



The Chemical Company

PRODUCT DATA

9 09 67 23 **Resinous
Flooring**

UCRETE® MF

**Flowable polyurethane-concrete
floor-resurfacing system**

Description

Ucrete® MF is a three-component polyurethane-concrete floor system. This horizontal, flowable, monolithic system is applied at a thickness of 3/16 – 1/4" (4 – 6 mm) or greater and forms a smooth matte surface. The thickness is determined by the service and cleaning temperatures and the severity of traffic expected. Ucrete® 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

Part 1: 1 gallon (3.78 L) cans, filled to produce the proper ratio

Part 2: 1 gallon (3.78 L) cans, filled to produce the proper ratio

Part 3: 42 lb (19 kg) bags

Color

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

Features

- Fast curing
- Two-step application
- Unaffected by freeze/thaw cycles
- Solvent free
- 30 years of project references
- Chemical resistant
- Extremely high bond strength
- Wide temperature service range from -50 to 200° F (-45 to 93° C)
- Can be applied to 7 – 10 day old concrete
- Coefficient of thermal expansion similar to concrete
- Abrasion-resistant
- Excellent impact resistance at 1/4" (6 mm) thickness
- Slip-resistant finish

Benefits

- Minimizes down time
- 48-hour installation time
- For interior or exterior use
- Low odor; VOC compliant
- Proven track record
- Tolerates organic and inorganic acids, alkalis and salts
- Reduces shear at bond line
- Exceeds that of typical epoxy overlays
- Accelerates work schedules
- Reduces shear at bond line
- Tough, durable floor surfaces
- Handles heavy traffic
- Meets ADA recommendations

Shelf Life

Part 1: 6 months when properly stored.
Parts 2 and 3: 1 year when properly stored.

Storage

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

Where to Use

APPLICATION

- Floors subject to impact pressure, thermal shock, and chemical exposure; for more severe conditions see the Ucrete® HF product data sheet.
- Areas subject to heavy foot traffic and heavy wheeled vehicles, such as fork lift trucks
- Wet and dry processing areas
- Filling cracks or grouting holes and joints in concrete and brick

- Pharmaceutical facilities
- Meat, poultry, and dairy plants
- Bakeries
- Laboratories
- Food warehouses
- Television studios
- Textile production sites
- Assembly plants
- Freezers and refrigerated storage areas

LOCATION

- Interior and exterior applications

SUBSTRATE

- New and existing concrete surfaces and toppings; for other substrates, contact BASF Technical Service



Technical Data

Composition

Ucrete® MF is a three-component polyurethane-concrete material.

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 surface

Test Data

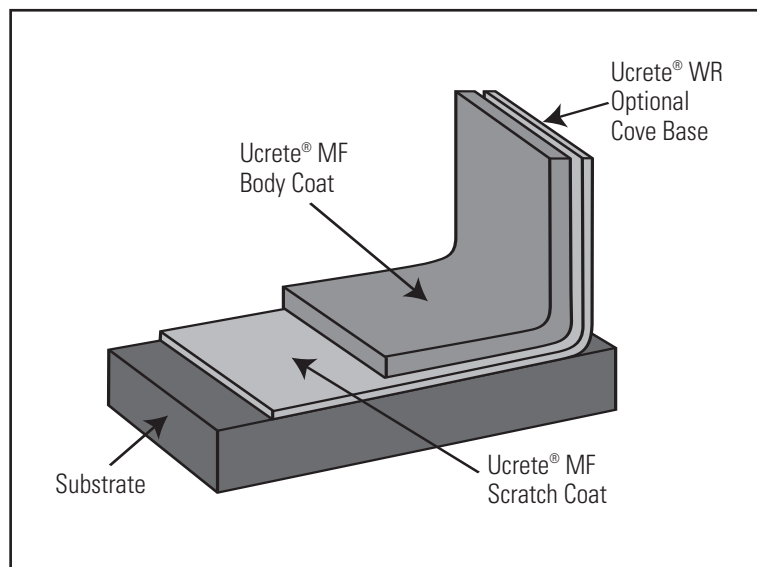
PROPERTY	RESULTS	TEST METHODS
Compressive strength , psi (MPa)	6,700 (46.2)	ASTM C 579
Tensile strength , psi (MPa)	1,000 (6.9)	ASTM C 307
Coefficient of thermal expansion , in/in/° F (cm/cm/° C)	2.2 x 10 ⁻⁶ (4.0 x 10 ⁻⁶)	ASTM C 531
Density , lb/ft ³ (g/cm ³)	123 (1.97)	ASTM C 905
Resistance to fungi growth	Passes	ASTM G 21
Impact resistance	No visible damage or deterioration at minimum 160 in-lb	ASTM D 2794
Compressive modulus , psi (MPa)	1.5 x 10 ⁵ (1,030)	ASTM C 469
Flexural strength , psi (MPa)	2,600 (17.9)	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 (0.9)	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® MF will resist exposure for up to 7 days 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 48 hours. For chemical resistance to a specific compound, consult the Ucrete® Chemical Resistance Guide. Contact your local BASF representative for more information.



How to Apply

Ucrete® systems are installed by approved contracting firms who 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 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.

Mixing

Refer to the Ucrete® Contractor Installation guideline for details.

Application

1. Install Ucrete® WR cove base, as required. Refer to the Ucrete® Installation Guideline for details.
2. Apply a 1/16" (1.5 mm) scratch coat to seal the substrate and ensure a smooth surface. For more information, refer to the Ucrete® Contractor Installation Guideline.
3. Trowel apply the mixture to the floor. Backroll with a loop roller and spike roller to achieve the specified thickness of 3/16 – 1/4" (4 – 6 mm).

Drying Time

The floor can be returned to full service in 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® will withstand high-pressure or hot water washdowns (2,500 psi [17.2 MPa] at 180° F [82° C] plus), along with a wide range of decontamination and degreasing materials.

For Best Performance

- The architect and owner should address joint details with the flooring contractor before the job starts.
- Do not apply Ucrete® MF to unreinforced sand-cement screeds, asphalt or bitumen substrates, glazed tile or nonporous brick and tile, magnesite, copper, aluminum, existing coatings, epoxies, or polyesters; for optimal performance, apply directly to concrete.

- Use an effective moisture barrier on or below grade; if not present, consult your BASF representative for options.
- Substrates must be structurally sound, clean, dry, and free of any foreign matter that could inhibit adhesion.
- Do not apply at temperatures below 40° F (4° C) or above 85° F (29° C) or if the relative humidity is above 85%. Cool temperatures will affect workability.
- Do not expose the Ucrete® MF to any chemicals until fully cured (24 hours at 70° F [21° C]). When temperatures fall below 50° F (10° C), curing time could exceed 48 hours to reach full operational strength.
- Ucrete® MF is designed for a two-step application. Variations in thickness will affect the system's level of thermal-shock and impact resistance, with applications 1/4" (6 mm) in thickness providing greater resistance.
- The final color of Ucrete® MF, on both interior and exterior applications, may darken under UV light exposure. The performance of the product, however, will not be affected.
- Use Ucrete® WR to build coves and vertical surfaces. 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 basfbcsst@basf.com or calling 800/433-9517. Use only as directed.

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