Method Statement for BC Crysto Proof

Powdered Crystalline Waterproofing Admixture for Concrete

1. Purpose

This Method Statement outlines the procedures for the correct use and application of BC Crysto Proof, a powdered crystalline waterproofing admixture, to ensure durable, watertight concrete structures with reduced permeability and enhanced resistance to hydrostatic pressure.

2. Product Description

BC Crysto Proof is a high-performance crystalline admixture designed to provide integral waterproofing to concrete. It reacts chemically with moisture and unhydrated cement particles to form insoluble, needle-shaped crystals within the concrete matrix. These crystals block the pathways for water and other liquids, ensuring long-term self-sealing and protection against both positive and negative water pressure.

3. Scope of Work

This method statement applies to all concrete works where integral waterproofing is required, including:

- Basements, foundations, retaining walls

- Water tanks, reservoirs, and swimming pools
- Tunnels, culverts, shafts, and sewer structures
- Concrete exposed to high moisture or hydrostatic pressure

4. Responsibilities

- Site Engineer: Ensures compliance with specifications and supervises the correct dosage and mixing.
- Concrete Supplier / Batching Plant Operator: Adds BC Crysto Proof to the mix in correct proportion and ensures uniform distribution.
- Quality Control Inspector: Verifies materials, mixing uniformity, and proper documentation.
- Contractor: Ensures safety and proper application as per manufacturer's instructions.

5. Materials and Equipment

Materials:

- BC Crysto Proof crystalline waterproofing admixture
- Ordinary Portland Cement (OPC) or approved cement
- Clean water and aggregates conforming to mix design

Equipment:

- Calibrated weighing equipment
- Concrete mixer or ready-mix batching system
- Protective gear (gloves, masks, goggles)
- Measuring containers

6. Surface Preparation (if site mixing is used for repair mortars)

For surface-applied use (if specified):

- Clean concrete surface free from dust, oil, grease, or loose materials.
- Pre-saturate concrete with water but avoid standing water.

7. Mixing Procedure

7.1 At Ready-Mix Batching Plant

1. Dosage:
    - Typical dosage: 0.8–1.0% by weight of cement (e.g., 0.8–1.0 kg per 100 kg of cement).
    - Adjust dosage as per specific project requirements or permeability test results.
2. Addition Method:
    - Add BC Crysto Proof directly into the concrete mixer with other dry components (cement, sand, aggregates) before adding water.
    - Alternatively, it can be added into the mixing drum after 60–70% of mixing water has been introduced.
3. Mixing Time:
    - Mix for minimum 5 minutes to ensure complete and uniform dispersion of BC Crysto Proof in the concrete.

7.2 For Site Mixing / Small Batches

1. Mix BC Crysto Proof with cement and aggregates in dry state for 1–2 minutes.
2. Add measured quantity of water and continue mixing until uniform consistency is achieved.
3. Avoid over-mixing or adding excess water.

8. Placement and Curing

- Place the concrete as per standard ACI/ASTM or project specifications.
- Proper vibration and compaction are essential to eliminate voids.
- Protect placed concrete from direct sunlight and premature drying.
- Cure concrete using moist curing or approved curing compounds for at least 7 days.
- The crystalline reaction will continue in the presence of moisture, enhancing long-term sealing.

9. Quality Control

- Verify the correct dosage of BC Crysto Proof has been used.
- Check uniformity and consistency of the mix.
- Conduct cube/compressive strength and permeability tests as per specification.
- Record all batch details for traceability.

10. Health and Safety

- Avoid inhalation of dust; use protective masks.
- Wear gloves and goggles during handling.
- In case of contact with eyes or skin, rinse with clean water immediately.
- Refer to BC Crysto Proof Safety Data Sheet (SDS) for detailed safety information.

11. Storage and Handling

- Store BC Crysto Proof in a cool, dry area, away from direct sunlight and moisture.
- Keep bags tightly sealed until use.
- Shelf life: 12 months in unopened, original packaging under recommended storage conditions.

12. Cleaning

- Clean all tools and equipment immediately after use with water.
- Hardened material can only be removed mechanically.