

Penetron Admix



DESCRIPTION

PENETRON ADMIX® (integral crystalline waterproofing admix) is added to the concrete mix at the time of batching. PENETRON ADMIX® consists of Portland cement, very fine treated silica sand and various active, proprietary chemicals. These active chemicals react with the moisture in fresh concrete 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® 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.

RECOMMENDED FOR

- Reservoirs
- Sewage and Water Treatment Plants
- Secondary Containment Structures
- Tunnels and Subway Systems
- Underground Vaults
- Foundations
- Parking Structures
- Swimming Pools
- Pre-Cast, Cast-in-Place
- Shotcrete applications

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 0.5 mm.
- Allows concrete to breathe
- Non-toxic, approved for potable water applications.
- Less expensive than traditional methods
- Added to the concrete at time of batching and therefore is not subject to climatic restraints.
- Reduces construction scheduling time.
- 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.

DIRECTIONS FOR USE

Dosage Rate: 0.8-1.0% by weight of cement. Consult with PENETRON's 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® 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.*

MIXING GUIDELINES FOR.

Ready Mix Plant - Dry Batch Operation:

Add the correct amount (0.8-1.0% by weight of cement) of PENETRON ADMIX® in its dry powder form to the aggregate which has already been placed in the batching plant mixing unit and mix for 2 – 3 minutes to ensure that the Admix is evenly distributed throughout the mix. Add the required amount of Sand and water and mix in accordance with standard practices, **note:** Penetron Admix should be mixed with the aggregate and sand before the cement is added. Add the required amount of cement and mix for a further 2-3 minutes and add any requirement for super plasticizers at the end of the mixing schedule.

Ready Mix Plant - Central Wet Mix Operation:

Mix PENETRON ADMIX® with water to form a very thin slurry (e.g. 25 kg of powder mixed with 15-17.5 L of water). Pour the required amount of material into the drum of the ready-mix truck. The aggregate, cement and water should be batched and mixed in the plant in accordance with standard practices, (considering the quantity of water that has already been placed in the ready-mix truck). Pour the concrete into the truck and mix for at least 5 minutes to ensure even distribution of PENETRON ADMIX® throughout the concrete.

Precast Batch Plant:

Add PENETRON ADMIX® to the rock and sand, then mix thoroughly for 2-3 minutes before adding the cement and water. The total concrete mass should be blended using standard practices.

NOTE: It is important to obtain a homogeneous mixture of PENETRON ADMIX® with the concrete. Therefore, do not add dry PENETRON ADMIX® powder directly to wet concrete as this may cause clumping and thorough dispersion will not occur. For further information regarding the proper use of PENETRON ADMIX® 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®. The amount of retardation will depend upon the concrete mix design and the dosage rate of PENETRON ADMIX®. However, under normal conditions, PENETRON ADMIX® will provide a normal set concrete. Concrete containing PENETRON ADMIX® may develop higher ultimate strengths 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® should be placed and finished in accordance with good concrete practices. ACI guidelines and recommendations should be observed.

SPECIAL CONSIDERATION.

When incorporating PENETRON ADMIX®, the temperature of the concrete mix should be above +5°C.

PACKAGING.

PENETRON ADMIX® is available in 4, 8 and 25 kg pails. For large projects, customized packaging is available.

STORAGE / SHELF LIFE.

PENETRON products must be stored at any humidity and temperatures from -60°C to +50°C. Shelf life is 18 months 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® is alkaline. As a cementitious powder or mixture, PENETRON ADMIX May cause significant skin and eye irritation. PENETRON International, Ltd. also maintains comprehensive and up to-date Material Safety Data Sheets on all its products. Each sheet contains health and safety information for the protection of your employees and customers. Contact PENETRON International, Ltd. or your local PENETRON representative to obtain copies of Material Safety Data Sheets prior to product storage or use

Maximum chloride ion content : 0,1 % by mass.

Maximum alkali content : 5,5 % by mass.

Corrosion behaviour : contains components
only listed in EN 934-1:2008,
Annex A.1.

Compressive strength : At 28 days: test mix \geq 85 % of control mix.

Air content (entrained air) : Test mix \leq 2 % by volume above control mix.

Capillary water absorption : At 7 days: test mix \leq 50 % of control mix.

: At 28 days: test mix \leq 60 % of control mix.

Dangerous substances : none

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 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 intended use and assume risks and liability connection therewith.

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