

PRODUCT CODE: 919002

WATERPROOFING – HS12

Pre-applied Fully Bonded HDPE Membrane – 1.2mm Thick – Sand Finish

Birla Opus Prime HS12 HDPE Pre-applied Fully Bonded Membrane represents an innovative waterproofing solution crafted from high-density polyethylene (HDPE). This membrane comes with a pre-applied fully-formed adhesive layer and release liner on one side. Specifically designed for below-ground applications. It offers chemical and physical protection against water and water vapor, serving to safeguard structures for long period of time. The membrane is formulated with a specialized pressure sensitive adhesive which adheres to poured concrete, facilitating convenient application for rafts, retaining walls and underground structures.

PRODUCT FEATURES

Outstanding Tensile Strength	Excellent Adhesion to Poured Concrete	Excellent Puncture Resistance	Chemically Inert	Resistant to Chlorides, Sulphates, Alkalis and Acids
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PRODUCT DETAILS

CHEMICAL BASE

HDPE membrane with adhesive layer at one side covered with engineered sand finish

APPEARANCE / COLOUR

White / Off-White

THICKNESS

1.2mm

PACKAGING

Roll Length	20m
Roll Width	1.2m

SHELF LIFE

12 months*

*When stored in a vertical position within a covered area. Avoid exposure to direct sunlight, UV radiation, and other heat sources.

AREAS OF APPLICATION

Birla Opus Prime HS12 is designed to protect concrete from water and dampness.

- Vertical and Horizontal Applications
 - Retaining Walls
- Basements and below Ground Structures
 - Subways and Tunnels

TECHNICAL INFORMATION

Properties	Standard Values	Standard Test Method
Tensile Strength, MPa (Longitudinal)	25	ASTM D 412
Tensile Strength, MPa (Transverse)	25	ASTM D 412
Elongation at Break, % (Longitudinal)	500	ASTM D 412
Elongation at Break, % (Transverse)	500	ASTM D 412
Puncture Resistance, N	950	ASTM E 154
Resistance to Hydrostatic Head, m	71	ASTM D 5385
Peel Adhesion to Concrete, N/m	1200	ASTM D 903
Low Temperature Flexibility, °C	≤ -25	ASTM D 1970
Dimensional Stability	1% max.	ASTM D 1204
UV Resistance – 45 days	80% retention of Tensile & Elongation values	ASTM D 412
Water Vapour Permeance, Perms	≤ 0.10	ASTM E 96

SYSTEM INFORMATION

System Structure	The following system products must be used: Birla Opus Prime HS12 HDPE Membrane Birla Opus Prime HT30 HDPE Double-Sided Tape Ancillary products: Supplementary items to be used to address detailing and connection requirements.
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APPLICATION INSTRUCTIONS

Surface Preparation:

It is essential that the substrate be sound and solid to prevent any movement when concrete is poured. Substrates shall be regular and smooth with no gaps or voids.

Equipment:

▪ Measuring tape ▪ Marking pen ▪ Razor knife ▪ Scissors ▪ Pressure roller ▪ Clean lint-free cloth ▪ Metal straight edge for cutting

Application to Horizontal Surface:

The substrate must be free of loose aggregate and sharp protrusions. Avoid curved or rounded substrates. Surface need not be completely dry but any standing water on the substrate must be removed.

1. Place Birla Opus Prime HS12 HDPE Pre-applied Fully Bonded Membrane with HDPE film side to the substrate and adhesive coated sand finished side facing up towards the concrete pour.
2. End laps should be staggered to avoid a build-up of layers.
3. Accurately position succeeding sheets to overlap the previous sheet with the overlap of 100 mm selvedge.
4. Ensure the underside of the succeeding sheet is clean, dry and free from contamination before attempting to overlap.
5. Ensure a continuous bond is achieved without creases and roll firmly with a heavy roller.
6. For end laps or at cut joints, use Birla Opus Prime HT30 HDPE Double-Sided Self Adhesive Tape with appropriate width as per product technical recommendation.

Application to Vertical Surface:

Vertically fasten the membrane using HDPE roundels (fasteners) or other appropriate nailing methods to the substrate with the adhesive/coated side facing towards the concrete pour as provided by Birla Opus team.

1. Birla Opus Prime HS12 HDPE Pre-applied Fully Bonded Membrane may be installed in any convenient length.
2. Secure the top of the membrane using a termination bar by fixing 50 mm below the top edge of the concrete pour.
3. Roundels can be on the selvedge so that the membrane lays flat and allows firm rolling of the overlaps.
4. The membrane shall be fused onto the roundels by thermo fusing the rear side (HDPE) of the membrane onto the roundels by hot air welding.
5. Ensure the underside of the succeeding sheet is clean, dry, and free from contamination before attempting to overlap.
6. Roll firmly to ensure a watertight seal at roll ends and cut edge. Overlap all roll ends and cut edges with appropriate area and ensure the area is clean and free from contamination.

Application to Corners:

Internal and external corners should be pre-formed as per manufacturer's instructions, including overlapping of the membrane with appropriate area and sealing with Birla Opus Prime HT30 HDPE Double-Sided Self Adhesive Tape. Ensure that the apex of the corner is covered and sealed with tape and roll firmly.

SAFETY & PRECAUTIONS

1. Ensure application by trained and authorized personnel.
2. Covering the membrane system: Shielding the membrane system from prolonged exposure to UV light is essential as it can diminish its effectiveness.
3. Concrete placement should occur within 21 days following the installation of the membrane system. After 21 days properly cover the exposed HDPE membrane with non-transparent plastic/tarpaulin sheet.
4. Achieving the best possible bond between the membrane system and concrete necessitates proper concrete installation, encompassing both mix design and workmanship.
5. Examination and quality assurance during installation: Prior to concrete placement, a thorough examination must be conducted to verify the correct installation of the entire membrane system, address any damages, rectification of punctures observed (if any) before bar-bending activities. Ensure cleanliness of the adhesive layer surface.
6. Upon formwork removal: Seal all penetrations such as shuttering anchors, any membrane impairments, and construction joints using suitable ancillary items.
7. Adhere closely to installation protocols outlined in method statements, application guides, and operational directives, ensuring adaptation to always prevailing site conditions.
8. Kindly refer to the MSDS, which gives detailed information on safety measures while handling, which is available on request.