

Delta Admix 2000

A Capillary action crystalline waterproofing admixture

Description

DELTA ADMIX 2000 is a unique chemical treatment for the waterproofing, protection and improvement of concrete, plaster and brick laying mortar in powder form.

DELTA ADMIX 2000 consists of various active , proprietary chemicals. These active chemicals react with the calcium hydroxide that forms during hydration of cement. This generates an increased amount of non soluble crystalline calcium silicate hydrates 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. This concrete has high strength and durability as well.

The resultant concrete resists hydrostatic pressure from either negative or positive sides and is capable of sealing hairline cracks automatically which might develop in the concrete at a later date.

The DELTA ADMIX 2000 treated concrete will protect reinforcement in the concrete. DELTA ADMIX 2000 can either be mixed at site in a mixer, batching plant or in a ready mix truck.

Uses

DELTA ADMIX 2000 is recommended for use in the following concrete structures:-

- Roof Slabs
- Water Tanks
- Sewage and water Treatment Plants
- Basements
- Tunnels and Subway Systems
- Underground Vaults
- Foundations
- Parking Structures
- Swimming Pools
- Pre-cast components
- Facades
- Floor Toppings
- Brick/ Block making
- Damp proof course rendering (DPC)

Advantages

- Resists extreme hydrostatic pressure
- Highly resistant to aggressive chemicals
- Seal hairline cracks
- Allows concrete to breathe
- Non Toxic
- Permanent
- Increased compressive strength
- Increased impermeability

Dosage

Add DELTA ADMIX 2000 to the mix at the same time as cement, sand and aggregates. Dry mix for 2 to 3 minutes before addition of water.

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. Extension of setting time may occur when using DELTA ADMIX 2000. The amount of extended set will depend upon the concrete mix design and the dosage rate of admix. Concrete containing DELTA ADMIX 2000 develops high ultimate strength than plain concrete. Trial mixes should be carried out to determine setting time and strength of concrete.

Permeability and Strength

The durability of concrete is closely related to its permeability and compressive strength. The permeability dictates the rate at which aggressive agents can penetrate to attack the concrete and reinforcement. Adding DELTA ADMIX 2000 lowers permeability and increases compressive strength.

Description of Tests

The control mix concrete was prepared and tested for compressive strength and water permeability with and without DELTA ADMIX 2000. The amount of DELTA ADMIX 2000 in the treated concrete was 2% of weight of cement

Mix Design

Materials	Standards	Per m ³
Portland cement Type 1	ASTMC 150	310 Kg.
Sand	ASTMC 33	620 Kg.
Aggregate	ASTMC 33	1264.80 Kg.
Water		148 litre
DELTA ADMIX 2000		6.2 Kg.
W/C Ratio		0.48
Slump		6.35 cm.

A control mix was also prepared with no DELTA ADMIX 2000

Crystalline Waterproofing

Test Results

COMPRESSIVE STRENGTH:			
Cylinder	Age (Days)	Control	DELTA ADMIX 2000
A	3	1909 PSI	2387 PSI
B	14	3063 PSI	4105 PSI
C	28	4009 PSI	5132 PSI

WATER PERMEABILITY:	
Sample	cm/sec.
Control	1.6×10^{-8}
DELTA ADMIX 2000	2.2×10^{-10}

Conclusions

Based on these test results the following conclusions were drawn:-

- The concrete with DELTA ADMIX 2000 as an admixture in the concrete mix increased the compressive strength considerably.
- There was remarkably slowing of the water penetration in the concrete treated with DELTA ADMIX 2000

Special Notes

The crystallization process is continuous in the concrete. If at any time moisture creeps into the structure through the cracks formed by soil settlement or seismic shock the active ingredient of DELTA ADMIX 2000 will reactivate and seal the porosity of the concrete structure.

Warranty

DELTA ADMIX 2000 is backed by upto 20 years performance warranty. Kindly ask for details.



**Delta Coatings
& Sealants**