

MIXGUARD ICW

Integral crystalline water-proofing system

Mixguard ICW is a unique, powder form concrete mix penetrative capillary water proofing system that provides total and permanent water proofing solution to water leakage, ingress or seepage in concrete structures or any cementitious substrates. Mixguard ICW designed to add to the concrete mix at the time of batching. Mixguard ICW is a blend of selected cement, high-grade silica aggregates and moisture activated chemicals. The active chemicals react with the moisture in fresh concrete with the cement particles hydration to cause a catalytic reaction, which generates a non-soluble crystalline formation throughout the porous and capillary tracts of the concrete. Thus the concrete becomes permanently sealed against the penetration of water from any point. The concrete is also protected from deterioration due to harsh environmental conditions.

Appropriation

Water Retaining Structures like

- Water tanks/ sewage plants
- Reservoirs and canals
- Swimming pools and concrete pipes
- Water treatment areas
- Harbors and dams

Water resisting structures like

- Basements
- Retaining walls, bridge decks and foundations
- Tunnels and underground car parks
- Inspection pits
- Sea defense walls and jetties
- Parking structures

Characteristics

- Provides total and permanent waterproofing
- Active ingredients of the system remain for a long period
- Can withstand both positive and negative pressure.
- Non toxic, suitable for potable water tanks
- Protect concrete and reinforcement from corrosion due to water borne substances like chlorides and sulphates
- Improve resistance of concrete structures against weathering and chemical attack
- Become an integral part of concrete
- Allow concrete to breath
- Add to the concrete at the time of bating so there is no climatic restraint

Technical Data & Properties

- Appearance: Powder
- Colour: Cement grey
- Dosage: 0.8-% of cement by weight
- Crack sealing: 0.4 to 0.5mm

Product Management

Mixing

Centrally operated ready-mix plant: Mix the ICW with water at a range of 18kg powder with 22 ltr of water to form thin slurry. 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 mix design 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 Mixguard ICW throughout the concrete.

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Dry mix plant operation: add Mixguard ICW powder to the truck mixer, mix the truck under batch plant and add 60-70% of the required water along with 136-227 kg of aggregate. Mix the materials for 2-4 minutes to ensure a thorough mixing is obtained. Add balance materials to the ready-mix truck in accordance with the standard mix design practice.

Pre-cast plant operation: add Mixguard ICW to the aggregate and sand, and then mix thoroughly for 2-3 minutes before adding the cement and water. The total concrete mass should be blended using standard mix design practice.

Point to be noted:

It is very important to obtain a homogeneous mixture of Mixguard ICW with the concrete. Therefore, do not add dry powder directly to wet concrete as this may cause clumping and thorough dispersion will not occur.

Limitations: the temperature of the concrete should be above 4⁰C when incorporating Mixguard ICW

Setting time and strength: The setting time of the 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 Mixguard ICW. The amount of retardation will depend up on the concrete mix design and the dosage rate of the admixture. However under normal conditions, Mixguard ICW will provide a normal set concrete. Concrete containing Mixguard ICW 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.

Mixing: Mixguard ICW must be added to the concrete at the time of batching. The sequence of procedures for addition will vary according to the type of batching plant operation and equipment. The above mix designs are some typical mix design guidelines only

Packing & Storage

Mixguard ICW is available in 18 and 25Kgs bag. Mixguard ICW should be stored in cool, dry and shaded warehouses. Shelf life is 12 months (under a minimum temp 7⁰C) when stored under cover, out of direct sunlight, protected from extreme temperatures and as per recommendations. In extreme tropical climate, the product must be stored in cooled ambience. Excessive humidity and over exposure to UV will result in the reduction of shelf life.

Health & Safety

Mixguard ICW contains no hazardous substances. As with all construction chemical products, caution should always be exercised. Protective clothing such as gloves and goggles shall be worn whilst handling. Wearing PPE recommended for maximum safety. Reseal all containers after use. Treat any splashes to the skin or eyes with fresh water immediately. Should any of the products be accidentally swallowed, do not induce vomiting, but call for medical assistance immediately. For more details, please refer to the MSDS released on each Mix product

Technical information given in this datasheet is true and exact to the best of our knowledge, laboratory upshot and hands-on application. The datasheets of all products are revised/updated regularly and hence ensure that the latest release is used for reference and recommendation. The date of the publishing is as in this sheet. All data are mean of numerous tests, assessment and analysis conducted under laboratory ambience. Climatic disparity in temperature, humidity, etc. and porosity of substrate may impinge on the values.

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