



PRODUCT DATA

9 09 67 23 **Resinous
Flooring**

UCRETE® IRON FILLED

Polyurethane-concrete, metal aggregate resurfacing system

Description

Ucrete® Iron Filled is a four-component polyurethane-concrete, metal aggregate flooring system. This troweled, monolithic flooring system is installed from 1/4" – 1/2" (6 – 12 mm) or greater. The thickness is determined by the specific facility environment, especially the severity of abrasion expected. Ucrete Iron Filled floors are extremely tough and have many physical properties that exceed those of typical concrete.

Yield

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

Packaging

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

Part C: 52 lb (23 kg) bags

Part D: 1 lb (0.4 kg) pigment packs

Color

Red, gray, cream, charcoal, black, blue and green

Because Ucrete® Iron Filled 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 A: 6 months when properly stored

Part B and C: 1 year when properly stored

Part D: 2 years when properly stored

Features

- Uniquely processed metal aggregate
- No priming or sealing of substrate
- Chemical resistant
- Aggregate filled, trowel-applied system
- Solvent free
- Unaffected by freeze/thaw cycles
- Coefficient of thermal expansion similar to concrete
- Measurably tougher than concrete

Benefits

- Provides high level of impact tolerance and abrasion resistance
- Single-lift application
- Tolerates organic and inorganic acids, alkalis and salts
- Increases impact and abrasion resistance
- Low odor, VOC compliant
- Handles wide temperature fluctuations
- Prevents shear at bond line
- Long-lasting, durable flooring system

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
- Floors subject to heavy traffic, impact, abrasion and continuous wear
- Where excess wear has been deemed a safety hazard and increased wear is expected.
- New construction projects
- Heavy industrial manufacturing facilities
- Loading docks
- Heavy equipment maintenance facilities

LOCATION

- Interior surface applications.

SUBSTRATE

- Over new or existing concrete surfaces. When applying over other substrates, contact BASF Technical Service.

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.

Test Data

PROPERTY	RESULTS	TEST METHODS
Compressive Strength, psi (MPa):		
7 Days:	6,806	ASTM C579
14 Days:	7,332	ASTM C579
Tensile Strength, psi (MPa):		
7 Days:	792	ASTM C307
Flexural Strength, psi (MPa)		
7 Days:	2,100	ASTM C580
Toughness (% weight loss @ 2,000 cycles)	14.8%	LA Rattler Test
Impact Resistance , in/lb (m/kg)	> 160 @ 3 drops	Steel Ball Drop Test
NBS Abrasion Resistance , in (mm) @ 60 minutes	0.018	ASTM C779, Procedure A

Chemical Resistance

In accordance with ASTM D 1308, Ucrete® Iron Filled 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.

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 manufacturer's instructions.
5. Mechanical surface profiling is the method of surface preparation for both new and existing floors. Mechanically profile the floor to a minimum CSP-4 or CSP-5 as described by the International Concrete Repair Institute. Do not use acid etching for surface preparation. Do not use any method that will fracture the concrete.
6. Apply a 10 ft. by 10 ft. (3m x 3m) 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 detailed information.
2. Mix the 4 components of Ucrete Iron Filled 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" to 1/2" (6 – 12 mm), depending upon the job requirements.

Curing Time

The flooring system may be able to be returned to full service after 12 – 24 hours at 70 °F (21 °C). The flooring system will continue to build up compressive strength and abrasion resistance over time and for some environments, an extended cure time may be necessary before system achieves published physical properties.

Regular cleaning and maintenance will prolong the life of all polymer flooring systems, enhance their appearance and reduce any tendency to retain dirt. Ucrete Iron Filled will withstand steam-cleaning, high-pressure hot water washdowns and a wide range of decontamination and degreasing materials.

For Best Performance

- Do not use in areas where a steel plate has worn through in less than a year.
- The owner and architect should discuss joint details with the flooring contractor before the job starts.
- Do not expose Ucrete Iron Filled to any chemicals until fully cured.
- Do not use in areas where the floor surface is exposed to acid and other materials that seriously and rapidly attack iron.
- In climates with temperatures below 50 °F (10 °C), curing times can be extended.
- 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 Iron Filled at temperatures below 40 °F (4 °C) or above 85 °F (29 °C) or if the relative humidity is above 85%.
- Do not apply Ucrete Iron Filled 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.
- The final color of Ucrete Iron Filled may shift under UV light exposure, even in interior applications. The performance of the product, however, will not be affected.
- Build coves and verticals 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 MSDS are being used; call BASF Customer Service at 1-800-433-9517 to verify the most current version.
- 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 and Safety

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.BASFBuildingSystems.com, e-mailing your request to basfbcsst@basf.com or calling 800/433-9517. Use only as directed respiratory protection in accordance with applicable Federal, state and local regulations. Swallowed, SEEK IMMEDIATE MEDICAL ATTENTION.

Refer to Material Safety Data Sheet (MSDS) for further information.

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