

Technical Data Sheet

X-Pruf CrystalMix Liquid

Liquid crystalline waterproofing additive for concrete

Product Description

X-Pruf CrystalMix Liquid is a unique liquid crystalline additive for concrete which react with the moisture in fresh concrete with the by-products of cement hydration cause a reaction that forms pore blocking crystal fibers which permanently waterproof treated concrete.

Advantages

- Resists extreme positive and negative hydrostatic pressure
- Increases concrete strength
- Can seal cracks up to 1/64" (0.4mm)
- Increases freeze/thaw resistance of concrete
- Easy to dispense liquid
- Non toxic
- Chloride free

Uses

- Any concrete mix requiring waterproofing
- Tunnels and subway systems
- Marine structures
- Bridges and Foundations
- Sewadge and water treatment plants
- Basements and elevator pits
- Water and wastewater structures
- Parking structures
- Swimming pools and sea defense walls

Dosage

Ensure that the water/cement ratio of the concrete does not exceed 0.55 before X-Pruf CrystalMix Liquid is added.

- Use 1-3 L /100 Kg of contentious content is recommended. Typical dosage is 2% of contentious content
- For addition to ready mix concrete, a typical dosage of 7 kg per cubic meter of concrete is best re-commended
- For each 1 kg of X-Pruf CrystalMix Liquid , 0,8 kg water has to be reduced from mix water to keep w/c.

Laboratory Test Data

Water Permeability	Control	CrystalMix
	9×10^{-7} cm/sec	5×10^{-11} cm/sec

The above result was obtained from a constant workability mix containing (300 kg/m³) of Type 1 Portland cement with a 0.51 water/cement ratio

mix using 2 % of X-Pruf CrystalMix Liquid by weight of cement. 5 % strength increase at 28 days was also observed. Strength increases can be as high as 10 % at constant water cement ratio.

Product properties

Appearance and colour	Yellow Liquid
Main action	Blocks water penetration
Density (g/cm ³)@25°C	1.120 ± 2 %
Total chloride ion	< 0.1% , "Chloride Free"
PH	> 9

APPLICATION PROCEDURE

Stir X-Pruf CrystalMix Liquid prior to use to ensure that the product is well dispersed. Concrete should be placed quickly after the addition of X-Pruf CrystalMix Liquid. Use a retarder from X-Calibur for mix designs containing Type II/V or Type III Portland Cement.

X-Pruf CrystalMix Liquid can be added to the batching water or direct into the concrete mixer at the batch plant or at site.

Carrying out trial mixes under conditions to determine setting time and strength of the concrete is recommended. Correct mix design is essential to achieve a watertight concrete.

Before application, test for compatibility with any other admixtures to be used in the mix.

Curing

Cure concrete containing X-Pruf CrystalMix Liquid in accordance with the recommendations in the latest edition of the ACI Manual of Concrete Practice.

Limitations

Concrete should be placed quickly after the addition of X-Pruf CrystalMix Liquid.

The water/cement (w/c) ratio of the concrete must not exceed 0.55.

Do not use at concrete temperatures below 40F (4°C).

Packaging

1000 litre bulk , 20 and 210 liter drums.

Volatile Organic Content

VOC = 0 g/L

Shelf Life

X-Pruf CrystalMix Liquid a minimum shelf life of 12 months under shaded area. Must be protected from direct sunlight and frost

Compatibility

X-Pruf CrystalMix Liquid is suitable for use with all types of ordinary Portland cements, sulfate resisting Portland cement and pozzolanic materials such as PFA and Micro- silica, It is compatible with most concrete admixtures, including all X-Calibur water reducer admixtures. it is recommended for use with high-range water reducing admixtures for maximum workability while maintaining a low W/C ratio.

Health and Safety

This product is for industrial use only by trained operatives. It is not considered hazardous if used correctly. Please refer to the Material Safety Data Sheet (MSDS) prior to the purchase and use of this product. The MSDS can be obtained via our website www.ncc.com.eg

Authorized Technical Specialist

Please note that only NCC X-Calibur Authorized Technical Support Specialists ('ATSS') are permitted to change any of the information in this data sheet or to provide written recommendations concerning the use of this product. Visit www.ncc.com.eg for a full list of NCC X-Calibur ATSSs.

Datasheet Validity

NCC X-Calibur makes modifications to its product datasheets on a continuous basis. Please check the datasheet update section on Ncc.com.eg to ensure you have the latest version.

Warranties

NCC X-Calibur supplies products that comply with the properties shown on the current datasheets. In the unlikely event that products supplied are proved not to comply with these properties, then we will replace the non-compliant product or refund the purchase price. NCC X-Calibur does not warrant or guarantee the installation of the products as it does not have control over the installation or end use of the products. Any suspected defects must be reported to NCC X-Calibur in writing within five working days of being detected. NCC X-Calibur Construction Systems Inc. **makes no warranty as to merchantability or fitness for a particular purpose and this warranty is in lieu of all other warranties express or implied.** NCC X-Calibur Construction Systems Inc. shall not be liable for damages of any sort including remote or consequential damages, down time, or delay.

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