PRODUCT DATA SHEET

PENETRON® INJECT

Version, Penetron Hellas 17.08.2026

CRYSTALLINE WATER CUT-OFF INJECTION GROUT

DESCRIPTION

PENETRON® INJECT is an advanced two component water cut-off injection grout with integral crystalline waterproofing ability. It waterproofs concrete and rock by filling and sealing cracks and fissures and can be used to fill hollow spots and voids to bring stability and strength to repaired areas. The extremely fine particle size of its ingredients allows PENETRON® INJECT to penetrate into micro-fine, hairline cracks in concrete or rock fissures and seal them. In addition to the water cut-off grout, the integral crystalline waterproofing technology forms an insoluble structure to further aid in sealing these cracks, and fissures. In the case of concrete, the crystalline network not only seals the cracks, but also the pores and micro-fine voids in the surrounding concrete, making the concrete itself waterproof. PENETRON® INJECT has a very low, water-like viscosity, which allows it to enter and follow extremely fine cracks and displace any water present under injection pressure. Through its water-cut off action and its unique chemistry, it provides corrosion protection for embedded steel and anchors. In concrete, it also aids in re-passivating areas around injection sites, reducing corrosion and restoring a protective layer around reinforcing and other steel embeds.

RECOMMENDED FOR

- Tunnels and subway systems
- Mines
- Foundations
- Water retaining structures
- Underground vaults
- Sewage and water treatment plants
- Channels
- Reservoirs
- Bridges, dams and roads
- Basement retaining walls
- Parking structures
- Construction joints

ADVANTAGES

- 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
- Protects embedded steel (reinforcing steel, wire mesh and rock anchors) in areas around injection sites
- Can be injected into moist or wet areas
- 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
- Easy to use and labor-cost effective
- Only water is required for clean-up. No solvents are needed for dilution and cleaning of equipment
- Nontoxic
- Zero VOC - Penetron powdered products contain zero volatile organic content and are safe for use both outdoors and in confined indoor spaces

DIRECTIONS FOR USE

Surface Preparation: Prepare crack to receive repair materials by saw-cutting along the length of the crack at a width of approximately 19 to 25 mm (¾" to 1"). 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 25 mm (1") wide sawcut is made, a 38 mm (1 ½") depth channel should be cut out]. Clean the sawcut channel with a water pressure washer [200 bar (3000 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 25 – 38 cm (10'' to 15'').

Mixing: Put PENETRON® INJECT - PART B (Liquid) into the mixing bucket. Add water to the bucket and mix. Remove 10% of this mixture and store for later re-addition. Slowly add PENETRON® INJECT - PART A (Powder) to the 90% mixture mixing continuously with a suitable mixing tool. Mix for at least 2 minutes until a smooth, homogeneous, lump free mix is achieved. Add the stored 10% mixture to the combined powder/liquid mix and

continue to mix for an additional one minute. This completed mixture should have a viscosity of approximately 30 seconds in a DIN 4 mm cup. In cases where an extremely low viscosity mix is needed (e.g., to fill very fine cracks), additional water [an additional 0,5 L (0,5 quart) to a maximum of 1 L (1 quart)] can be added until a viscosity of 18 DIN-seconds is reached. Once this mix is poured into the funnel of the injection pump, it is ready to be injected. It is helpful to slightly agitate the mix from time to time (about each 10 to 15 minutes) in case all of the mix is not used immediately. Initiation of the curing reaction can be noted by an increase in the viscosity. To avoid solidification in the equipment, the remaining mix should be cleaned out of the funnel, pump and injection tubes. Pot life times are based on a temperature of 20 °C (68 °F). In higher temperatures the pot life and workability will be reduced. In such cases more of PENETRON® INJECT - PART B (Liquid) can be added with a corresponding and equal reduction in mix water. PENETRON HELLAS S.A. strongly recommends trial testing, should such changes from the standard instructions be necessary.

Mixing ratios:

	Normal Set Mix Ratio	Fast Set Mix Ratio
Pot Life	Approx. 2 hours	Approx. 30-60 minutes
PENETRON® INJECT, PART A (Powder)	1 bag (25 kg / 55 lb)	1 bag (25 kg / 55 lb)
PENETRON® INJECT, PART B (Liquid)	2 L (2,1 quarts)	1 L (1 quart)
Water	9 L (9,5 quarts)	10 L (10,5 quarts)

Application:

Place and tighten the injection packers. Partially fill the bottom of the channel and around each injection packer with PENEPLUG® so that escaping water is able to flow only through the injection packers. Brush on a slurry of PENETRON® on PENEPLUG® and along the remaining visible channel surfaces, as well as 70-150 mm (3 to 6 inches) on the sides of the channel. As soon as the PENETRON® slurry is dry to the touch but still green, fill the remaining channel with PENECRETE MORTAR® PENECRETE MORTAR® should be dry-packed into the channel using a wood block and hammer to ensure a tight fit with no voids. Allow PENETRON® / PENECRETE MORTAR® / PENEPLUG® to completely set and dry for 2-3 days. During this time, water may flow freely through the injection packers. Start injecting PENETRON® INJECT from the lowest injection packer. Pump until PENETRON® 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® INJECT to cure and harden for at least 2 days. At this point, a visual inspection can confirm that all leaks have been stopped and the injection packers can be loosened and removed. Dry pack all holes left by the injection packers with PENECRETE MORTAR® Use a dowel to tightly compress PENECRETE MORTAR® into the holes.

PENETRON® INJECT can be applied using most standard injection procedures; however, as each individual application case will have its own unique parameters, please contact PENETRON HELLAS S.A. for the most accurate support for your project.

SPECIAL CONSIDERATIONS

DO NOT apply PENETRON® INJECT at temperatures below 4 ºC (40 ºF), to a frozen substrate or if temperatures will drop below freezing during the curing period (approximately 24 hours).

PACKAGING

PART A (Powder) is available in 25 kg (55 lb) pails; PART B (Liquid) is available in 2 L (2 quart) jugs.

STORAGE / SHELF LIFE

PENETRON® INJECT must be stored in a dry enclosed area off the ground at a minimum temperature of 7 ºC (45 ºF). Shelf life when stored in proper conditions in unopened, undamaged packaging is 12 months.

SAFE HANDLING INFORMATION

This product contains Portland cement and is highly alkaline. The use of rubber gloves, goggles and other appropriate protective gear during mixing and application is recommended. Avoid contact with eyes and skin. In case of eye contact, rinse immediately with plenty of water and seek medical advice. 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.

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 is 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.

CERTIFICATION

CE

1085
Penetron International, Ltd.
601 South Tenth Street, Unit 300
Allentown, PA 18103
08
1085-CPR-0041
DOP NO: 10.21001D260819-01
EN 1504-5
PENETRON INJECT
Products and systems for the protection and repair of concrete structures.
Injection product for force transmitting filling of cracks
U (F1) W (1) (5/30) (1-3) (0)
Adhesive by tensile bond strength: > 2 MPa
Adhesion by slant shear strength: monolithic failure
Glass transition temperature: NPD
Shrinkage: < 3%
Workability: crack width from 0.1 mm,dry and damp
Corrosion behaviour: deemed to have no corrosive effect
Reaction to fire: NPD
Dangerous substances: NPD

PENETRON HELLAS S.A.
G.E.M.H. No: 07278001000
Athens Headquarters - Greece
50, Thrakomakedonon Ave.
136 79 Acharnes, Greece
Call Center: +30 210 2448250
info@penetron.gr, www.penetron.gr