



Industrial Overlayment &
 REHABILITATION MORTAR



Updated 6.8.10

1 General Characteristics

Surfix™ is a cementitious, rapid setting, **semi-leveling** structural repair mortar designed for horizontal overlayment and underlayment applications on interior concrete surfaces. It is a single component powder that is water activated. **Surfix™** has 25 to 30 minutes of working time with a **return to service of three hours for foot traffic and six hours for wheeled traffic.** **Surfix™** can be ground and polished to a high gloss finish within twenty four hours of placement. **Surfix™** can be pigmented, stained with water, acrylic or epoxy based stain or painted with a latex or acrylic paint. **Surfix™** can be applied in ambient temperature ranges from 50 to 90 degrees Fahrenheit.

RECOMMENDED USES: Overlayment and rehabilitation for interior horizontal and/or sloped concrete and masonry. Suitable for surface rehabilitation of parking garages, under roof exterior surfaces, commercial and industrial flooring.

2 Additional Physical Properties

UNIT WEIGHT (NEAT)

115 lb/ft³ (1842 kg/m³)

SETTING TIME

Set Times at 72°F/22°C at 1/2" (1.2 cm) material depth

Initial set: 25 - 35

Final set: 45 - 60 minutes

VOLUME YIELD

0.41ft³ (.01 m³) per 45lb (20.4 kg) unit

MATERIAL COVERAGE IN SQUARE FEET

MATERIAL DEPTH (In inches)	.38	.50	.63	.75	.88	1.00
AREA COVERAGE	13.1	9.8	7.9	6.6	5.6	4.9

3 Specifications

Results provided by licensed engineering test laboratory and represent typical results from production materials. Actual results may vary from third party testing results; however, CERATECH's materials meet and/or exceed established internal quality control standards, (available upon request) . All samples were air cured.

Property	Results	Test Method
Compressive Strengths, psi (MPa)		
3 hours	1340 (9.2)	ASTM C 109
6 hours	2230 (15.4)	ASTM C 109
1 day - 24 hours	2880 (19.9)	ASTM C 109
7 days	4053 (28.0)	ASTM C 109
28 days	6310 (43.5)	ASTM C 109
Flexural Strength, psi (MPa)		
7 days	515 (3.55)	ASTM C 78
28 days	600 (4.1)	ASTM C 78
Direct Tension, psi (MPa)		
7 days	330 (2.3)	ASTM C 496
28 days	376 (2.6)	ASTM C 496
Bond Strength, psi (MPa)		
7 days	1838 (12.7)	ASTM C 882
28 days	2219 (15.3)	ASTM C 882
Scaling Resistance, lbs/ft² (kg/m²)		
50 cycles	0	ASTM C 672
Modulus of Elasticity, msi (GPa)		
28 days	2.01 (13.8)	ASTM C 469
Coefficient of Thermal Expansion, in/in/°F		
28 days	ND	AASHTO TP 60
Length Change, % of total length		
28 days soak / 28 days dry	ND / 0.017	ASTM C 157



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4 Site Preparation

Surfaces should be prepared in accordance with ICRI 03730, "Guide for Surface Preparation for the Repair of Deteriorated Concrete Resulting from Reinforcing Steel Corrosion." and / or ACI 546R-96 "Concrete Repair Guide". Concrete surfaces should be prepared by appropriate mechanical methods to obtain an exposed aggregate surface with a minimum surface profile of +/- 1/16" (1.5 mm) in accordance with ICRI 03732. Pre-existing coatings or surface treatments should be completely removed. Dry, clean, stable surfaces are required. Remove all standing water. Reinforcing steel should have no loose scale.

5 Mixing Instructions

Standard NEAT Procedures (Bucket Mixing with Drill & Paddle)

- Loosen material by tumbling bucket & dry mixing *before* adding water.
- To ensure product performance, **DO NOT divide or separate individual units into smaller portions. MIX ENTIRE CONTENTS AT ONE TIME.**
- A drill (6 amp minimum) with a mixer blade turning at least 500 to 800 rpm is required. Drills with speeds greater than 800 RPMs may entrain air in the mix.
- Multiple units, up to four, may be combined and mixed simultaneously.
- **DO NOT HAND MIX**
- To begin the mixing process, add the proper amount of water:

For Each	Add
45 lb (20.4 kg) 5 gallon (18.9 L) plastic bucket	1 U.S. gallon (3.8 L) of water
45lb (20.4 kg) bag	1 U.S. gallon (3.8 L) of water

- The desired water temperature is between 60°F/16°C and 72°F/22°C.
- **DO NOT USE WATER ABOVE 85°F/29°C**
- **After adding the water, it is very important to rapidly incorporate all of the dry SURFIX™ powders into water to achieve a uniform wet mixture within the first 30 seconds of mixing.**

Mixing Notes:

1. Measure and note mixture temperature 30 seconds after adding water and mixing. Mix until a 10°F/5°C rise in temperature is obtained, but never less than 4 minutes.

6 Packaging & Shelf Life

PACKAGING

- 45 lb (20.4 kg) 5 gallon (18.9 L) bucket
- 45 lb (20.4 kg) bag

SHELF LIFE

- Buckets - 3 years (when stored in original unopened bucket)
- Bags - 1 Year

STORAGE

- Buckets are environmentally sealed and require no special storage requirements

7 Limitations

- Not recommended for surface temperatures above 110°F/43°C or below 0°F/-18°C.
- Will not bond to polymers.
- Cannot be pumped.
- Must be mixed with drill and paddle - **Pavemend SLQ™** cannot be mixed in grout mixer or rotating drum concrete mixers due to rapid set times.

8 Application & Finish

- Working times are influenced by surface temperature and material profile thickness. **Working time can be extended by adding CERATECH's Set Retarder Admixure to mix water. (See Set Retardant product data sheet for more information)**
- Minimum application profile thickness is 0.38" (10 mm). There are no restrictions to the depth of the repair profile.
- Upon initial set of **Surfix™**, a broom finish can be applied.
- At 24 hours, **Surfix™** can be saw-cut, drilled, sanded and/or polished.
- Do not re-temper. The addition of water to the surface of the repair will negatively affect the materials final properties.
- **General loading for foot traffic 3 hours, wheeled traffic in 6 hours after final set**
- **All previously existing joints must be re-established within 3 - 6 hours of final set.**
- **Self-curing**
- Clean all tools and equipment with water prior to the material reaching final set.



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8 Safety

- See **Material Safety Data Sheet (MSDS)**.
- This document does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this document to establish appropriate safety and health practices and to determine the applicability of regulatory limitations prior to use.
- Dispose of water and materials in accordance with Federal, State and Local regulations.
- The use of a dust mask, safety goggles and gloves is recommended.
- Keep out of the reach of children.

SURFIX™

Attention! To Ensure Performance **Read All Mixing Instructions Prior To Using!**

Drill & Paddle Mixing Instructions **Repair Area Must Be Clean & Mechanically Sound**

1

Attach Mixing Paddle to Drill
*Use this style paddle only!
Heavy Duty Drill
(Min. 500 rpm)
(Max. 800 rpm)

2

Tumble SURFIX Bucket Several Times Prior To Opening To Break Up & Loosen Material

3

Loosen Dry Powder with Drill Paddle.
*For best results, mix water temperatures should be between 60° F/16°C & 72° F/22°C

4

Add 1 gallon of water per 45 lb. unit of SURFIX

5

Measure and note mix temperature 30 seconds after addition of water and mixing.
Continue mixing until a 10° F/5°C rise in temperature is obtained BUT NEVER LESS THAN 4 MINUTES

6

Use Thermal Measuring Gun To Verify Mix Temperature

7

Pour SURFIX™ On To Area To Be Rehabilitated
DO NOT Finish with Water

8

Promptly Rinse All Tools Before pavement Hardens On Tools

Within first 30 seconds, aggressively mix ALL material into water

Spread SURFIX Evenly Over Area To Be Resurfaced. Float and / or Scream Material As Desired. SURFIX Can Be Trowelled, Broom Textured or Stamped.

When Utilizing Forms, A Bond Release Agent Must Be Used

WARRANTY:
 CERATECH, Inc. ("CERATECH") warrants that its products are free from defects in materials and workmanship. If any CERATECH product fails to conform to this warranty, CERATECH will replace the product at no cost to the buyer or refund the purchase price, at CERATECH's election. Any warranty claim must be made within one (1) year from the date of the shipment of the product to the buyer. In no event shall CERATECH be liable to the buyer for any consequential or incidental damages of any nature. CERATECH MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, WRITTEN OR ORAL AS TO THE MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF ITS PRODUCTS AND EXCLUDES THE SAME. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF.

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