

PRODUCT DATA

3 03 01 00 Maintenance of
Concrete

GEL PATCH

Nonsag concrete repair mortar for vertical and overhead applications

Description

Sonocrete® Gel Patch is a lightweight, one-component, high-strength, polymer-modified, silica-fume-enhanced repair mortar. It can be placed in lifts up to 2" without forming. Its cementitious formula incorporates microscopic glass-bead technology for excellent workability and superior finishing.

Yield

0.43 ft³/43 lb bag (0.012 m³/19.5 kg)

Packaging

43 lb (19.5 kg) polyethylene-lined bags

Color

Concrete gray

Shelf Life

1 year when properly stored

Storage

Store in unopened containers in a clean, dry area.

Features

- Nonsag
- Very low chloride permeability
- One component
- Superior workability
- Low shrinkage
- Light microscopic beads
- Polymer modified
- Precise blend of aggregate

Benefits

- Place in 2" (51 mm) thick lifts; readily sculpted, shaved, and finished
- Protects reinforcing steel from corrosion
- Mixes easily with water
- Enhances finishing and aesthetic appearance
- Produces stable, durable bond
- Hangs without sagging
- Improves adhesion; provides increased freeze/thaw stability
- Easy to trowel; enhances quality control

Where to Use

APPLICATION

- Spalls or holes in concrete
- Deteriorated edges

LOCATION

- Vertical or overhead
- Interior or exterior
- Above or below grade

SUBSTRATE

- Concrete
- Masonry
- Block

How to Apply

Surface Preparation

1. Surfaces must be clean, sound, free of laitance, standing water, dust, grease, dirt, oil, efflorescence, paint, curing compounds, form oils, and other surface contaminants.
2. Mechanically remove all loose materials with chipping hammer, chisel, sandblast, waterblast, or similar methods.
3. For proper adhesion, the concrete substrate must have a fractured aggregate profile.
4. Clean any exposed steel reinforcement to a white metal finish and prime with an anti-corrosion coating.
5. Repair areas should have saw-cut straight edges with a minimum of 1/4" (6 mm) depth (avoid featheredging).

Technical Data

Composition

Gel Patch is composed of crystalline (quartz) silica and Portland cement.

Typical Properties

PROPERTY	VALUE
Working time , min, at 70° F (21° C)	20 – 30

Test Data

PROPERTY	RESULTS	TEST METHODS (CRITERIA)
Compressive strength , psi (MPa)		ASTM C 109, modified*
1 day	2,150 (14.8)	
7 days	5,600 (38.6)	
28 days	6,750 (46.5)	
Modulus of elasticity , psi (MPa)	5.6 x 10 ⁵ (3,861)	ASTM C 215
Splitting tensile strength , psi (MPa)		ASTM C 496, modified* (wet cure)
1 day	310 (2.1)	
7 days	560 (3.9)	
28 days	610 (4.2)	
Flexural strength , psi (MPa)		ASTM C 348, modified*
1 day	500 (3.4)	
7 days	800 (5.5)	
28 days	1,110 (7.7)	
Bond strength , psi (MPa)		ASTM C 882, modified* (mortar scrubbed into substrate)
1 day	900 (6.2)	
7 days	1,900 (13.1)	
28 days	450 (16.9)	
Water absorption , %, 28 days	4	ASTM C 642
Chloride permeability , coulombs	Very low range	AASHTO T-277 (According to ASTM C 1202, table 1)
Length change , %, in/in, wet cure		ASTM C 157
1 day	+0.019	
7 days	+0.028	
28 day	+0.034	
Length change , %, in/in, dry cure*		ASTM C 157
1 day	-0.026	
7 days	-0.11	
28 days	-0.15	
Linear coefficient of thermal expansion , in/in/° F	5.3 x 10 ⁻⁶	ASTM C 531

*At 50% relative humidity

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

Mixing

1. Precondition Gel Patch to 70° F \pm 5° (21° C \pm 3°) before mixing.
2. For best results, mechanically mix at slow speed with a 3/4" drill and mixing paddle. Hand mix for small repairs.
3. Add approximately 2-3/4 quarts (2.6 L) of potable water into a clean mixing container. Gradually sift in powder 1/3 at a time while mixing continuously at slow speed (high speeds may entrain air). Mix for a minimum of 3 minutes to ensure a uniform, lump-free consistency. Do not exceed a total of 3 quarts (2.8 L) of mixing water per 43 lb (19.8 kg) bag.
4. Placement time is 20 – 30 minutes at 70° F (21° C) and 50% relative humidity.
5. Multiple units may be mixed in a mortar mixer as follows: (a) predampen mortar mixer; (b) remove any excess water; (c) add 2-3/4 quarts (2.6 L) of clean water per 43 lb (19.8 kg) unit; (d) add units gradually; (e) mix for 3 – 5 minutes to a uniform, lump-free consistency; (f) add remaining water as required, not to exceed 3 quarts (2.8 L) per 43 lb (19.8 kg) unit.

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 mixed Gel Patch to the SSD substrate. Thoroughly key in and work the material throughout the cavity to promote bond.
3. Place mortar and key in and compact thoroughly to secure bond.
4. Apply material in lifts of 1/4 – 2" (6 – 51 mm). Avoid featheredging. For optimum mechanical bond on successive lifts, thoroughly score each lift and allow to reach initial set before the next layer is applied.
5. Trowel material to the desired finish after initial set.

Curing

Curing is mandatory. Damp cure for 3 days. If the surface cannot be damp cured, use an appropriate curing compound.

Clean Up

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

For Best Performance

- Do not bridge moving cracks or joints.
- Do not add any admixtures or extend with aggregate.
- Bonding agents are recommended for large areas as well as permanently damp areas.
- Do not apply below 40° F (4° C) or above 90° F (32° C).
- Protect from freezing for 24 hours after application.
- Do not exceed water requirements.
- Featheredge installations may suffer from reduced durability.
- Failure to follow good trade practices may result in decreased material performance.
- 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 and Safety

GEL PATCH

Warning

Gel Patch contains silica, crystalline quartz; portland cement; alumina cement; silica, amorphous; silica, fume; aluminum oxide; calcium oxide; anhydrite; iron oxide; lithium carbonate

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).**

**BASF Construction Chemicals, LLC –
Building Systems**

889 Valley Park Drive
Shakopee, MN, 55379

www.BuildingSystems.BASF.com

Customer Service 800-433-9517

Technical Service 800-243-6739



BASF Construction Chemicals, LLC
Member of the BASF Group
Shakopee, MN, USA

LIMITED WARRANTY NOTICE Every reasonable effort is made to apply BASF 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, **BASF MAKES NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY, RESPECTING ITS PRODUCTS,** and BASF 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 BASF Technical Manager.

This information and all further technical advice are based on BASF's present knowledge and experience. However, BASF assumes no liability for providing such information and advice including the extent to which such information and advice may relate to existing third party intellectual property rights, especially patent rights. In particular, BASF disclaims all **CONDITIONS AND WARRANTIES, WHETHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY.** BASF SHALL NOT BE RESPONSIBLE FOR CONSEQUENTIAL, INDIRECT OR INCIDENTAL DAMAGES (INCLUDING LOSS OF PROFITS) OF ANY KIND. BASF reserves the right to make any changes according to technological progress or further developments. It is the customer's responsibility and obligation to carefully inspect and test any incoming goods. Performance of the product(s) described herein should be verified by testing and carried out only by qualified experts. It is the sole responsibility of the customer to carry out and arrange for any such testing. Reference to trade names used by other companies is neither a recommendation, nor an endorsement of any product and does not imply that similar products could not be used.

For professional use only. Not for sale to or use by the general public.

Form No. 1017889 7/07

Printed on recycled paper including 10% post-consumer fiber.

© 2007 BASF

Printed in U.S.A.