X-CALIBUR CONSTRUCTION CHEMISTRY

Technical Data Sheet

X-Shield FlexPruf

High performance polymer modified elasto-cement waterproof coating

20551522

Product Description
X-Shield FlexPruf is a high performance, flexible elasto-cement coating used for waterproofing of concrete and masonry.

Composition
X-Shield FlexPruf is a two component cementitious coating manufactured using selected cements, fillers and a high performance elastic co-polymer.

Advantages
- Meets SCAQMD Rule 1113 & LEED VOC Limits
- Formaldehyde free
- Waterproof
- Highly flexible
- Bridges crack
- UV stable
- Can be used above and below grade
- Breathable
- Can be applied to one day old concrete
- Can be used in contact with potable water

Uses
- Wet area waterproofing
- Roof waterproofing
- Swimming pools
- Tile/stone waterproof backing
- Water tank coating
- Concrete protection
- Waterproofing protection layer
- Resurfacing
- Anti root membrane

Specification Compliance
SCAQMD Rule 1113
LEED NC2009 IEQ 4.2
Classified under BS EN 1062-1:2002 as Class C_1 carbon dioxide permeability.
ANSI A118.10
BS 6920
DCL Green Building Regulations

Volatile Organic Content
VOC = <50g/L

Color
Grey and white, custom colors available

Theoretical Coverage
1L (1.7kg) per m²per coat
Actual thickness per coat will depend on actual product use
Normal applications require 2 coats.

Packaging
22kg kits.

Yield
12.8 liters per kit.

Laboratory Test Data

Property	Typical Results
Elongation	>100%
Tensile strength	>1.5 MPa
Crack bridgability	>2mm
Pull off strength*	>0.7 MPa
Shear strength	>3 MPa
Seam strength	>5kg / 25mm width
Dimensional stability	< 0.5%
Reduction in chloride ion permeability	98%
Water vapor transmission rate	3.7 perms
Carbon dioxide permeability	> $200m^{air}$
Water permeability	> 10 bar
Oxygen diffusion	< 5×10^{-5} cm^2/second

The above data relates to X-Shield FlexPruf after 28 days curing.

* Pull off tests where carried out under the various curing conditions for 28 days as shown below:

Condition	Temperature
Air	20C (68F)
Air	70C (158F)
Air	-20 to 5C (25 cycles) (-4 to 41F)
Water	20C (68F)
Lime water	20C (68F)
Brine	20C (68F)
Caustic potash	20C (68F)

Shelf Life
12 months when stored below 35C (95F) under shade in a dry environment.

Installation Guidelines
X-Shield FlexPruf should be applied by experienced applicators. 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
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 or static cracks below 2mm should be filled with X-Shield FlexPruf, to produced in a paste that can easily be applied using the 'scrape on, scrape off' technique with a steel scraper or steel trowel. Larger cracks or cracks liable to move should be identified and the coating reinforced with X-Shield Reinforcing Fabric. Corners and penetrations should also reinforced. Construction and movement joints should be continued through the coating using an appropriate joint detail and sealant.

The surface should be primed using water to achieve a saturated surface dry (SSD) surface prior to application of X-Shield FlexPruf.

Mixing
X-Shield FlexPruf is supplied as a two component pack consisting of filler and liquid polymer. Both components are pre-measured and no addition of water is necessary. Place the liquid polymer component into a suitable container and slowly add the filler component while mixing with a slow speed drill fitted with an approved mixing paddle. Mix for approximately 3 minutes until a lump-free creamy consistency is achieved. Mix only sufficient material for application within 45 minutes.

Application
Apply using brush, roller or spray. First coat should be applied at 1L/m²; subsequent coats at 0.5 to 1.0L/m². Apply subsequent coats once the coat beneath has dried. The coating can be reinforced using X-Shield Reinforcing Fabric in areas subject to movement.

Limitations
Do not add water to the mixed coating.
Temperature of the mixed coating should be less than 30C (86F) at time of mixing.
Do not apply to substrates that have free water on them.
Do not water test or immerse until the coating has cured for 5 days.
Not suitable for use with acids.
Do not apply below 5C (41F).
Avoid excessive thickness as this could cause cracking.
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.x-calibur.us.

Authorized Technical Specialist
Please note that only 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.x-calibur.us for a full list of X-Calibur ATSs.

Datasheet Validity
X-Calibur makes modifications to its product datasheets on a continuous basis. Please check the datasheet update section on www.x-calibur.us to ensure you have the latest version.

Warranties
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. 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 X-Calibur in writing within five working days of being detected. X-Calibur Construction Chemistry 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.** X-Calibur Construction Chemistry Inc. shall not be liable for damages of any sort including remote or consequential damages, down time, or delay.