

SURFIX™ DOWEL SET GROUT

DOWEL SETTING GROUT FOR PLACING PREFABRICATED CONCRETE PAVEMENTS

DESCRIPTION

SURFIX™ DOWEL SET GROUT is a polymer-modified, non-shrink, high compressive strength, non-metallic grout used with placing prefabricated concrete pavements and typical structural grouting. Specifically designed to complement precast concrete slab installation and for filling inverted dovetail slots in precast slabs.

APPLICATIONS

Column and equipment bases
Compressors and generators
Steel bearing plates
Reinforcing bars
Crane rails
Anchor bolts
Tilt-up panels
Pumps
Structural columns
Sole plates
Bug hole repairs

ADVANTAGES

High early compressive strength at 73°F (23°C)
Highly fluid – can be pumped through 1¼" (32 mm) grout hole ports
Excellent bond
Non-metallic
Cement-based, non-corrosive, not a chemical concrete
Resists freeze-thaw damage
Meets ASTM C 928, Standard Specification for Packaged, Dry, Rapid-Hardening Cementitious Materials for Concrete Repairs
Conforms to ASTM C 827, Standard Test Method for Change in Height at Early Ages of Cylindrical Specimens of Cementitious Mixtures
Environmentally friendly; may be LEED eligible

TECHNICAL DATA

Compressive strength (ASTM C109, air cure):

2 hours	2,900 psi (20.0 MPa)
3 hours	3,300 psi (22.8 MPa)
1 day	5,760 psi (39.7 MPa)
3 days	7,320 psi (50.5 MPa)
7 days	8,480 psi (58.5 MPa)
28 days	9,340 psi (64.4 MPa)

Approximate coverage (Yield) per 50-lb (22.7-kg) bag:

0.45 ft³ (0.01 m³)

When extended with 30 lb (14 kg) of 3/8" (10 mm) pea gravel: 0.65 ft³ (0.02 m³)

Application temperature range:

40°-95°F (4°-35°C)

NOTE: Above 85°F (29°C), use ACI Hot-Weather Application Guidelines. High temperatures and over mixing will shorten working time, and cooler temperatures will prolong it.

Working time (70°F (21°C)):

30 minutes

Pumpable for 20 minutes

Set (ASTM C191; 73°F (23°C), 50% RH):

Initial set

Approximately 35 minutes

Final set

Approximately 40 minutes

Flow (ASTM C1437-15 / ASTM C230):

136% @ 5 drops

Bond test (NYSDOT 701-13P):

1 day

505 psi (3.5 MPa)

Linear shrinkage (ASTM C157, Modified ASTM C928):

Wet cure

+0.057%

Air cure

-0.080%

Freeze/Thaw (NYSDOT 502-3P):

Loss after 25 cycles

0.0%

NOTE: Test results obtained under controlled laboratory conditions at 73°F (23°C) and 50% relative humidity unless otherwise specified. Tested using 4 qt (3.8 L) water per 50 lb (22.7 kg) powder. Reasonable variations can be expected due to atmospheric and job site conditions.

SHELF LIFE / STORAGE

12 months from the date of manufacture, when unopened bags are properly stored in a cool, dry place, unexposed to moisture and sunlight.

PACKAGING

50-lb (22.7-kg) bags.

SURFIX™ DOWEL SET GROUT

DIRECTIONS FOR USE

Surface preparation:

All materials should be stored at 40-80°F (4-27°C) 24 hours prior to installation.

Mixing:

Ideal mixed product temperature at placement is 65-70°F (18-21°C), where the initial setting time is approximately 35 minutes. Hot temperatures will shorten setting time, while cold temperatures will extend setting time.

Hot weather: Keep bagged SURFIX™ DOWEL SET GROUT cool. Mix SURFIX™ DOWEL SET GROUT using chilled water to extend working time.

Cold weather: Do not use antifreeze or accelerators and keep SURFIX™ DOWEL SET GROUT warm. Combine the warmed repair material with 90°F (32°C) mixing water.

Mix as close as possible to the area where the material is being used. SURFIX™ DOWEL SET GROUT requires only the addition of clean potable water.

Use 4 qt (3.8 L) of clean potable water per 50-lb (22.7-kg) bag. Place the potable water into the mixing container and then, while mixing, add the grout.

SURFIX™ DOWEL SET GROUT can be mixed in a mortar mixer or by using a paddle attached to a heavy duty 1/2" drill (650 rpm). Mix for 2-3 minutes to a lump-free consistency. Do not re-temper or overwater.

Installation:

Install when air and substrate temperatures are 40-100°F (4-38°C). For applications outside this range of temperatures, contact PSP Technical Services.

SURFIX™ DOWEL SET GROUT completes the structural connection between adjacent precast concrete slab on grade systems. It is a special pumpable rapid strength mix designed for filling and connecting dowels and must completely fill the inverted dovetail slots to do the job that cast-in-place concrete normally does. It must reach strength quickly in order to perform as well as cast-in-place concrete. SURFIX™ DOWEL SET GROUT minimizes down time and ensures durability.

Place immediately after mixing, working the grout firmly into the sides and bottom of the cavity to eliminate air pockets and ensure bond and coverage. SURFIX™ DOWEL SET GROUT can also be placed by pumping. Because of the early strength gain, the grout must be pumped rapidly to avoid having the grout set-up in the pump or hose. It is important to pre-test to ensure the technique and equipment are suitable for the task.

Install the SURFIX™ DOWEL SET GROUT by placing the hose nozzle in the back port of each slab until grout extrudes from the port near the joint. Continue pumping until the grout fills the joint. After several slots have been filled, monitor the grout level in previously grouted ports and add material as required.

NOTE: It is the responsibility of the installer / applicator to ensure the suitability of the product for its intended use and compatibility. Jobsite mockups are recommended.

TECHNICAL SUPPORT

For more detailed instructions, alternative application methods, or information concerning the compatibility with other products or technologies, contact the Penetron Specialty Products Technical Department at (631) 941-9700 or email psptechsupport@penetronsp.com.

CLEAN UP

Clean all tools and equipment with water immediately after use, prior to material hardening.

JOB MOCKUPS

Penetron Specialty Products recommends that, when our products are used in any application or as part of any system that includes other manufacturers' products, the installer and/or design professional shall test all the system components collectively for compatibility, performance and long-term intended use in accordance with pertinent and accepted industry standards prior to any installation. Written documentation of the tests performed shall be satisfactory to the design professional and installer. Test results must include the means and methods of application, products used, project specific conditions being addressed, and standardized tests performed for each proposed system or variation.

SPECIAL CONSIDERATIONS

- Do not add any admixtures, sand or cement.
- Protect from rain, wind, freezing and loading until fully cured.
- All materials should be stored at 40-80°F (4-27°C) 24 hours prior to installation.
- Do not drive on any freshly grouted slab with any construction equipment or vehicle until the specified grout strength of 2,500 psi (17.2 MPa) has been reached. To do so may compromise future efficiency of load transfer between slabs.

SAFE HANDLING INFORMATION

Penetron Specialty Products maintains comprehensive and up-to-date Safety Data Sheets (SDS) on all its products. Contact Penetron Specialty Products or your local representative to obtain copies of Safety Data Sheets (SDS) prior to product storage or use. Avoid contact with eyes and wear suitable protective eyewear. Avoid prolonged or repeated contact with skin. Wear gloves and suitable protective clothing. Do not breathe dust. In case of insufficient ventilation, wear respiratory equipment. For additional information regarding first aid and emergency procedures, refer to the product Safety Data Sheet (SDS).

WARRANTY: PENETRON SPECIALTY PRODUCTS INC. warrants that the products manufactured by it shall be free from material defects and will conform to formulation standards and contain all components in their proper proportion. Should any of the products be proven defective, the liability to PENETRON SPECIALTY PRODUCTS INC. shall be limited to replacement of the material proven to be defective and PENETRON SPECIALTY PRODUCTS INC. shall in no case be liable otherwise or for incidental or consequential damages. **PENETRON SPECIALTY PRODUCTS INC. MAKES NO WARRANTY AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE AND THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED.** User shall determine the suitability of the product for its intended use and assume all risks and liability in connection therewith.

This Product Data Sheet has been prepared in good faith on the basis of information available at the time of publication. It is intended to provide users with information about and guidelines for the proper use and application of Penetron Specialty Products under normal environmental and working conditions. Because each project is different, PENETRON SPECIALTY PRODUCTS INC. cannot be responsible for the consequences of variations in such conditions, or for unforeseen conditions.

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