

## 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.

**Note:** The 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 the most appropriate Penetron Admix for 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 Components

### ADVANTAGES

- ◆ Resists extreme hydrostatic pressure from either positive or negative surface of the concrete slab
- ◆ Becomes an integral part of the substrate
- ◆ Highly resistant to aggressive chemicals
- ◆ Can seal hairline cracks up to 1/64" (0.4 mm)
- ◆ Allows concrete to breathe
- ◆ Non-toxic
- ◆ Less costly to apply than most other methods
- ◆ Permanent
- ◆ Added to the concrete at time of batching and therefore is not subject to climatic restraints
- ◆ Increases flexibility in construction scheduling

### PACKAGING

Penetron Admix is available in 40 lb (18 kg) bags, 55 lb (25 kg) pails.

For large projects, customized packaging is available.

### STORAGE

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.

### DIRECTIONS FOR USE

#### Dosage Rate:

Penetron Admix: 0.8% by weight of cement.

Consult with Penetron's Technical Department for assistance in determining the appropriate dosage rate and for further information regarding enhanced chemical resistance, optimum concrete performance, or meeting the specific requirements and conditions of 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. FOLLOWING ARE SOME TYPICAL MIXING GUIDELINES.

#### **Ready Mix Plant – Dry Batch Operation:**

Add Penetron Admix in powder form to the drum of the ready-mix truck. Drive the truck under the batch plant and add 60% - 70% of the required water along with 300-500 lbs (136-227 kg) of aggregate. Mix the materials for 2-3 minutes to ensure the Admix is distributed evenly throughout the mix water. Add the balance of materials to the read-mix truck in accordance with standard batch practices.

#### **Ready Mix Plant - Central Mix Operation:**

Mix Penetron Admix with water to form a very thin slurry (e.g. 40 lbs (18 kg) of powder mixed with 6 gallons (22.7 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 (taking into account 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 the Penetron Admix throughout the concrete.

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**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 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.

### **Technical Services:**

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

### **TECHNICAL DATA**

#### **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 the Admix. However, under normal conditions, the 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.

### **Limitations:**

When incorporating Penetron Admix, the temperature of the concrete mix should be above 40°F (4°C).

### **HEALTH AND SAFETY**

Penetron Admix is alkaline. As a cementitious powder or mixture, Penetron Admix may cause significant skin and eye irritation. Directions for treating these problems are clearly detailed on all Penetron pails and packaging. ICS 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 ICS Penetron International, Ltd. or your local Penetron representative to obtain copies of Material Safety Data Sheets prior to product storage or use.

### **WARRANTY**

ICS 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 ICS 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. ICS 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 his intended use and assume all risks and liability in connection therewith.