °F)	24 hours	5 days
20 °C (68 °F)	12 hours	48 hours
30 °C (68 °F)	6 hours	36 hours

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 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 or fibre-reinforced polyester (FRP) composites.
- Do not apply Sika® Ucrete® RG29 NA to concrete substrate containing aggregates susceptible to ASR

(Alkali Silica Reaction) due to risk of natural alkali redistribution below Sika® Ucrete® RG29 NA 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.
- Do not featheredge Sika® Ucrete® RG29 NA.
- Do not apply to cracked or unsound substrates.
- Do not use on exterior, Sika® Ucrete® RG29 NA is for interior use only.
- Do not apply to surfaces where moisture vapour can condense and freeze.
- Do not use for negative side waterproofing.
- Do not thin Sika® Ucrete® RG29 NA. Addition of thinners (e.g., water, solvent, etc.) will cause slow cure and reduce ultimate properties of this product. On no account should thinners be added to the mix. Adding thinners 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.).
- 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® RG29 NA surface post application.
- 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® RG29 NA 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® RG29 NA 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.
- To take in account 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.
- To take in consideration 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® TC31 NA applied as a top coat.
- To take in account that Sika® Ucrete® RG29 NA will discolour over time when exposed to UV light and under certain artificial lighting conditions. Use Sika®Ucrete® 33 NA 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® RG29 NA 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 3 linear meters[1] (ideally involving an inside and an outside vertical corner)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.

[1] In areas where Sika® Ucrete® RG29 NA is to be used for a floor application, the mock-up should be 10 m^2.

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

The concrete substrate sound and solid. The compressive strength of the concrete substrate should be at least 25 MPa (3,625 psi) and a minimum of 1.5 MPa (217 psi) in tension, at the time of 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, fungus, 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® RG29 NA.

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 3 (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).

Whend used for detailing on floors. Repairs to cementitious substrates, filling of blowholes,leveling of irregularities, etc. should be carried out using an appropriate Sika profiling mortar. Contact Sika Technical Service and ask for a written recommendation.

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

Edge Terminations

All free edges of 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. Contact Sikafloor Technical Service for more information and construction details.

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 = 1 (one) x **Part 1** : 1 (one) x **Part 2 :** 1 (one) x **Part 3**

Note: Mix complete units only

Do not hand mix Sikafloor® 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 (e.g., 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 2 separately, making sure all solids, including pigments, are uniformly distributed. Start mixer; add part 1 and part 2, blending for 30 seconds. Add part 3 (powder) pouring slowly over a period of 20 seconds. DO NOT DUMP POWDER INTO RESIN. INSTEAD, 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 all 3 parts. 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.

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

Cool Substrates: Application attempted at material, ambient and substrate temperatures below 18 °C (65 °F) will result in a decrease in product workability and slower cure rates.

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: Application attempted at material, ambient and substrate temperatures below 18°C (65°F) will result in a decrease in product workability and slower cure rates.

Prepare and apply Sikafloor® Vertical Epoxy Primer at a rate of approximately 4 m^2/L (160 ft^2/US gal.) ~10 mil w.f.t. using a brush or roller to provide uniform coverage. Primer must be tacky during the application of Sika® Ucrete® RG29 NA mortar. Only mix and apply enough primer that can be overlaid before it cures (approximately 1 hour at 20 °C [68 °F]). If the primer becomes glossy or loses tackiness, remove any surface contaminants then recoat with additional Sikafloor® Vertical Epoxy Primer.

Sika® Ucrete® RG29 NA Mortar

Apply the mortar Sika® Ucrete® RG29 NA using steel trowels to spread and compact it on vertical surfaces. A cove based trowel with a minimum radius of 19 mm (3/4 in.) is recommended. A light brushing of the surface of the mortar, while it is still workable, will close any surface voids. Low-level halogen light will assist in identifying trowel marks and waves while finishing the cove base.

Allow a minimum 18 hours cure period at 20 °C (68 °F) before exposure to light contact, five (5) days before exposure to normal mechanical elements.

CLEAN UP

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

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MAINTENANCE

CLEANING

Sikafloor® 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 use.

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