

POLYMER-MODIFIED CONCRETE RESURFACER

DESCRIPTION

PENETRON® CR-90™ is a high performance, polymer-modified, cement-based concrete resurfacer that makes old concrete surfaces new again. It corrects both horizontal and vertical surfaces that are worn, spalled, damaged or distressed. Available in gray and white, PENETRON CR-90™ is stainable and can be integrally colored, offering many unique options for both old and new concrete.

RECOMMENDED FOR

- ▶ Patios
- ▶ Balconies
- ▶ Sideways / walkways
- ▶ Concrete stairs
- ▶ Parking decks
- ▶ Driveways
- ▶ Garage floors
- ▶ Pool decks
- ▶ Decorative toppings

ADVANTAGES

- ▶ Exceptional bonding properties to old concrete
- ▶ Freeze/Thaw resistant
- ▶ Cost effective alternative to concrete replacement
- ▶ Installs from a tapered edge to 13 mm (1/2") thick
- ▶ Fast drying for a quick turnaround
- ▶ Walkable in 2 hours; rubber tire traffic in 8 hours
- ▶ Mix only with water, self-curing
- ▶ Excellent coverage and easy to use
- ▶ Can be integrally colored or stained
- ▶ Install on 5-7-day-old new concrete
- ▶ Zero VOC – Penetron powdered products contain zero volatile organic content and are safe for use both outdoors and in confined indoor spaces

TECHNICAL CHARACTERISTICS

| Characteristic | Test Result | | | Test Method |
|--|---------------------------|---------------------|---------------------|-------------|
| Composition | Polymer-modified concrete | | | |
| Form | Powder | | | |
| Color | Light gray or white | | | |
| Set Times [at 21 °C (70 °F), 50% RH] | Working Time | Initial Set | Final Set | ASTM C191 |
| | 45 minutes | 60 minutes | 90 minutes | |
| Compressive Strength (Air cured) | 1 day | 7 days | 28 days | ASTM C109 |
| | 16,6 MPa (2400 psi) | 24,8 MPa (3600 psi) | 34,5 MPa (5000 psi) | |
| Flexural Strength | 28 days | | | ASTM C348 |
| | 6,9 MPa (1000 psi) | | | |
| Flammability | Flame spread | Fuel contribution | Smoke development | ASTM E84 |
| | 0 | 0 | 0 | |

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

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DIRECTIONS FOR USE

Surface Preparation: Surface must be clean, sound, dry, minimum 10°C (50°F) and free of oil, gypsum compounds, wax, grease, sealers, coatings, curing compounds, urethane, paint, asphalt, dirt, loose surface material or any contaminant that will act as a bond breaker. Prepare the surface by mechanical means, such as chipping, shot-blasting, grinding, scarifying or high-pressure water washing. Acid etching or chemical cleaning is not acceptable. The area should be Saturated Surface Dry (SSD), with no standing water, prior to application. Honor all existing expansion joints, control joints and moving cracks. Failure to do so could result in delamination or cracking of the PENETRON CR-90™.

Crack Repair: Moving joints, such as expansion joints, must be clean and reflected through the PENETRON CR-90™. Larger moving cracks must be repaired with a cement-based patching compound prior to applying PENETRON CR-90™. Repaired areas must be set firmly prior to applying PENETRON CR-90™. Any non-moving cracks should be "V" saw cut to a solid core and be filled with an acrylic caulk. Crack repairs should be allowed to cure and set completely prior to covering. PENETRON CR-90™ is a veneer application over cracked concrete. It is possible that existing cracks, particularly those that move even when repaired, may mirror through the thin layer of PENETRON CR-90™.

Mixing: For each 22,7 kg (50 lb) bag of PENETRON CR-90™ add 3,8 to 5,2 L (4,0 quarts to a maximum 5,5 quarts) of clean, potable, water into a mixing drum. (Use the lower amount of water for a stiffer mix that can be troweled into place and the higher amount for applying with a squeegee). Then add the PENETRON CR-90™, while mixing at full speed with a paddle mixer attached to a heavy duty 1/2" drill (minimum 650 rpm). Mix for 2-3 minutes, until lump free, adding no additional water. Do not retemper.

Application: PENETRON CR-90™ should only be applied to a properly prepared substrate. Remove any material that may interfere with the bond, including dust and dirt by sweeping and vacuuming. Expansion joints should be cleaned, marked and protected to prevent being filled by PENETRON CR-90™. Pour the mixed PENETRON CR-90™ onto the "SSD" substrate. Then spread with a squeegee or flat trowel, using enough pressure to assure good contact with the entire surface. Depending on the desired appearance, finish with either a broom or trowel. Work in areas small enough for easy access of finishing, without having to walk on the fresh PENETRON CR-90™. A broom finish needs to be applied within 10-15 minutes of application, while the product is still fresh. Pour subsequent applications, while the previous application is still wet. On vertical installations, such as stairs, trowel PENETRON CR-90™ directly onto the properly prepared distressed area and finish as desired. PENETRON CR-90™ can be applied at a thickness of up to 13 mm (1/2") and accept foot traffic after 2 hours, and rubber wheel traffic after 8 hours at 21 °C (70°F).

NOTE: When installing over existing concrete substrates, PENETRON CR-90™ may not match the surrounding distressed concrete. If applicable, a test application is recommended to determine color suitability.

Curing and Sealing: PENETRON CR-90™ is self-curing. Do not use damp curing methods or curing and sealing compounds. Ambient and substrate temperature should be a minimum of 10°C (50°F) during application and for the first 24 hours. To avoid staining, the fully cured PENETRON CR-90™ should be sealed using a water-based, breathable concrete sealer.

APPLICATION TOOLS

Mixing pail, mixing paddle, 1/2" heavy duty drill (minimum 650 rpm), trowels, hopper gun with compressed air (if needed), finishing broom, squeegee and masonry brush.

Coverage: PENETRON CR-90™ coverage is approximately 9,3 m² (100 ft²) at 2 mm (1/16") thickness per 22,7 kg (50 lb) bag [2,5 kg/m² (0,52 lb/ft²) per 2 mm (1/16") in thickness].

NOTE: Clean tools and equipment immediately after use with water. Contact your PENETRON HELLAS S.A. for further information regarding your project.

PACKAGING

PENETRON CR-90™ is available in 22,7 kg (50 lb) multi-wall bags with tear resistant, moisture proof, polyethylene liner.

STORAGE / SHELF LIFE

PENETRON CR-90™ must be stored in a dry enclosed area off the ground at a minimum temperature of 7 °C (45 °F). 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.

SPECIAL CONSIDERATIONS

PENETRON CR-90™ (Gray) dries to a light gray color. Variations in the final color can occur due to changes in temperature, humidity and other jobsite conditions.

Penetron recommends installing a test area, ensuring suitability of PENETRON CR-90™ for intended use.

Substrate must have a minimum direct tensile bond test reading of 1 MPa (150 psi), per ASTM C1583-04.

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CERTIFICATION



1085

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1085-CPR-0040

DOP NO: 10.20007D310322-01
EN 1504-3

PENETRON CR 90

Products and systems for structural and
non-structural protection and repair of concrete structures

Compressive strength: Class R3 (≥ 25 MPa)Chloride ion content: $< 0.05\%$ by massAdhesive bond: R3 ($\geq 1,5$ MPa)

Restrained shrinkage, expanding: NPD

Carbonation resistance: Passed

Thermal compatibility: NPD

Elastic modulus: NPD

Grip: NPD

Thermal expansion coefficient: NPD

Reaction to fire: NPD

Dangerous substances: NPD

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.

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