

## PRODUCT DATA

3<sup>03 01 00</sup>Maintenance of  
Concrete

## SD2 REPAIR MORTAR

Polymer-modified cement-based mortar for full-depth repairs with integral corrosion inhibitor

### Description

SD2 Repair Mortar is a two-component polymer-modified cement-based mortar with an integral corrosion inhibitor. This versatile mortar is designed for deep horizontal repairs in concrete as well as resurfacing and leveling large areas.

### Yield

No. 1 Kit:  
0.5 ft<sup>3</sup> (0.015 m<sup>3</sup>)

No. 2 Kit:  
2.5 ft<sup>3</sup> (0.075 m<sup>3</sup>)

### Packaging

No. 1 Kit:  
55 lbs (25 kg) powder  
1 gallon (3.8 L) liquid

No. 2 Kit:  
5 55 lb (25 kg) bags of powder  
5 gallons (18.9 L) of liquid

### Shelf Life

1 year when properly stored

### Storage

Store in unopened containers at 60 to 80° F (16 to 27° C) in clean, dry conditions. High temperatures or humidity will reduce the shelf life.

### Features

- Polymer modification
- Coefficient of thermal expansion similar to concrete
- Reduced permeability
- High-build product
- Shrinkage compensated
- Contains an integral corrosion inhibitor

### Benefits

- Improves adhesion
- Reduces failure from thermal expansion at bond line
- Increases freeze/thaw resistance
- May be applied up to 2" (51 mm) thick in a single lift without aggregate extension, over 2" (51 mm) with aggregate extension
- Reduces shrinkage cracking; reduces stress at bond lines
- Prevents corrosion from a wide range of sources and environments

### Where to Use

#### APPLICATION

- Full depth repairs
- Deep horizontal structural repairs
- Resurfacing of concrete, block, brick, and masonry
- Bridges
- Walkways
- Parking structures

#### LOCATION

- Interior or exterior
- Horizontal surfaces

#### SUBSTRATE

- Concrete and masonry

### How to Apply

#### Surface Preparation

1. Concrete substrate must be structurally sound and fully cured for 28 days.
2. Repair areas deeper than 1/8" (3 mm) should have sawcut straight edges with a minimum depth of 1/4" (6 mm) depth.
3. Remove all loose or unsound concrete. Clean the surface by removing any dust, contaminated material, oil, paint, grease, or corrosion deposits. Do not use a method of removal that could damage the concrete.
4. Where breaking out is not required, roughen the surface and remove any laitance by light scabbling or sandblasting. Remove oil and grease deposits by steam cleaning, detergent scrubbing, or degreasing. To ensure optimum results, test the effectiveness of decontamination with a pull-off test.

## Technical Data

### Composition

SD2 Repair Mortar is a proprietary blend of cement, graded aggregate, shrinkage-compensating agents, additives, and latex.

### Typical Properties

PROPERTY	VALUE
<b>Density</b> , lbs/ft <sup>3</sup> (kg/m <sup>3</sup> )	137 (2,194)
<b>Coefficient of thermal expansion</b> , in/in/° F (cm/cm/° C) (compatible with concrete)	4.1 x 10 <sup>-6</sup> (7.3 x 10 <sup>-6</sup> )
<b>Setting time</b>	
Initial, min	45
Final, hrs	2 – 4
<b>Pot life approximately</b> , min	45

### Test Data

PROPERTY	RESULTS	TEST METHODS
<b>Compressive strength</b> , psi (MPa)		ASTM C 109
1 day	3,000 (21)	
28 days	6,000 (41)	
<b>Flexural strength</b> , psi (MPa), at 28 days	1,500 (10.3)	ASTM C 348
<b>Slant shear bond</b> , psi (MPa), at 28 days	1,400 (9.6)	AASHTO T-237
<b>Water absorption</b> , % absorbed	0.090	ASTM C 140
<b>Water-vapor transmission rate</b> , perms	4 – 6	ASTM E 96
<b>Freeze/thaw resistance</b> , % RDM, at 300 cycles	96	ASTM C 666

All application and performance values are typical for the material, but may vary with test methods, conditions, and configurations.

## REINFORCING STEEL

1. Remove all oxidation and scale from the exposed reinforcing steel in accordance with ICRI Technical Guideline No. 03730 "Guide for Surface Preparation for the Repair of Deteriorated Concrete Resulting from Reinforcing Steel Corrosion."

2. For additional protection from future corrosion, coat the prepared reinforcing steel with Zincrich Rebar Primer.

### Mixing

1. SD2 Repair Mortar must be thoroughly mixed; a forced action mixer is essential. For the occasional one-bag mix, a suitably sized drum using an approved spiral paddle and a slow speed (400 – 500 rpm) heavy-duty drill is acceptable. Do not use free-fall mixers.

2. The material should always be mixed in a clean container. For normal applications, place 3/4 of a gallon jug (2.8 L) of Polymer Liquid into the clean mixer. With the machine in operation, add 1 complete 55 lb (25 kg) bag of SD2 Repair Mortar. The powder should always be added to the liquid. Do not mix partial bags.

3. Mix for 3 – 5 minutes until material is fully homogeneous. Avoid overmixing.

4. Depending on the ambient temperature and the desired consistency, the remaining Polymer Liquid may be added, up to a maximum liquid content of 1 gallon (3.8 L) per 55 lb (25 kg) bag of SD2 Repair Mortar.

### Application

1. Dampen surface being repaired with clean water. It must be saturated surface-dry (SSD) with no standing puddles.

2. Apply scrub coat of the mixed material by brushing it into the substrate. Do not thin the scrub coat.

3. While scrub coat is still wet, apply SD2 Repair Mortar, ensuring good compaction of the mortar by tamping or troweling.

4. Achieve consistent results by compacting material into deeper areas before completely filling the void.

5. For areas deeper than 2" (51 mm), 15 lbs (6.8 kg) of 3/8" (10 mm) SSD pea gravel per bag must be added. In areas deeper than 4" (102 mm), 30 lbs (13.6 kg) of 3/8" (10 mm) SSD pea gravel must be added. The addition of aggregate may require additional Polymer Liquid Modifier.

### Curing

1. Proper curing is extremely important. For peak performance of the repair, cure SD2 Repair Mortar immediately after finishing in accordance with good concrete practice (ACI 308).

2. Proper curing is particularly important when ambient conditions (high temperature, low humidity, or moderate to high winds) may cause rapid

moisture loss. In these conditions, use an ASTM C 309-compliant curing compound, sprayed onto the surface of the finished repair in a continuous film. Apply curing compound when the surface cannot be marred by the application process.

### Clean Up

Remove SD2 Repair Mortar from tools, equipment, and mixers with clean water immediately after use. Cured material can only be removed mechanically. Clean hands and skin immediately with soap and water or industrial hand cleaner. Do not use solvents.

### For Best Performance

- Featheredging may result in reduced durability and performance.
- Consult ACI guidelines for large repair areas with no control, expansion, or construction joints.
- Good construction practices require that all joints in a substrate be continued through any topping.
- 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 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

SD2 REPAIR MORTAR

### WARNING!

SD2 Repair Mortar contains silica, crystalline quartz; portland cement; iron oxide; fly ash; calcium oxide; anhydrite; gypsum.

### Risks

Product is alkaline on contact with water and may cause injury to skin or eyes. Ingestion or inhalation of dust may cause irritation. Contains small amount of free respirable quartz which has been listed as a suspected human carcinogen by NTP and IARC. Repeated or prolonged overexposure to free respirable quartz may cause silicosis or other serious and delayed lung injury.

### Precautions

Avoid contact with skin, eyes and clothing. Prevent inhalation of dust. Wash thoroughly after handling. Keep container closed when not in use. DO NOT take internally. Use only with adequate ventilation. Use impervious gloves, eye protection and if the TLV is exceeded or used in a poorly ventilated area, use NIOSH/MSHA approved respiratory protection in accordance with applicable Federal, state and local regulations.

### First Aid

In case of eye contact, flush thoroughly with water for at least 15 minutes. In case of skin contact, wash affected areas with soap and water. If irritation persists, SEEK MEDICAL ATTENTION. Remove and wash contaminated clothing. If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs or if swallowed, SEEK IMMEDIATE MEDICAL ATTENTION.

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

### Proposition 65

This product contains material listed by the State of California as known to cause cancer, birth defects or other reproductive harm.

### VOC Content

0 g/L or 0 lbs/gal less water and exempt solvents.

**For medical emergencies only,  
call ChemTrec (1-800-424-9300).**

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