

CEMENTITIOUS REPAIRING INJECTION GROUT

DESCRIPTION

PENETRON® GROUT INJECT is cementitious based, very low, water-like viscosity, injection grout for concrete repairs. The extremely fine particle size of its ingredients allows PENETRON® GROUT INJECT to penetrate into micro-fine, hairline crack in concrete and seal them. In addition, PENETRON® GROUT INJECT increases the compressive strength of the repaired area. Its low viscosity, high compressive strength and low price ensure PENETRON® GROUT INJECT, as an excellent repairing injection grout.

RECOMMENDED FOR

- ▶ Grout injections, crack sealing
- ▶ Injections on concrete walls, pillars and posts
- ▶ Injections on masonry and rock walls
- ▶ Grout injections on connections of building elements
- ▶ Anchoring
- ▶ Micro-fine grout repairing mortar

ADVANTAGES

- ▶ Easy to use
- ▶ Becomes an integral part of concrete, forming a complete body of strength and durability
- ▶ Penetrates deeply, due to its extremely low viscosity and micro-fine particle size. Has a very stable and low heat of reaction, allowing for a controlled injection and ability to fill larger voids completely
- ▶ Combines high fluidity and high strength development at an early stage, ensuring short residence time on site, thereby reducing the cost
- ▶ No corrosive agents
- ▶ Complete crack filling, due to low viscosity and high fluidity
- ▶ No chlorides or other salts that may harm embedded steel
- ▶ Contains no organic or combustible solvents or other harmful ingredients (such as amines, which can cause heavy skin irritation) unlike other organic-based injection materials
- ▶ Non toxic
- ▶ Only water is required for clean up. No solvents are needed for dilution and cleaning of equipment
- ▶ Low cost

TECHNICAL CHARACTERISTICS

Time	Test Results			Test Method
	1 day	7 days	28 days	
<i>Compressive Strength</i>	2,698 psi (18.6 MPa)	8,978 psi (61.9 MPa)	11,443 psi (78.9 MPa)	ASTM C 109
<i>Flexural Strength</i>	464 psi (3.2 MPa)	986 psi (6.8 MPa)	1,160 psi (8.0 MPa)	ASTM C 348

All data are average values obtained under laboratory conditions. Impractical use, temperature, humidity and absorption of the substrate may influence the above given values.

DIRECTIONS FOR USE

Surface Preparation: Prepare crack, to receive repair materials, by sawcutting along the length of the crack, at a width of approximately 3/4" to 1" (20 to 25 mm). Sawcut should be in a reverse "V" or "U" shaped channel, to avoid repair materials from popping out. Remove the concrete in the crack area to a depth equal to the width of the sawcut or 50% deeper [e.g., if a 1" (20 mm) wide sawcut is made, a 1 1/2" (20-30 mm) depth channel should be cut out]. Clean the sawcut channel with a water pressure washer (3,000 psi minimum) and drill holes to receive the injection packers. Diameter and depth of the holes will be as defined by the type and style of injection packer used. Holes should be spaced out at 10 to 15 inches (25 – 35 cm). Place and tighten the injection packers.

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Mixing: Mix 1.6 – 1.7 gal (6 – 6.5 Lt) clean water per 55 lb (25 kg) bag PENETRON® GROUT INJECT. Mix with a mixing drill for approx. 2 – 3 minutes, at low speed, until a smooth, homogeneous, lump free mix is achieved. In cases where an extremely low viscosity mix is needed (e.g., to fill very fine cracks), additional water of about 0.5 quart (0.5 Lt) can be added until a viscosity of 18 DIN-seconds is reached. Once the mixture has the required fluidity, is ready to be injected, using the injection pump.

NOTE: For better mixing results, use a horizontal screw mixing agitator.

Mixing ratios: Mix 1.6 – 1.7 gal (6 – 6.5 Lt) clean water per 55 lb (25 kg) bag PENETRON® GROUT INJECT.

Application: Partially fill the bottom of the channel and around each injection packer with PENETRON® WATERPLUG RAPID. Allow PENETRON® WATERPLUG RAPID to completely set and dry for 1 day. Start injecting PENETRON® GROUT INJECT from the lowest injection packer. Pump until PENETRON® GROUT INJECT starts to flow from the next highest injection packer or until the pressure rises (maximum pressure - 5 bar). Close the first injection port and begin filling from the second injection packer. Follow this sequence until the entire length of the repair is filled. Allow PENETRON® GROUT INJECT to cure and harden for at least 2 days. Remove the injection packers. Seal the holes of the injection channels with PENETRON® WATERPLUG RAPID, by compressing the mortar with a dowel.

NOTE: DO NOT apply PENETRON® GROUT INJECT at temperatures below 40 °F (4 °C), to a frozen substrate or if temperatures will drop below freezing during the curing period (approximately 24 hours).

Coverage: The coverage of PENETRON® GROUT INJECT is approx. 4.3 – 5.3 gal (18 – 20 Lt) in volume per 55 lb (25 kg).

SPECIAL CONSIDERATION

For the best result the air and surface temperature must be between 45 °F and 90 °F (7 °C and 32 °C), during mixing and application of PENETRON® GROUT INJECT. For temperatures out of that range, consult ACI 305 "Hot Weather Concreting" or ACI 306 "Cold Weather Concreting" or contact the Technical Department of PENETRON HELLAS S.A.

DO NOT use excessive water, than that required. Do not use admixtures. Use proper methods to clean and abrade concrete/masonry.

To avoid solidification in the equipment, the remaining mix should be cleaned out of the funnel, pump and injection tubes, with water.

PACKAGING

PENETRON® GROUT INJECT is available in 50 lb (25 kg) bags.

STORAGE / SHELF LIFE

PENETRON® GROUT INJECT must be stored in a dry, enclosed area off the ground, away from direct sunlight. Shelf life when stored in proper conditions in unopened, undamaged packaging is 12 months.

SAFE HANDLING INFORMATION

Contains Portland cement which is alkaline. It may be irritating to eyes and skin. Avoid skin and eye contact. If contact is made, flush areas with lots of water and seek medical advice. Protective gloves should be worn. Breathing apparatus is advised if applied in enclosed environments. For further information please refer to Safety Data Sheet. PENETRON HELLAS S.A. has recently updated Safety Data Sheet on the safe use of PENETRON® products. Each Safety Data Sheet contains health and safety information for the protection of your employees and your customers. FOR PROFESSIONAL USE ONLY. KEEP OUT OF REACH OF CHILDREN.

WARRANTY - DISCLAIMER

PENETRON HELLAS S.A. warrants that its products are manufactured under certified ISO Standard procedures, are of excellent quality and shall be free from material defects and contain all components in their proper proportion. Should any of the products be proven defective, the liability to PENETRON HELLAS S.A. shall be limited to replacement of the material proven to be defective, since the standard application procedures have been met and the suitability of the product for the particular application have been proven. PENETRON HELLAS S.A. makes no warranty as to merchantability of fitness for a particular purpose. User, after contacting the distributor of the product, shall determine the suitability of the product for his intended use and assume all risks and liability in connection therewith. While every care has been taken, the information provided in this product's data sheet make no part of any contract. All recommendations, technical data and test data contained in this product's data sheet are based upon the results of control laboratory tests or in actual field tests. However, PENETRON HELLAS S.A. makes no warranty of any kind, concerning this data. In any case, this data are given in good faith based in the PENETRON HELLAS S.A. experience, till the publication of this sheet. Due to variance in storage, handling and applications of the materials, PENETRON HELLAS S.A. accepts no liability for the results obtained. It is suggested that potential users try small applications to determine the suitability of each individual product for their specific requirements. The users should always refer to the most recent edition of the product's data sheet. PENETRON HELLAS S.A. may particularly differentiate its versions of the product's data sheet compared with those of PENETRON INTERNATIONAL LTD or respective PENETRON companies worldwide. These changes are due to text formatting, different application weathering and procedures or different product names and aim at the optimal consumer information.

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