

# SpECTite WS

CRYSTALLINE CAPILLARY WATERPROOFING SYSTEM FOR CEMENTITIOUS SUBSTRATES

## DESCRIPTION

**SpECTite WS** crystalline capillary waterproofing system contains proprietary blend of portland cement, quartz aggregate and special chemicals. In the presence of moisture, the active chemicals in **SpECTite WS** crystalline waterproofing system penetrates concrete and react chemically with free lime to produce insoluble crystals. This crystalline growth reduces porosity by blocking capillaries and filling hairline non-structural cracks (up to 0.25mm wide) caused by shrinkage or expansion. Unlike metallic and membrane types of waterproofing which only form a surface barrier, **SpECTite WS** crystalline waterproofing system, in the presence of water, continues producing crystals and lasting imperviousness to water.

## TYPICAL USES

**SpECTite WS** crystalline waterproofing system is used for waterproofing against the positive or negative sides of hydrostatic heads of water and damp proofing in a wide range of conditions like:

- Sewage treatment and water treatment plants, tanks, foundations, tunnels and manholes.
- Terrace garden, balconies, sunshades, etc.
- Roof and Sunken slabs.
- Industrial and Office buildings.
- Reservoirs, water holding structures, etc.

## Advantages

- Meets the requirements as per BS6920 for suitability to potable water.
- Penetrates concrete, seals capillary tracts.
- Contains no chloride.
- Easy to apply.
- Resists chemical attack of sewage and industrial wastes.
- Suitable for external and internal applications.

## TECHNICAL DATA

### Compressive Strength

**(ASTM C109)** 20±3 N/mm<sup>2</sup>

### Pull-Off Adhesion Strength

**(ASTM D4541)** ≥ 1.0 MPa

## APPLICATION

### Surface preparation

#### Old Concrete

Surfaces must be clean and sound. Remove all oil, dirt, laitance and other contaminants by water blasting.

Water blasting is preferred for surface preparation because it mechanically cleans and roughens the surface, is environmentally safer and leaves the surfacesaturated with water. Surface must be damp for application of **SpECTite WS** crystalline waterproofing system, concentrate.

#### New Concrete

After forms are stripped, acid etch or water blast as above to remove form oils and laitance. Surface must be left damp for application on **SpECTite WS** crystalline waterproofing system.

Construction joints, cold joints and non-leaking joints greater than 0.25mm wide must be cut in V-groove shape and filled with **SpECTite WS** crystalline waterproofing system in mortar consistency.



### **Mixing**

For best results, clean, potable water should be added to **SpECTite WS** crystalline waterproofing system concentrate. The recommended mixing ratio is approximately 5.0 litre of water for 25 kg bag of **SpECTite WS**.

The powder shall be added to the clean water and mixed thoroughly with slow speed drill equipped with a paddle. For larger batches, mixing shall be done with a mortar mixer. Do not mix more material than can be used in 20 minutes @ 24°C, 50% R.H. If mixture thickens, it shall be restirred to reduce consistency. Extra water should not be added.

### **Brush/Trowel Method**

When applying by brush use a medium hard, shortbristle type. Trowelling of the second coat can be carried out to provide a dense polished finish.

### **Spray Method**

For large areas spray application is obviously more economical - our technical department would be pleased to advise on suitable equipment.

### **Dry Shake Method**

**SpECTite WS** can be uniformly applied in powder form on Lean Concrete before casting the slab as long as it is ensured that the concrete casting process does not disperse the **SpECTite WS** powder. **SpECTite WS** can also be applied uniformly onto the concrete in powder form and then finished with helicopter trowel.

### **Curing and Protecting**

**SpECTite WS** crystalline waterproofing system application must be kept moist for a minimum of 48 hours. After initial set, treated surfaces shall be fog sprayed 3 to 4 times daily for the 48 hour period. For warmer climates, more frequent spraying may be required. It is important to keep the **SpECTite WS** crystalline waterproofing system moist to allow the crystal formation to occur. The surfaces shall be protected from foot traffic for 48 hours or heavy traffic for 7 days. Freshly applied **SpECTite WS** crystalline waterproofing system must be protected from extreme weather conditions such as rain, strong winds, high temperatures and freezing for a

period of not less than 48 hours after application. A minimum of 7 days of air curing shall be allowed prior to immersing the surface in water.

### **Clean Up**

Prior to curing, **SpECTite WS** crystalline waterproofing system concentrate may be cleaned from tools and other surfaces with water.

### **APPLICATION TEMPERATURE RANGE**

**SpECTite WS** should not be used when the temperature is 5°C and falling. Full activation and effectiveness of **SpECTite WS** may require 2-3 weeks following application.

### **PACKAGING & YIELD**

**SpECTite WS** is supplied in 25kg bags.

#### Coverage

0.8 to 1.2 kg/m<sup>2</sup> per layer

(Please contact SpEC Technical Department for consumption details for various application)

### **STORAGE & SHELF LIFE**

**SpECTite WS** crystalline waterproofing system concentrate should be stored in protected, dry areas. When left in original unopened package, **SpECTite WS** crystalline waterproofing system will maintain its design performance characteristics for 1 year.

### **HEALTH & SAFETY**

**SpECTite WS** crystalline waterproofing system contain chemicals that may cause irritation to the eyes and skin. Goggles, rubber gloves and long sleeves should be worn when working with these products. Read warnings noted on product package and refer to product material safety datasheet (MSDS) prior to use.

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