

### SAB® Crystal Mix 211

Crystalline Admixture for Concrete Waterproofing

#### Description

##### SAB® Crystal Mix 211:

is a state-of-the-art crystalline waterproofing admixture for concrete, available in powder form. It reacts with moisture and free lime in the concrete, creating millions of insoluble crystalline fibers, which fill the pores, capillary tracts and minor shrinkage cracks within the concrete. Passage of water through the concrete, either from the positive or negative water pressure side is permanently blocked and the reinforcement protected from corrosion

##### Usage:

**Water Retaining Structures** such as water tanks and swimming pools, reservoirs, dams, canals, sewerage & water treatment works and concrete pipes.

**Water Excluding Structures** such as foundations and shallow basements, tunnels and subways, inspection pits and lift shafts, retaining walls & civil substructures.

SAB® Crystal Mix 211 can be added to the concrete mix at the time of batching or at the job site or just prior to pour, avoiding climatic constraints.

SAB® Crystal Mix 211 is designed for concrete mix designs where normal to mild retarded set times are desired.



#### ADVANTAGES

- Negative and Positive waterproofing
- Replaces ineffective sheet membranes.
- Seals shrinkage cracks up to 1/64" (0.4 mm) width. Reduced chloride permeability.
- Treated concrete can withstand hydrostatic water pressure up to 15 meters head.
- Single pack requiring (addition of water on site).
- Non-toxic and suitable in potable water containment.
- Not a vapor barrier - allows concrete to breathe.
- Negligible interference with water reducers & plasticizers.
- Negligible effect/influence on slump and air entrainment.
- Impervious to physical damage and deterioration
- Non-toxic, inorganic, zero VOC (0%)
- Less costly than traditional methods of waterproofing.

- Economic efficiency

### Technical data SAB<sup>®</sup> Crystal Mix 211

Component	Single
Color / Form	Grey Powder
Compressive Strength	10 % (+/- 1)
Water Penetration Depth	4 mm (+/- 1)
Water Penetration	Reduction up to 20 to 25 % relative to untreated concrete mixture

### TEST DATA

Mix Components	Mix Ratio	
	Control Sample (Kg)	Test Sample
OPC	3.650	3.650
Dune Sand	3.440	3.440
0-5 mm Aggregate	5.670	5.670
5-10 mm Aggregate	3.950	3.950
10-20 mm Aggregate	5.870	5.870
Water	1.640	1.640
Admixture	-	0.037
Average Water Penetration Depth (Maximum) (mm)	15	3
Reduction in Water Penetration	80 %	
Compressive Strength (28 Days) (MPa)	45	42.5
Compressive Strength (% of Control)	94.44 %	

*(The properties shown above were obtained under laboratory conditions).*

*All values given are subject to 10% tolerance*

### APPLICATION AND CLEANING OF TOOLS

#### MIX RATIO

SAB<sup>®</sup> Crystal Mix 211 is a dry powder dosed at 0.8% - 2.0% by weight of the cement and added directly to the concrete during mixing. The maximum dosage is 6 kg per m<sup>3</sup> of concrete.

For smaller mixes, add SAB® Crystal Mix 211 to aggregates and mix for 2-3 minutes prior to the addition of cement and water.

For plant mixed material, add SAB® Crystal Mix 211 to 60%-70% of the pre-batched water and mix for 2-3 minutes prior to adding the remaining batched ingredients and mixing for 5-7 minutes in accordance with standard practice.

SAB® Crystal Mix 211 can be dispersed in water and added to transit mixers on site just prior to placing of concrete. The minimum mixing time should be 7-8 minutes at agitating speed. Place and cure concrete as per standard practice. As standard, 7 days of water curing is recommended.

**Note:** Not recommended as the primary waterproofing system over moving joints and structures subject to movement, such as roofs

### **EQUIPMENT CLEANING**

Clean all equipment and tools with water immediately after use

### **HEALTH AND SAFETY**

PPE's Gloves, goggles & suitable mask must be worn. Precautions: Contact with skin, eyes, etc. must be avoided.

### **PACKING AND STORAGE**

#### **PACKAGING**

20 Kg Bag

25 Kg Plastic Pail

#### **STORAGE AND SHELF LIFE**

Shelf life is 12 months from the date of manufacture when stored under warehouse conditions in original unopened packing. Extreme temperature or humidity may reduce shelf life.