NCC X-CALIBUR CONSTRUCTION CHEMISTRY

Technical Data Sheet

X-Shield EpoxySeal PWE

Potable water grade epoxy coating for concrete and steel

Product Description

X-Shield EpoxySeal PWE is a high performance, epoxy protective coating suitable for use in a wide range of applications, particularly in contact with potable water.

Advantages

- Formaldehyde free
- Suitable for use in contact with potable water
- Can be applied to steel and concrete
- Resistant to wide range of chemicals
- Waterproof

Uses

- Internal coating of water retaining structures
- Coating of pipes
- Wall and floor coating for industrial facilities
- General purpose coating for food processing areas
- Internal coating of silos

Specification Compliance

SCAQMD Rule 1113
LEED NC2009 IEQ 4.2
BS6920: Part 1
AWWA C210
ASTM D2794

Laboratory Test Data

Property	Typical Results
Density	1.7±0.05 g/cm^3
Solid content	96±2%
Compressive strength (BS 6319) part 2	>55 MPa (10150psi)
Flexural strength (BS 6319) part 3	>25 MPa (5800psi)
Impact resistance (ASTM D2794)	No cracking
Bond strength (BS 1881 part 207) (pull off test)	>1.5 MPa
Abrasion resistance (ASTM D4060)	<200 mg

Chemical Resistance

X-Shield EpoxySeal PWE has excellent resistance to the following chemicals:
1% Lactic acid
25% Sodium hydroxide
Kerosene
Petrol
Chlorinated water
Distilled water

Properties

Property	Typical Results
Dry film thickness	150 to 200 microns (6 to 8mils) per coat
Application temperature	10 to 35C (50 to 95F)
Pot life	35 mins at 25C (77F)
Recoat time	8 to 24 hours at 25C (77F) 6 to 12 hours at 35C (95F)
Full cure	7 days at 25C (77F) 5 days at 30C (86F)

Volatile Organic Content

VOC < 50g/L

Color

Grey.

Theoretical Coverage

4.6 m^2 per Litre per coat at 200 microns DFT.

Actual coverage will depend on wastage and surface profile and can be up to 20% higher than theoretical coverage.

Packaging

1, 5 and 20 Kg packs.

Shelf Life

18 months when stored below 35C (86F) under shade in a dry environment.

Installation Guidelines

X-Shield EpoxySeal PWE should be applied by experienced coating crews. NCC X-Calibur provides detailed method statements on all its products for use in various applications. These must be referred to prior to starting work. The information below is a summary intended for guidance only.

Surface preparation

Concrete

The substrate must be structurally sound. Loose or unsound concrete should be removed and made good. Surfaces must be entirely free of oil, grease, paint, corrosion deposits, dust, laitance or other surface deposits. The surface should be prepared by light grit blasting or high pressure water blasting to produce a lightly exposed aggregate surface. Any bug holes should be filled with an X-Shield BugFill.

Priming

(X-Shield SF Primer or X-Shield WD Primer)

The use of a primer is normally recommended. However, if the substrate is high quality sound concrete then a primer may not be required. This can only be determined by a site trial and manufacturer's pull off test.

Prime using X-Shield SF Primer, applied by roller to give a wet film thickness of 100 to 150 microns. Ensure that no ponding of the primer occurs and that it is not applied too thick. The X-Shield EpoxySeal PWE should be applied when the primer is dry but within the open time of the primer. If left for longer than the open time, the primer must be reapplied before applying the X-Shield EpoxySeal PWE. Take care to ensure no contamination of the primed surfaces occurs.

Prime using X-Shield WD Primer when applying onto damp substrates. Apply in coats of 100 microns wet film thickness using brush, roller or airless spray. Clean equipment using water. The X-Shield EpoxySeal PWE should be applied when the primer is dry but within the open time of the primer. If left for longer than the open time, the primer must be reapplied before applying the X-Shield EpoxySeal PWE. Take care to ensure no contamination of the primed surfaces occurs.

Steel

Any damaged steel should be removed and replaced. The substrate should then be grit blasted to minimum SA 2½. Depending on the level of corrosion protection required, an anti-corrosion or holding primer like X-Shield Primer ZR, X-Shield primer ZRE, or X-Shield Primer ZRH may be necessary. X-Shield EpoxySeal PWE must be applied immediately after the grit blasting has been completed. Any imperfections should be filled with an X-Shield BugFill.

Mixing

Add the hardener 'Part B' into the base 'Part A' and mix using a slow speed drill (500 rpm) with an X-Shield Coating Mixer Paddle for 3 minutes or until both components have fully dispersed and are uniform in color. Be sure to rotate the mixer throughout the drum. Mix only full packs.

Application

Apply in two coats of 165 to 220 micron (6.6 to 8.5mils) wet film thickness per coat using brush or roller. The first coat should be applied in such a manner as to ensure a good bond. Allow first coat to dry for at least 8 hours at 25C (77F) or 4 hours at 35C (95F). For application by airless spray or pipe coating equipment consult NCC X-Calibur before use. Clean equipment using X-Shield Solvent.

Spray Grade

Please contact NCC X-Calibur for advice if spray application is required.

Limitations

Will change color when exposed to direct sunlight. Will not accommodate movement cracks.

Do not be apply within 3C of the dewpoint or if it is within 5C of the dewpoint and dropping.

Avoid excessive application.

Avoid skin contact.

Donot discard into the water system.

Apply only on to slabs that have a waterproofing system installed in order to prevent blistering due to osmosis.

Health and Safety

This product is for industrial use only by trained operatives. It is potentially hazardous if not 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 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 ATSs.

Datasheet Validity

NCC X-Calibur makes modifications to its product datasheets on a continuous basis. Please check the datasheet update section on www.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 Chemicals. **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 Chemicals shall not be liable for damages of any sort including remote or consequential damages, down time, or delay.