

# PENETRON ADMIX<sup>®</sup> RP

## CRYSTALLINE WATERPROOFING ADMIXTURE

### DESCRIPTION

PENETRON ADMIX<sup>®</sup> RP (Red Pigment integral crystalline waterproofing admix) is added to the concrete mix at the time of batching. It is typically used in the precast industry and includes a red pigment that makes it easy for visual inspection at a distance. PENETRON ADMIX<sup>®</sup> RP consists of Portland cement and various active proprietary chemicals. These active chemicals react with the moisture in fresh concrete and with the by-products of cement hydration to cause a catalytic reaction, which generates a non-soluble crystalline formation throughout the pores and capillary tracts of the concrete. Thus, the concrete becomes permanently sealed against the penetration of water or liquids from any direction. The concrete is also protected from deterioration due to harsh environmental conditions.

PENETRON ADMIX<sup>®</sup> RP has been specially formulated to meet varying project and temperature conditions (see *Setting time and strength*). Consult with a Penetron Technical Representative for additional detailed support on your project.

### APPLICATIONS

- Sewers and manholes
- Underground vaults
- Any underground precast structures

### ADVANTAGES

- Resists extreme hydrostatic pressure from either positive or negative surface of the concrete slab
- Becomes an integral part of the concrete
- Highly resistant to aggressive chemicals
- Can seal hairline cracks up to 1/64" (0.4 mm)
- Allows concrete to breathe
- Non-toxic (NSF 61 certified for potable water applications)
- Less expensive than traditional methods
- Permanent
- Added to the concrete at time of batching and therefore not subject to climatic restraints
- Improves corrosion resistance
- Improves durability of concrete
- Permeability Reducing Admixture for Hydrostatic conditions (PRAH)
- Zero VOC - PENETRON powdered products contain zero volatile organic compounds and are safe for use both outdoors and in confined indoor spaces
- Exceeds requirements of ASTM C494-S (Specific Performance Admixtures)

### DIRECTIONS FOR USE

#### Dosage rate:

PENETRON ADMIX<sup>®</sup> RP is designed to be dosed at the rate of one soluble bag per cubic yard (0.8 m<sup>3</sup>). Consult with Penetron Technical Department for assistance in verifying the appropriate dosage rate and for further information regarding enhanced chemical resistance and optimum concrete performance for your project.

#### Mixing:

PENETRON ADMIX<sup>®</sup> RP must be added to the concrete at the time of batching.

**The sequence of procedures for addition will vary according to the type of batch plant operation and equipment. The following are some typical mixing guidelines. For more detailed information on dosing procedures, contact your Penetron representative.**

**Ready mix plant - Dry batch operation:** Add PENETRON ADMIX<sup>®</sup> RP directly into the drum of the ready-mix truck immediately before charging the drum with 60%-70% of the required mix water, along with 300-500 lb (136-227 kg) of aggregate. Mix the materials for 2-3 minutes to ensure PENETRON ADMIX<sup>®</sup> RP is distributed evenly throughout the mix water. Add the balance of materials to the ready-mix truck in accordance with standard batching practices.

**Ready mix plant - Central mix operation:** Ideally, PENETRON ADMIX<sup>®</sup> RP should be added directly into the central mix drum. However, when this is impractical or unsafe, PENETRON ADMIX<sup>®</sup> RP can be added directly into the drum of the ready-mix truck immediately before charging with concrete. The dosed concrete should be allowed to mix for at least 70 revolutions at standard mixing speeds (approximately 5 minutes) to ensure even distribution of PENETRON ADMIX<sup>®</sup> RP throughout the concrete.

**Precast batch plant:** Add PENETRON ADMIX<sup>®</sup> RP to the rock and sand, then mix thoroughly for 2-3 minutes before adding cement and water. The total concrete mass should be blended using standard practices. Consult with a Penetron Technical Representative to determine if PENETRON ADMIX<sup>®</sup> RP would suit your precast batch plant operation.

**NOTE:** It is important to obtain a homogeneous mixture of PENETRON ADMIX<sup>®</sup> RP with the concrete. For further information regarding the proper use of PENETRON ADMIX<sup>®</sup> RP for a specific project, consult with a Penetron Technical Representative.

#### Setting time and strength:

The setting time of concrete is affected by the chemical and physical composition of ingredients, temperature of the concrete and climatic conditions. Retardation of set may occur when using PENETRON ADMIX<sup>®</sup> RP. The amount of retardation will depend upon the concrete mix design and the dosage rate of PENETRON ADMIX<sup>®</sup> RP. However, under normal conditions, PENETRON ADMIX<sup>®</sup> RP will provide a normal set concrete. Concrete containing PENETRON ADMIX<sup>®</sup> RP may develop higher ultimate strengths

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than plain concrete. Trial mixes should be carried out under project conditions to determine setting time and strength of the concrete.

Concrete treated with PENETRON ADMIX® RP should be placed and finished in accordance with good concrete practices. NPCA and ACI guidelines and recommendations should be observed.

## SPECIAL CONSIDERATIONS

When incorporating PENETRON ADMIX® RP, the temperature of the concrete mix should be above 40°F (4°C).

## PACKAGING

PENETRON ADMIX® RP is available in 6.6-lb (3-kg) soluble bags, packed 2 bags to a plastic pail.

## STORAGE / SHELF LIFE

PENETRON products must be stored dry at a minimum temperature of 45°F (7°C). Shelf life is one year when stored under proper conditions.

## TECHNICAL SERVICES

For more detailed instructions, alternative application methods, or information concerning the compatibility of the PENETRON treatment with other products or technologies, contact the Penetron Technical Department or your local Penetron representative.

## SAFE HANDLING INFORMATION

PENETRON ADMIX® RP is alkaline. As a cementitious powder or mixture, PENETRON ADMIX® RP may cause significant skin and eye irritation. Directions for treating these problems are clearly detailed on the Safety Data Sheet. Penetron International Ltd. maintains comprehensive and up-to-date Safety Data Sheets on all its products. Each sheet contains health and safety information for the protection of your employees and customers. KEEP OUT OF REACH OF CHILDREN.

Contact Penetron International, Ltd. or your local Penetron representative to obtain copies of Safety Data Sheets prior to product storage or use.



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PENETRON ADMIX  
Crystalline Capillary Admixture  
Water Resisting Admixture

Chloride content: < 0,10 % by mass

Alkali content: < 10,3 % by mass

Compressive strength: ≥ 85 % of control

Conventional dry material content: > 99,5 %

Air content in fresh concrete: ≤ 2 % by volume

Capillary Absorption (after 90 day curing): ≤ 60 % by mass

**WARRANTY:** PENETRON INTERNATIONAL, LTD. 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 INTERNATIONAL, LTD. shall be limited to replacement of the material proven to be defective, and PENETRON INTERNATIONAL, LTD. shall in no case be liable otherwise or for incidental or consequential damages. **PENETRON INTERNATIONAL, LTD. 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.

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