HIGHSEAL ADMIX

Integral Crystalline Concrete Waterproofing Admixture For Below Grade Concrete

Description

Highseal Admix is a waterproofing admixture composed of cement, ultra-fine silica aggregates and proprietary reactive agents and additives used as a permanently active waterproofing treatment for concrete. The chemical ingredients along with the by-products of cement hydration react with the moisture in fresh concrete to generate an incredibly dense crystalline structure which forms an impervious barrier to liquids thereby protecting the concrete and steel reinforcement.

Typical Applications

Water Retaining Structures

- Water tanks and swimming pools.
- Reservoirs, dams and canals.
- Sewerage and water treatment works.
- Concrete pipes.

Water Excluding Structures

- Foundations and shallow basements.
- Tunnels and subways.
- Inspection pits and lift shafts.
- Retaining walls, jetties and sea defences.
- Civil substructures.

Features

- Replaces sheet membranes.
- Becomes an integral part of the concrete structure.
- Remains permanently active.
- Seals shrinkage cracks up to 0.4mm width.
- Resists positive and negative water pressure.
- Reduced chloride permeability.
- Treated concrete can withstand hydrostatic water pressure up to 150 metre head.
- Single pack requiring only the addition of water on site.
- Non-toxic and suitable in potable water containment.
- Protects steel reinforcement against corrosion.
- Unaffected by surface water.
- Improved chemical resistance.
- Can be added at the batching plant or just prior to pour, avoiding climatic constraints.
- Exceeds ASTM C 494-S. VOC free.

Packaging

20kg plastic pails.

Directions for Use

Place and cure concrete as per standard practice. As standard minimum 7 days of water curing is recommended. Curing membranes as per ASTM C-309 or C-1315 may be used.

Method of Application

- Addition method will depend on temperature and distance of batching plant to site.
- At very high temperatures and if travelling time to site will be more than 30 minutes the pre- batched concrete should be made to a low slump and the Admix should be pre-mixed with water on site. 20kg Admix to 25 litres of water then added to the mixer drum and mixed for a minimum 8 minutes at agitating speed then add water to achieve required slump.
- Concrete temperature should not exceed 32° C when placing Highseal Admix has a water reducing effect and trial mixes should be carried out to determine water requirement for appropriate mix design.

Dry Batch Application

- Add the Highseal Admix powder to the mixer drum add 60-70% of required water and 200kg aggregate and mix for 3 minutes to ensure powder is fully dispersed, add balance of batch as per normal practice.

Precast Plant Application

- Add the Admix powder to the large and fine aggregate and mix for 3 minutes before adding the cement and water and mix as per normal practice.
- Wet Batching Plant Operation.
- Premix 20kg Admix with 25 litres of water. Place required quantity of premix into the mixer drum. Concrete is batched in normal method taking into account water in already in readymix truck and the water reducing effect of the Admix discharge the concrete into truck and run for 5 minutes at agitating speed to ensure thorough mixing of Admix into the concrete.

IMPORTANT NOTE:

- DO NOT add dry Admix into concrete.
- For further information and assistance please contact Technical Dept.

Strength and Setting Time

- The setting time of concrete is dependent on a variety of conditions such as Cement Content, cement replacement ingredients, temperature and climatic conditions.
- Dependent on these variants and addition of Admix, acceleration or retardation may occur, trial mixes should be carried out before site use, however under normal conditions a normal set will occur and under all conditions a strength improvement of up to 10% will occur.

Note:

- Not recommended as the primary waterproofing system over moving joints and structures subject to movement, such as roofs.
- Dosage rate of Admix is 0.8 - 2.0% by weight of the cement content of the cement content of the concrete. Maximum recommended dosage is 6.0 kg per m^3. Higher cement content concrete needs less Admix.

Technical Information

PROPERTIES	SPECIFICATION	RESULTS
Reduction in water permeability	BSEN 12390 Part B 8:2000	No penetration
Increase in compressive strength	BSEN 1881 Part 116:1983	Approx. 10%

These results are dependent on correct concrete design.

Storage

When stored in dry conditions in original unopened packaging this product has a shelf life of 12 months. Storage above 35°C and high humidity (above 50%) will reduce shelf life and product performance.

Health and Safety

This product contains cement. Contact with skin may cause irritation. It should not be inhaled, and a properly designed and maintained face mask should be used whilst handling, pouring and mixing the powder. Avoid contact with the product by working carefully, using a barrier cream and wearing protective gloves. If any contact does occur wash thoroughly with soap and water. Use eye protection. Avoid contact with eyes if such contact occurs irrigate with water for 20 minutes and seek medical advice. If mistakenly ingested drink plenty of clean water and seek medical advice. See MSDS for further information.