

**POLYMER-MODIFIED CONCRETE
RESURFACER**

DESCRIPTION

PENETRON® CR-90 is a high performance, cement-base, quick turnaround, concrete resurfacer that, when mixed only with water, “makes old concrete new again.” PENETRON® CR-90 applications are a cost effective durable answer to expensive concrete replacement. PENETRON® CR-90 corrects both horizontal and vertical surfaces that are worn, spalled and distressed and can be applied on repair works up to ½” (13 mm) in thickness. The result is a renewed surface accepting foot traffic in as little as 2 hours and rubber tire traffic within 8 hours.

RECOMMENDED FOR

- ▶ Walkways
- ▶ Driveways
- ▶ Patios
- ▶ Garage floors
- ▶ Concrete stairs
- ▶ Pool decks
- ▶ Exposed concrete

ADVANTAGES

- ▶ Easy to mix and apply.
- ▶ Freeze/Thaw resistant
- ▶ Hardens quickly
- ▶ Excellent bond to old concrete - down to feather edge
- ▶ Less expensive alternative to concrete replacement
- ▶ Mix only with water
- ▶ Self curing. No additional curing methods needed
- ▶ Excellent coverage and easy to use
- ▶ No primer needed
- ▶ Fast drying. Walkable in 2 hours
- ▶ 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
<i>Composition</i>	Polymer-modified concrete			
<i>Form</i>	Powder			
<i>Color</i>	Grey or white			
<i>Set Times [at 70 °F (21 °C)]</i>	Working Time	Initial Set	Final Set	ASTM C191
	30 minutes	60 minutes	120 minutes	
<i>Compressive Strength (Air cured)</i>	1 day	7 days	28 days	ASTM C109
	2400 psi (16.6 MPa)	3600 psi (24.8 MPa)	5000 psi (34.5 MPa)	
<i>Flexural Strength</i>	1 day			ASTM C348
	1000 psi (6.9 MPa)			

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 solid, completely clean, free of oil, wax, grease, sealers, curing compounds, asphalt, paint, dirt, loose surface material and any contaminate that will act as a bond breaker. Weak concrete surfaces must be cleaned down to solid sound concrete by mechanical means, such as scarifying or high pressure washing. Acid etching or chemical cleaning is not acceptable. The area should be saturated surface dry (SSD) with no standing water, prior to application.

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 50 lb (22.68 kg) bag of PENETRON® CR-90 add 4.0 quarts to a maximum 5.5 quarts (3.8 to 5.2 Lt) of clean, potable, water into a mixing drum. Then add the PENETRON® CR-90 bags, while mixing at full speed with a paddle mixer attached to a heavy duty ½" drill (400 – 600 rpm). Mix completely for a minimum of 2-3 minutes, until lump free, adding no additional water.

NOTE: Do not retemper.

Mixing ratios: Use 4.0 to a maximum 5.5 quarts (3.8 to 5.2 Lt) of clean, potable, water per 50 lb (22.68 kg) PENETRON® CR-90 bag.

Priming: Place immediately after mixing. However, in case priming is needed to increase bonding, use PENETRON® ACRYLIC BONDCRETE™ as a primer. When using PENETRON® ACRYLIC BONDCRETE™ as a primer, wait minimum 40 min, until surface is dry to touch (not "tacky"), prior to PENETRON® CR-90 application. PENETRON® ACRYLIC BONDCRETE™ will retain its bonding properties for up to 2 weeks, if the surface remains dry and clean.

Application: PENETRON® CR-90 should only be applied to a properly prepared substrate. Remove any material that interferes with bond, including dust and dirt by brooming and vacuuming, including expansion joints. Expansion joints likewise should be marked 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, then broom finish. Work in areas small enough for easy access for broom 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.

NOTE: PENETRON® CR-90 can be applied at a thickness of up to ½" (13 mm) and accept foot traffic after 2 hours, and rubber wheel traffic after 8 hours at 70 °F (21 °C).

Curing and Sealing: During application, ambient and substrate temperature should be a minimum of 50 °F (10 °C). PENETRON® CR-90 is self curing, however, do not allow the product to freeze or be exposed to rain, if such should occur within 24 hours of placement. PENETRON® CR-90 is a cement based product, therefore temperature, wind and substrate conditions will affect performance. To avoid dusting and staining, PENETRON® CR-90 should be sealed, using a water based, breathable concrete sealer.

Color Match: PENETRON® CR-90 dries to a light gray color; however cements will vary in color, thus affecting the color of concrete. Additionally, age and job site conditions will play a role, therefore PENETRON® CR-90 may not match the surrounding distressed concrete. Should this occur, consult with PENETRON HELLAS for a procedure to reduce discoloration. A test application is recommended to determine color suitability.

Coverage: PENETRON® CR-90 coverage is approximately 100 ft² (9.3 m²) at 1/16" (1.6 mm) thickness per 50 lb (22.68 kg) bag [8 lb/ft² (1,56 kg/m²) per 3/64" (1 mm) in thickness].

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

PACKAGING

PENETRON® CR-90 is available in 50 lb (22.68 kg) 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 45 °F (7 °C). 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 Material Safety Data Sheet. FOR PROFESSIONAL USE ONLY. KEEP OUT OF REACH OF CHILDREN.

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