

X-Shield EpoxyLock HS

High solids low VOC anti-corrosion epoxy coating for steel

Product Description

X-Shield EpoxyLock HS is a high build, high performance coating chemically engineered to provide excellent long term anti-corrosion protection to both new and existing steelwork. In addition to providing long term anti-corrosion protection the product provides a finishing coat in its own right; however where an aesthetic finish or high UV resistance is required it can be over coated with X-Shield PolyLock UV. X-Shield EpoxyLock HS provides very high adhesion to metal surfaces prepared by mechanical means or high pressure water jetting to ST2 making it an ideal maintenance coating.

Advantages

- Meets SCAQMD Rule 1113 & LEED VOC Limits
- Formaldehyde free
- Can be applied to grit blasted, mechanically prepared or high water jetted steel
- Can be used as a single coat maintenance coating
- Offers high abrasion resistance
- Offers good chemical resistance
- Reduced surface preparation for steel
- Primerless
- Suitable for use in immersed conditions

Typical Uses

- Long term internal & external protection of steel
- Maintenance coating for all corrosion problems
- Protection from chemical splashes and air borne chemicals
- Protection of marine structures where salts exacerbate corrosion
- External protection of pipes including bi-metallic corrosion caused by welding.

Specification Compliance

SCAQMD Rule 1113
LEED NC2009 IEQ 4.2

Laboratory Test Data

Property	Typical Results
Volume solids (ISO 3233)	88%
VOC (IHM)	106 g/L
Specific Gravity (IHM)	1.4

* IHM—In house Method

Application Properties

Wet film thickness	115 to 230 microns per coat
Dry film thickness	100 to 200 microns per coat
Application temperature	0 to 50C air 0 to 60C surface
Mixing ratio	1B to 1H by volume

Pot Life and Cure Profiles

Temperature	5C	10C	20C	30C	40C
Pot life	3h	2h	1h	30min	15min
Touch dry	12h	6h	3h	90min	45min
Hard dry	24h	16h	5h	3h	1.5h
Full cure	21d	14d	7d	4d	3d
Minimum recoat time	24h	14h	6h	3h	1.5h
Maximum recoat time	48h	48h	24h	12h	6h

Note: At temperatures above 30C, application by plural component airless spray is recommended due to the low pot life.

Chemical Resistance

X-Shield EpoxyLock HS has excellent resistance to the following chemicals:

25% Sodium Hydroxide
15% Sodium hypochlorite
20% hydrochloric acid
20% sulfuric acid
10% phosphoric acid
10% nitric acid
Kerosene
Diesel

Color

Light Grey RAL 7035
Other RAL colors to order (usually 500 liters minimum order)

Theoretical Coverage

4.5 to 8.7m² per liter per coat.
Actual coverage will depend on wastage and surface profile and can be up to 20% higher than theoretical coverage.

Packaging

5 and 15 liter packs.

Shelf Life

18 months when stored below 30C (86F) under shade in a dry environment.

Installation Guidelines

X-Shield EpoxyLock HS 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

Surfaces should be thoroughly cleaned and degreased to SSPC-SP1 prior to blasting. All sharp edges, protuberances, welds, etc should be ground down to remove any sharp edges. The degreased surface should now be grit blasted to a minimum Sa 2½ in accordance with BS7079 Part A1 or equivalent. This means very thorough blast cleaning using chilled steel grit to provide near white metal 85% clean. The surface shall be free from all foreign matter. A surface profile of 45 microns is the recommended finish. All dust and abrasive residue must be removed from the surface prior to application of the first primer coat.

Where grit blasting is not possible or desirable, surface preparation can be carried out by mechanical means to standard ST2 i.e. thorough scraping, wire brushing or grinding to remove all loose mill scale, rust, loose coating and foreign matter for small areas. The finished surface should have an irregular profile. The metal should display a "bright" finish.

For larger applications hydro-jetting (high pressure water jetting) is recommended as follows. Hydro-jetting with raw water at a delivery pressure of between 450 to 500 bar at a flow rate of 16 gallons a minute. This is sufficient for the removal of all loose paints and mill scale back to a tight surface. Soluble salt readings should now be taken to give an indication of micro siemens of sodium chloride contamination present. Subsequent hydro jetting with potable water at 620 to 700 bar at a flow rate of 18 gallons a minute to flush the surface contamination. Soluble salt readings should again be taken and give an indication of between 10 to 30 micro siemens. Any residual existing coating must be firmly adhered to the substrate and should be thoroughly abraded.

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 coats of 115 to 225 microns per coat wet film thickness using airless spray, brush or roller. Clean equipment using X-Shield Solvent. When using airless spray we recommend the use of a 0.48mm fluid tip or larger. Contact NCC X-Calibur for further information.

UV Resistance

X-Shield EpoxyLock HS is resistant to ultra violet radiation from direct sunlight and will maintain its chemical and physical properties. As is typical with all epoxy coatings, the color will change on exposure to sunlight. When no color change is acceptable, the product should be over-coated with X-Shield PolyLock UV.

Limitations

Will not accommodate movement cracks.

Do not apply below 0C.

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

Do not apply at wet film thickness higher than 250 microns

Do not smoke in presence of this product

Avoid excessive application.

Avoid skin contact.

Do not discard into the water system.

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 up-date section on www.ncc.com.eg to ensure you have the latest version.

Warranties

NCC X-Calibur supplies products that comply with the proper-ties 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.