



The Chemical Company

PRODUCT DATA

9 09 67 23 **Resinous
Flooring**

UCRETE® HF

Polyurethane-concrete resurfacing system

Description

Ucrete® HF is a three-component polyurethane-concrete flooring system. This troweled, monolithic flooring system is installed from 1/4 – 3/8" (6 – 9.5 mm) or greater. The thickness is determined by the service and cleaning temperatures and the severity of traffic expected.

Ucrete® HF floors are extremely tough and have many physical properties that exceed those of typical concrete.

Yield

For coverage rates, refer to the Ucrete® Contractor Installation Guideline.

Packaging

Parts 1 and 2: 1/2 gallon (1.9 L) cans, filled to provide the proper mixing ratio

Part 3: 43 lb (19.5 kg) bags

Part 4: 1 lb (0.4 kg) pigment packs

Color

Red, gray, cream, green, and charcoal. Because Ucrete® HF is a colored polyurethane concrete, color uniformity cannot be completely guaranteed from batch to batch. Do not mix batches within a single area.

Shelf Life

Part 1:

6 months when properly stored

Parts 2 and 3:

1 year when properly stored

Part 4:

2 years when properly stored

Features

- Thermal stability
- Fast curing
- Solvent free
- No priming or sealing of substrate
- 30 years of project references
- Can be applied to 7 – 10 day old properly prepared concrete
- Extremely high bond strength
- Chemical resistant
- Unaffected by freeze/thaw cycles
- Wide temperature in-service range from -50 – 235° F (-45 – 112° C)
- Excellent impact and abrasion resistance
- Coefficient of thermal expansion similar to concrete
- Slip resistant

Benefits

- Resists steam or continuous hot-water cleaning
- Minimizes down time
- Low odor; VOC compliant
- Single-lift application
- Proven track record
- Accelerates work schedules
- Reduces shear at bond line
- Tolerates organic and inorganic acids, alkalis and salts
- Handles wide temperature fluctuations
- Exceeds that of typical epoxy overlays
- Handles heavy traffic
- Prevents shear at bond line
- Meets ADA recommendations

Storage

Store and transport in unopened containers in a clean, dry area in stable temperatures approximating 60 to 73° F (15 to 23° C).

Where to Use

APPLICATION

- Where severe conditions exist—high impact pressure, thermal shock, and chemical exposure
- Where steam or hot water is required for cleaning
- Badly damaged surfaces that need a fast, economical resurfacer
- New construction projects
- Meat, poultry, and dairy plants,

- Bottling facilities
- Pharmaceutical plants
- Commercial kitchens and restaurants
- Pulp and paper mills
- Chemical processing facilities
- Waste-water treatment facilities
- Freezers and coolers

LOCATION

- Interior or exterior applications

SUBSTRATE

- New and existing concrete surfaces and toppings; when applying over other surfaces, contact BASF Technical Service



Technical Data

Composition

Ucrete® HF is a three-component polyurethane concrete.

Compliances

- USDA accepted for use in federally inspected meat and poultry plants in the USA
- Ministry of Agriculture, Canada, accepted for use in food establishments in Canada
- British Standard Specifications (BSS), for use in the U.K.
- Meets ADA recommendations for a slip-resistant flooring surface

Test Data

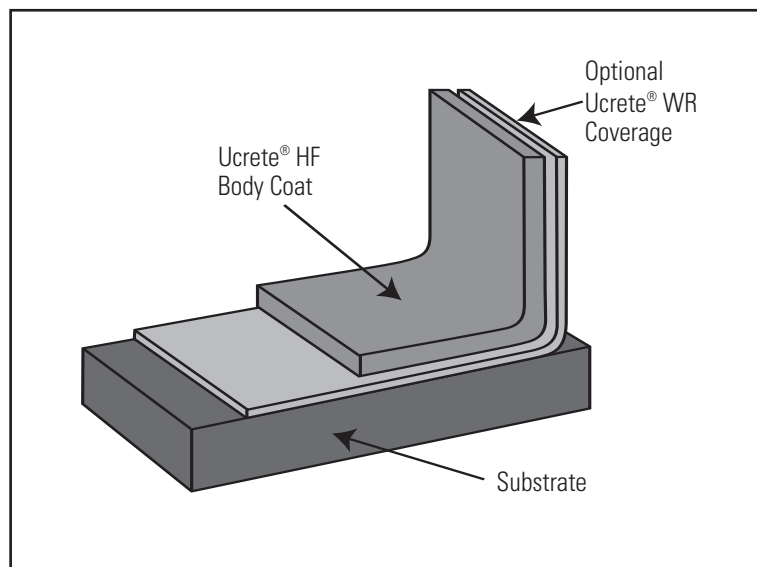
PROPERTY	RESULTS	TEST METHODS
Compressive strength , psi (MPa)	7,300 (50.3)	ASTM C 579
Tensile strength , psi (MPa)	800 (5.5)	ASTM C 307
Coefficient of thermal expansion , in/in/° F (cm/cm/° C)	1.1 x 10 ⁻⁵ (2.0 x 10 ⁻⁵)	ASTM C 531
Density , lb/ft ³ (g/cm ³)	130 (2.08)	ASTM C 905
Resistance to fungi growth	Passes, rating of one	ASTM G 21
Impact resistance	No visible damage or deterioration at minimum 160 in-lb	ASTM D 2794
Compressive modulus , psi (MPa)	1.7 x 10 ⁵ (1,170)	ASTM C 469
Flexural strength , psi (MPa)	1,800 (12.4)	ASTM C 580
Modulus of elasticity , psi (MPa)	1.7 x 10 ⁵ (1,170)	ASTM C 469
Thermal conductivity , BTU-in/in-ft ² °F (W/mK)	8 (1.2)	ASTM C 177
Water absorption , %	< 0.1	ASTM C 413
Abrasion resistance , g loss; CS-17 Wheel, 1,000 cycles	0.07	ASTM D 4060
Resistance to elevated temperatures	No flow or softening	MIL-D-3134
Adhesion , psi (MPa)	400 (2.8) 100% concrete failure	ASTM D 4541
Coefficient of friction , wet and dry	Passes ADA recommendations	ASTM D 2047

Chemical Resistance

In accordance with ASTM D 1308, Ucrete® HF will resist exposure for up to 48 hours at 72° F (22° C) for the following chemicals.

- Dilute mineral acids including hydrochloric (< 35%), phosphoric (< 50%), and sulfuric (< 30%)
- Alkalis, including potassium hydroxide to a 50% concentration
- Some dilute organic acids such as acetic (30%) formic, citric, and uric
- Fats, oils, and sugars
- Mineral oils, diesel fuel, kerosene, and gasoline
- Most organic solvents, including aliphatic and aromatic hydrocarbons and alcohol

NOTE: Full chemical resistance is achieved after curing for 7 days. For chemical resistance to a specific compound, consult the Chemical Resistance Guide. Contact your local BASF representative for more information.



How to Apply

Ucrete® systems are installed by approved contracting firms that have completed the manufacturer's training workshops. Ucrete® is a globally branded product line with industry synergies around the world.

The following is only a summary of the installation techniques used by your Ucrete® approved contractors. Refer to the Ucrete® Contractor Installation Guideline for more information.

Surface Preparation

1. Floors must be structurally sound and properly cured. Test floor for vapor drive in accordance with ASTM D 4263.
2. Repair concrete as necessary.
3. Use a commercial degreaser to clean floors of oil, grease, and other bond-inhibiting materials.
4. Remove curing and parting compounds and other surface hardeners and floor coatings in accordance with the manufacturer's instructions.
5. Mechanical surface profiling is the method of surface penetration for both new and existing floors. Mechanically profile the floor to a minimum CSP 4-5 as described by the International Concrete Repair Institute.
6. Apply a 10 by 10 ft (3 by 3 m) test in an inconspicuous area that meets the owner's expectations for appearance, slip resistance, and performance.

Application

1. Install Ucrete® WR cove base, as required. Refer to the Ucrete® Contractor Installation Guideline for details.

2. Mix the 3 components of Ucrete® HF using a mechanical mixer. The materials are supplied in pre-measured containers.

3. Screed or trowel apply the mixed material onto the floor. Hand trowel or power trowel the material to compact and level the topping to the specified thickness. Install to a thickness of 1/4 – 3/8" (6 – 9.5 mm), depending on the job requirements.

Curing Time

The floor can be returned to full service after 12 – 24 hours at 70° F (21° C).

Maintenance

Regular cleaning and maintenance will prolong the life of all polymer flooring systems, enhance their appearance, and reduce any tendency to retain dirt. Ucrete® HF will withstand steam-cleaning, high-pressure hot-water washdowns (2,500 psi [17.2 MPa] at 220° F [104° C]) along with a wide range of decontamination and degreasing materials.

For Best Performance

- The owner and architect should discuss joint details with the flooring contractor before the job starts.
- Do not expose the Ucrete® HF to any chemicals until fully cured (12 – 24 hours at 70° F [21° C]).
- In climates with temperatures below 50° F (10° C), curing time could exceed 48 hours to reach full operational strength.
- Substrates on or below grade require an effective moisture-vapor barrier; if not present, please consult your BASF representative for options.

- The substrate must be structurally sound, clean, dry, and free of any foreign matter that could inhibit adhesion.
- Do not apply Ucrete® HF at temperatures below 40° F (4° C) or above 85° F (29° C) or if relative humidity is above 85%.
- Do not apply Ucrete® HF directly to unreinforced sand-cement screeds, asphalt, bitumen substrates, glazed tile or nonporous brick and tile, magnesite, copper, aluminum, existing coatings, epoxies, or polyesters. For optimal performance, apply directly to concrete. Consult with your BASF representative for further advice.
- Ucrete® HF is designed primarily as a one-step application product. Variation in the thickness will affect the system's thermal and impact resistance. Thicknesses from 1/4 – 1" (6 – 12 mm) are recommended, with the thicker systems providing the highest level of thermal shock and impact resistance.
- The final color of Ucrete® HF on both interior and exterior applications may shift under UV light exposure. The performance of the product, however, will not be affected.
- Build coves and vertical surfaces with Ucrete® WR. Contact BASF Technical Service for details.
- BASF representatives and flooring specialists are available to assist you in the selection of the proper flooring system. Call 1-800-243-6739 for in-house and field technical assistance.
- Make certain the most current versions of product data sheet and MSDS are being used; call Customer Service (1-800-433-9517) to verify the most current versions.
- Proper application is the responsibility of the user. Field visits by BASF personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.

Health, Safety and Environmental

Read, understand and follow Material Safety Data Sheets and product labels for all components of this flooring system prior to use. The MSDS can be obtained by searching for them on www.BuildingSystems.BASF.com, e-mailing your request to basfscst@basf.com or calling 800/433-9517. Use only as directed.

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