

# SMARTCARE PRE APPLY HDPE 80 MEMBRANE

## WATERPROOFING SOLUTION

High density polyethylene membrane for pre-application.

### PRODUCT DESCRIPTION

Smartcare Pre Apply HDPE 80 is a thick, high-density polyethylene membrane. It is a multi-layer composite waterproofing material with superior performance, including a layer of high-performance PE film, a self-adhesive polymer layer, and a unique particulate layer. Unlike conventional membranes, this forms a bond with the wet concrete poured over it and becomes a monolithic part of the structure. This prevents water ingress tracking between the unbonded membrane and structure. The membrane is designed for adhesion to RCC for easy application below rafts and reinforcements.

### KEY FEATURES

- **Continuous Concrete Bond:** The membrane creates a continuous adhesive bond to the poured concrete, ensuring it stays firmly attached to the structure.
- **Settlement Resistance:** The product is unaffected by ground settlement, maintaining its integrity even as the soil beneath shifts.
- **Multi-Barrier Protection:** It provides an effective barrier against water, moisture, and gas, protecting the building from various environmental elements.
- **Construction Ready:** The surface is ready for the placement of reinforcement bars immediately after installation, facilitating a faster construction process.
- **Soil Chemical Resistance:** It offers excellent chemical resistance to a wide range of soil types, preventing degradation from underground conditions.
- **Acid and Alkali Resistance:** The membrane is resistant to acids and alkalis, ensuring long-term durability in chemically aggressive environments.

### PRODUCT BENEFITS

-  Chemical Resistance
-  Long-term Durability
-  Strong Adhesive Bond
-  Ground Movement Tolerance

### PACKAGING

Dimension: 1.2mm thickness  
Available in: 1.2m/2.4m width, 20m length

### CHEMICAL PROPERTIES

Membrane made of High Density Polyethylene material and pressure sensitized adhesive. Protective coating and release liner is applied above this.

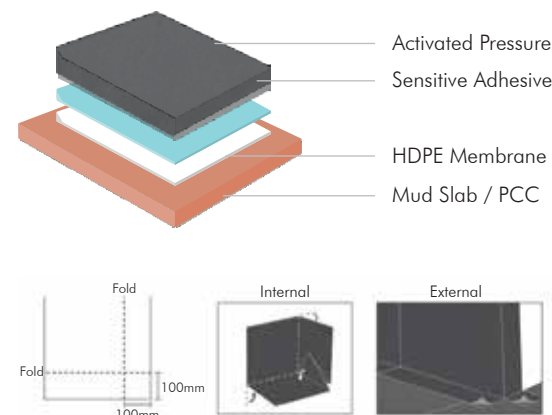
### TECHNICAL PROPERTIES

Properties	Value
Colour	Off White/ White Marsh
Dimension	1.2mm thickness
Elongation (ASTM D 412-2016)	Longitudinal >672% Transverse >660%
Tensile strength, film (ASTM D 412-2016)	Longitudinal 28.9 Transverse 26.5
Tear resistance (ASTM D 1004)	268 mm/μm
Resistance to hydrostatic head (ASTM D 5385)	No leakage at 7 bar
Resistance to hydrostatic pressure @ 7 bar (ASTM D 5385/ DIN 1048)	Passed the test

Properties	Value
Puncture resistance (ASTM E154)	1028 N
Peel adhesion to concrete (ASTM D 903)	>3500 N/m (ASTM D 903-1998) (peel strength)
Lap peel adhesion (ASTM D 1876-2017)	>2000 N/m
Dimension stability (ASTM D 1204-14)	<0.1%
Low temperature flexibility at -25°C	No cracks at -29°C
Lap shear adhesion (ASTM D 1876)	1508 N/m
Water vapour permeance (ASTM E 96)	Passed the test
Water absorption (ASTM D 570)	0.21%

## APPLICATION AREAS

- Basement (below rafts and side walls)
- Tunnel
- Subway
- Cave
- Other underground metro stations



## APPLICATION METHOD

### 1. Surface Preparation:

All surfaces – It is essential to create a sound and solid substrate to eliminate movement during the concrete pour. Substrates must be regular and smooth with no gaps or voids greater than 12 mm. Grout around all penetrations, such as utility conduits, etc., for stability.

### Horizontal Blinding

The substrate must be free of loose aggregate and sharp protrusions. Avoid curved or rounded substrates. The surface does not need to be dry, but standing water must be removed.

### Vertical sheet piling

Use concrete, plywood, insulation, or other approved facing to sheet piling to provide support for the membrane. Board systems such as timber lagging must be close butted to provide support and not more than 12mm out of alignment.

### Membrane installation

Place the SmartCare Pre Apply HDPE 80 Membrane HDPE film side to the substrate with the particulate layer side up, facing the concrete pour. End laps should be staggered to avoid the buildup of layers. Accurately position succeeding sheets to overlap the previous sheet 75mm along the marked selvedge. Ensure the underside of the succeeding sheet is clean, dry, and free from contamination before attempting to overlap. Ensure a continuous bond is achieved without creases and roll firmly with a heavy roller. Any initial tack will quickly disappear.

### Roll ends and cut edges

Overlap all roll ends and cut edges by a minimum of 75mm and ensure the area is clean and free from contamination, wiping with a damp cloth if necessary. Remove all floating particles from the surface of the SmartCare HDPE 80 pre-applied waterproofing membrane by brush. Apply SmartCare HDPE Tape by peeling off the release paper and fixing the adhesive on the substrate. Roll firmly to ensure complete adhesion without creases or voids. Peel off the other layer of release paper and apply another piece of SmartCare Pre Apply HDPE 80 to the adhesive tape. Roll firmly to ensure complete adhesion. Alternatively, remove all floating particles from the surface of SmartCare Pre Apply HDPE 80 by brush.

### Pouring of concrete

The concrete must be poured within 40 days of application of the membrane. During pouring, take care when vibrating concrete to avoid damaging the waterproofing materials.

### Formwork removal

SmartCare Pre Apply HDPE 80 pre-applied waterproofing membrane can be applied to removable formwork, such as slab perimeters, elevator and lift pits, etc. once the concrete is poured, the formwork must remain in place until the concrete has gained sufficient compressive strength to develop the surface bond.

SmartCare Pre apply HDPE 80 pre-applied waterproofing membrane is not recommended for conventional twin-sided wall forming systems. As a guide, to reach the minimum compressive strength stated above, a structural concrete mix with an ultimate strength of 40N/mm<sup>2</sup> will typically require a cure time of approximately six days at an average ambient temperature of -4c or two days at 21C. Please contact your local Asian Paints Berger Technical officer for more details.

### Corners

Internal and external corners should be formed as shown in the diagrams, returning the membrane a minimum of 100mm and sealing with SmartCare HDPE bonding tape. Ensure the apex of the corner is covered and sealed with tape and rolled firmly. Crease and fold the membrane to ensure a close fit to the substrate profile and avoid hollows.

### Protection

No protection is required for SmartCare Pre Apply HDPE 80 membrane. Reinforcement can be directly tied to it.

## PRODUCT LIMITATIONS

Not available

## STORAGE CONDITIONS

Dry and clean conditions below +40C. Store indoors in original closed wrapping away from sources of chemical contamination, damage, ignition sources, and open flame. Exercise caution when lifting and transporting to avoid puncture and damage.

## SHELF LIFE

Not available

## SAFETY PRECAUTIONS

- Always wear protective gloves, goggles, and clothing during mixing and application to prevent skin or eye irritation.
- Avoid direct contact with skin or eyes; in case of contact, wash the affected area with plenty of clean water.
- If inhaled, move the affected person to fresh air immediately and seek medical advice if discomfort persists.
- Ensure proper ventilation at the site of application to avoid inhalation of fumes.
- Keep away from heat, sparks, and open flames. Do not smoke during handling.

## CERTIFICATIONS

SmartCare Pre Apply HDPE 80 Membrane complies with ASTM D 412-2016, ASTM D 1004, ASTM D 5385, ASTM D 5385/ DIN 1048, ASTM E 154, ASTM D 903, ASTM D1876-2017, ASTM D 1204-14, ASTM D 1876, ASTM E 96 and ASTM D 570.

## DISCLAIMER

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