

Sonneborn®

Concrete Repair Systems


SONOCRETE®

SONOPATCH® 100

Two-component multi-purpose repair mortar

Features

- Fast setting...
- High compressive strengths...
- Easily mixed and applied...
- Polymer modified...

Benefits

- Foot traffic in 24 hours
- Durable repairs
- Labor saving
- Resists de-icing salts

Where to Use

Sonopatch® 100

- Repair of structurally deteriorated concrete surfaces
- Repair of spalls and cavities
- Horizontal and vertical surfaces
- Above or below grade
- Interior or exterior

How to Apply Sonopatch® 100

Surface Preparation

1 Surfaces must be clean, sound, free of laitance, standing water, dust, grease, and other surface contaminants.

2 Remove all loose materials by hand or mechanically with a chipping hammer, chisel, scabbler, sandblast, waterblast, or similar methods.

3 Any exposed steel reinforcement must be cleaned to a white metal finish and primed with an anti-corrosive coating (see Sonoprep™ Data Guide Form No. 1017986).

4 For proper adhesion, concrete must have a fractured aggregate profile.

5 Repair areas should have saw cut straight edges with a minimum depth of 1/4" (6 mm) (avoid featheredging).

Mixing

1 Precondition Sonopatch® to 70°F ± 5° (21°C ± 3°) before mixing.

2 For best results, mechanically mix at slow speed with a 3/4" drill and mixing paddle.

3 Add most (all but 1 to 2 cups) of the 3/4 gallon (2.84 L) of Part A liquid into a clean mixing container. Add 42 lb. (19.1 kg) unit of Part B powder by gradually sifting the material while mixing with a slow speed 3/4" drill and mixing paddle. Mix until thoroughly blended. Add remaining Part A liquid to achieve the desired placement consistency. Continue mixing for approximately 2 minutes to ensure a uniform lump-free consistency.

4 Placement time is 15 minutes at 70°F (21°C) and 50% humidity.

5 If projects require larger quantities, multiple units may be mixed in a mortar mixer as follows: (a) predampen mortar mixer; (b) remove any excess water; (c) add 3/4 gallon (2.84 L) unit of Part A per 42 lb. (19.1 kg) unit of Part B; (d) add units gradually; (e) mix for 2 minutes to a lump-free uniform consistency.

Application

1 Dampen the surface with clean water; it must be saturated surface dry (SSD) with no standing water.

2 Apply a small quantity of the mixed Sonopatch® 100 to the SSD substrate. Thoroughly scrub, key in, and work the material throughout the cavity to promote bond.

3 Place the mortar into the damp scrub coat. Key in and compact thoroughly to secure bond.

4 Trowel the material to the desired finish after initial set. Featheredging may result in reduced performance.

5 The maximum single lift recommended is 3/4" (19 mm) in depth. For applications greater than 3/4", Sonopatch® 100 must be extended with up to 42 lbs. (19 kg) of suitable aggregate per kit. To add additional aggregate, first mix the Sonopatch® according to directions. While continuing to mix, add the maximum amount of washed, graded, SSD, low-absorption, high-density aggregate that will allow for proper consolidation of the repair material. Adjust the mixture to the same consistency it had before the

aggregates were added by adding small quantities of Part A or Part B. If successive lifts are installed, each lift should be scored and allowed to reach initial set before the next layer is applied.

Curing

Curing is mandatory for all repairs. Either damp curing for at least 3 days or proper application of an appropriate Sonneborn curing compound is satisfactory. Extra care should be taken to retain moisture for application on thin sections and in direct sunlight, hot weather, and wind.

Clean Up

Clean all tools and equipment immediately with water. Cured material can be removed by mechanical means only.

For Best Performance

- Sonopatch® 100 is recommended for concrete repairs only.
- Do not bridge moving cracks or joints.
- DO NOT apply below 40°F (4°C) or above 90°F (32°C).
- Protect from freezing before cure (24 hours).
- For large applications a bonding agent such as EpoGrip™ or Sonoprep™ (Form No. 1017922 or 1017986) is strongly recommended.
- Aggregate extension application of this mortar should be in accordance with ACI concrete guidelines.
- Do not add any admixtures.
- Featheredge applications may suffer reduced performance.
- For large repair areas with no control, expansion, or construction joints, refer to ACI guidelines.
- Protect liquid Part A from freezing; if frozen, discard.
- Do not exceed liquid requirements.
- Do not exceed a length to width ratio of 2 to 1 for the repair area.
- Failure to follow good trade practices may result in decreased material performance.
- Make certain the most current version of this data guide is 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 ChemRex® personnel are for the purpose of making technical recommendations only and are not for supervising or providing quality control on the jobsite.

Technical Data

Typical Properties	
Working time at 70°F (21°C), minutes	15
Compressive Strength, psi (MPa) ASTM C 109 *modified	
1 Day	800 (5.5)
28 Days	5,000 (34.5)
* 50% relative humidity	
Modulus of Elasticity, psi (GPa) ASTM C 215	
Result	2.8 x 10 ⁶ (19.0)
Splitting Tensile Strength, psi (MPa) ASTM C 496 (50% relative humidity)	
1 Day	140 (1.0)
28 Days	650 (4.5)
Flexural Strength, psi (MPa) ASTM C 348 *modified	
1 Day	200 (1.4)
28 Days	1,450 (10.0)
* 50% relative humidity	

Bond Strength, psi (MPa) ASTM C 882 *modified	
1 Day	300 (2.1)
28 Days	2,200 (15.2)
* Mortar scrubbed into substrate	
Chloride Permeability, in coulombs AASHTO-T-277 (According to ASTM C 1202-91, Table 1)	
Result	Low range
Length Change (shrinkage data), % expansion ASTM C 157 (wet cure)	
1 day	+0.014
28 days	+0.028
Linear Coefficient of Thermal Expansion, inches/inch/°F ASTM C 531	
Result	2.24 x 10 ⁻⁶

Test results are averages obtained under laboratory conditions. Reasonable variations can be expected.

Order Information

Packaging

Sonopatch® 100

- Part A: 1 gallon plastic jug containing 3/4 gallon (2.84 L) liquid.
- Part B: 42 lb. (19.1 kg) bag powder

Shelf life is typically 1 year if stored in unopened containers under normal conditions.

Protect liquid Part A from freezing; do not store below 35°F (2°C).

Color

- Concrete gray

- When extended with 42 lbs. (19.1 kg) coarse aggregate, Sonopatch® 100 yields 0.60 cubic ft. (0.017 m³)

Coverage

- 42 lb. (19.1 kg) bag yields 0.4 cubic ft. (0.011 m³)

Caution

Sonopatch® 100 Part A contains no hazardous ingredients

Risks

May cause skin, eye and respiratory irritation. Ingestion may cause irritation.

Precautions

KEEP OUT OF THE REACH OF CHILDREN. Avoid contact with eyes, skin and clothing. Avoid breathing vapor/mists. Use only with adequate ventilation. DO NOT take internally. 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. Wash thoroughly after handling. Keep container closed when not in use.

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. 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 does not knowingly contain materials which are known to the state of California to cause cancer, birth defects or other reproductive harm.

VOC Content

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

Caution

Sonopatch® 100 Part B contains Portland cement, silicon dioxide (quartz), calcium oxide, calcium aluminate

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 a 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

KEEP OUT OF THE REACH OF CHILDREN. Prevent contact with skin and eyes. Prevent inhalation of dust. DO NOT take internally. Use only with adequate ventilation. Wash thoroughly after handling. 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. SEEK IMMEDIATE MEDICAL ATTENTION. 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.

VOC Content

0 g/L or 0 lbs./gal.

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

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

Limited Warranty Notice

Every reasonable effort is made to apply ChemRex® exacting standards both in the manufacture of our products and in the information which we issue concerning these products and their use. We warrant our products to be of good quality and will replace or, at our election, refund the purchase price of any products proved defective. Satisfactory results depend not only upon quality products, but also upon many factors beyond our control. Therefore, except for such replacement or refund, CHEMREX® MAKES NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY, RESPECTING ITS PRODUCTS, and CHEMREX® shall have no other liability with respect thereto. Any claim regarding product defect must be received in writing within one (1) year from the date of shipment. No claim will be considered without such written notice or after the specified time interval. User shall determine the suitability of the products for the intended use and assume all risks and liability in connection therewith. Any authorized change in the printed recommendations concerning the use of our products must bear the signature of the ChemRex® Technical Manager.



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ChemRex®

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