

# PROXI PREBOND

(Formerly known as PROXI PRE-02)



## TECHNICAL DATA SHEET

### HDPE PRE APPLIED FULLY BONDED MEMBRANE

#### Description

Proxi Prebond membrane is a preformed HDPE fully bonded membrane that bonds to the wet concrete cast on it and makes it unaffected by any substrate settlement below the slabs. Reinforcement can be directly laid on top of the membrane and it does not require screed protection.

Proxi Prebond is a unique HDPE membrane comprising of a virgin HDPE layer and a pressure sensitive adhesive layer which is covered by a weather proof protective layer. The adhesive layer is activated when the concrete is poured on the membrane and it enables the membrane bond to underside of the concrete which prevents the ingress of water into the structure as well as prevents tracking of water between the membrane and the structure and provide a positive side protection against ingress of sub soil water. Proxi Prebond can be used for horizontal as well as vertical blind side application.

#### Typical Application

- Basement.
- Subway and UG metro project.
- Cut and cover tunnels.
- Caverns.
- Other underground civil structures.

#### Features

- Good bonding with concrete applied on membrane, to protect concrete effectively.
- Low flatness requirement to substrate; reliable overlapping; fast and easy application.
- Sound anti-puncture performance.
- Adaptable to varying surface profile.
- Resistant to high hydrostatic ground water-pressure.
- Resistant to acid, alkali, chlorides and sulphate attack.
- Eco-friendly material.

#### Packaging

2.0 m x 20 m/2.4 m x 20 m/3 m x 20 m @ the thickness of 1.2 mm/1.5 mm

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### Method of Application

Proxi Prebond membranes are supplied in rolls of 2.0 m or 2.4 m wide, with a selvedge of 75 mm on one side to provide self-adhered laps for continuity between rolls. The rolls of Prebond membrane and Prebond Tape are inter-wound with a disposable plastic release liner which must be removed before placing reinforcement and concrete.

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#### 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** – Monolithic concrete blinding or mud slab is preferred. The blinding must be free of loose aggregate and sharp protrusions. An angular profiled blinding is recommended rather than a sloping or rounded substrate. The surface does not need to be dry, but standing water must be removed.

**Vertical confined surface** – Use concrete, plywood, masonry or other approved facing to provide to level and even support to the membrane. Board systems such as timber lagging must be close butted to provide support and not more than 12 mm out of alignment

#### 2 MEMBRANE INSTALLATION

- Prebond can be applied ambient at temperatures of  $-4^{\circ}\text{C}$  or above. During cold or damp conditions, the selvedge and tape adhesive can be gently warmed using a hot air gun or similar to remove moisture or condensation and improve initial adhesion.

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#### 3 HORIZONTAL SUBSTRATES

- Place the membrane HDPE film side to the substrate with adhesive/coated side facing up towards the concrete pour. End laps should be staggered to avoid a buildup of layers. Leave plastic release liner in position until overlap procedure is completed. Accurately position succeeding sheets to overlap the previous sheet 75 mm along the marked selvedge. Ensure the underside of the succeeding sheet is clean, dry and free from contamination before attempting to overlap. Peel back the plastic release liner from between the overlaps as the two layers are bonded together. Ensure a continuous bond is achieved without creases and roll firmly with a heavy roller.

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#### 4 VERTICAL SUBSTRATES

- Mechanically fasten the membrane vertically using fixings (i.e. fasteners) appropriate to the substrate with the adhesive/coated side facing towards the concrete pour. The membrane may be installed in any convenient length. Secure the top of the membrane using a batten such as a termination bar or fixing 50 mm below the top edge. Fixings can be made through the selvedge so that the membrane lays flat and allows firmly rolled overlaps. Any additional fixings must be covered with a patch of Prebond Tape. Ensure the underside of the succeeding sheet is clean, dry and free from contamination before attempting to overlap. Roll firmly to ensure a watertight seal. **Roll Ends and Cut Edges** – Overlap all roll ends and cut edges by a minimum 75 mm and ensure the area is clean and free from contamination, wiping with a damp cloth if necessary. Allow to dry and apply Prebond Tape centered over the lap and roll firmly.

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#### 5 CORNERS

- Internal and external corners should be formed as shown in the diagrams returning the membrane a minimum of 100mm and sealing with Prebond Tape. Ensure that the apex of the corner is covered and sealed with tape and roll firmly.

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### Technical Features

PROPERTIES	TYPICAL VALUE	TEST METHOD
Colour	White	–
Roll Size	2.0 m, 2.4, 3.0 m x 20 m 2.4 mtr x 20 mtr.	–
Thickness Composite	> 1.20mm	ASTM D 3767
Tensile Strength of HDPE Without Adhesive (Film)	25 Mpa	ASTM D 412 Modified
Elongation	> 500	ASTM D 412 Modified
Low Temperature Flexibility	– 25°C Pass	ASTM D 1970
Resistance to Hydrostatic Head	> 60 M	ASTM D 5385 Modified
Crack Cycling	Pass	ASTM D 836/ASTM C 1305 Modified
Peel Adhesion to Concrete	880 N/m	ASTM D 903 Modified
*Puncture Resistance	1000 N (± 5 to 10%)	ASTM E 154
Heat Ageing	Percent retention of tension % ≥ 92 Percent retention of elongation % ≥ 85	Tensile Strength ≥ 90% Elongation ≥ 80%
Alkali Resistance	Percent retention of tension % ≥ 95 Percent retention of elongation % ≥ 85	Tensile Strength ≥ 90% Elongation ≥ 80%
**Dimensional Stability %	0.5	ASTM D 1204
UV Exposure	45 days pass	

\*/\*\* Shriram Laboratory test report

Note: Typical test values for sample tested.

### Shelf Life

The shelf life is 36 months if stored as per the recommendations. In a covered and secured storage space.

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PROXI SHIELD

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