

PRODUCT CODE: 919003

WATERPROOFING – HW15

Pre-applied Fully Bonded HDPE Membrane – 1.5mm Thick – Sand Finish – Weldable

Birla Opus Prime HW15 are pre-formed HDPE fully bonded weldable membranes consisting of a thick HDPE film, pressure-sensitive adhesive and weather-resistant protective coating. These membranes adhere to wet concrete poured onto them, creating a superior seal that efficiently halts lateral water movement. As a result, they prevent water from infiltrating the structure and prevent the tracking of water between the membrane and structure. Reinforcement can be placed directly on top of the membrane.

PRODUCT FEATURES

Outstanding Tensile Strength

Excellent Adhesion to Poured Concrete

Excellent Puncture Resistance

Heat Welded for Leak Proof Joints

Resistant to Chlorides, Sulphates, Alkalis and Acids

PRODUCT DETAILS

CHEMICAL BASE

HDPE sheet membrane with adhesive layer and sand topping

APPEARANCE / COLOUR

White / Off-White

THICKNESS

1.5mm

PACKAGING

Roll Length 20m

Roll Width 2.4m

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 HW15 is designed to protect concrete from water and dampness.

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

TECHNICAL INFORMATION

Properties	Standard Values	Standard Test Method
Tensile Strength, MPa (Longitudinal)	≥28	ASTM D 412
Tensile Strength, MPa (Transverse)	≥28	ASTM D 412
Elongation at Break, % (Longitudinal)	≥600	ASTM D 412
Elongation at Break, % (Transverse)	≥600	ASTM D 412
Low Temperature Flexibility	≤ -25°C, Pass	ASTM D 1970
Puncture Resistance	≥1100 N	ASTM E 154
Peel Adhesion to concrete, N/m	1800	ASTM D 903
Joint strength of weld, N/m	≥10000	ASTM D 1876
Resistance to Hydrostatic Head, m	≥71	ASTM D 5385
UV Resistance – 45 days	80% retention of Tensile & Elongation values	ASTM D 412
Overlap Width, mm	100	

SYSTEM INFORMATION

System Structure	<p>The following system products must be used:</p> <p>Birla Opus Prime HP12 HDPE Membrane Birla Opus Prime HT30 HDPE Double Sided Tape</p> <p>Ancillary products: Supplementary items to be used to address detailing and connection requirements.</p>
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APPLICATION INSTRUCTIONS

Surface Preparation:

It is essential that the substrates be sound and solid to prevent any movement when concrete is poured. Substrates shall be regular and smooth with no gaps or voids greater than 12 mm, also It should not have standing water.

APPLICATION INSTRUCTIONS

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 HW15 HDPE Pre-applied Fully Bonded Membrane with HDPE film side to the substrate and adhesive coated sand finish side facing up towards the concrete pour.
2. End laps should be staggered to avoid a build-up of layers and align succeeding sheets accurately to overlap the previous sheet by 100 mm.
3. Ensure that the underside of the succeeding sheet is clean, dry, and free from contaminants before overlapping.
4. Use hot air welding to join the HDPE membranes together.
5. After welding, cover the overlap area with Birla Opus Prime HT30 Double-sided Self Adhesive Tape. For 100mm overlap width, it is recommended to use a double-welded system.
6. A welding equipment is recommended, with a minimum weld size of 45-60 mm for a double-welded system.
7. This comprises two parallel welds, each 15-20 mm wide, with a 15-20 mm air channel gap between them. Seal any fish mouths using a hot air gun.

Application to Vertical Surface:

Use concrete, plywood to ensure smooth level and support to the membrane. Supporting board systems must be close butted to provide support and should be no more than 12mm out of alignment.

1. Securely attach the membrane vertically to the substrate using HDPE roundels (fasteners) suitable for the substrate, with the adhesive/coated side facing towards the concrete pour.
2. The membrane can be installed in any convenient length.
3. Fuse the membrane onto the roundels by thermo fusing the rear side (HDPE) of the membrane onto the roundels using hot air welding.
4. Before welding, ensure that the underside of the succeeding sheet is clean, dry, and free from contamination.
5. After welding, cover the overlap area with Birla Opus Prime HT30 Double-sided Self Adhesive Tape.

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. Ensure that the apex of the corner is covered and sealed with tape and roll firmly.

SAFETY & PRECAUTIONS

1. Birla Opus Prime HW15 HDPE Pre-applied Fully Bonded Membrane can be applied at temperature of -25 °C to 60 °C. When installing Birla Opus Prime HW15 product in cold or marginal weather 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.
2. Ensure Application by trained and authorized personnel.
3. Covering the membrane System: Shielding the membrane system from prolonged exposure to UV light is essential as it can diminish its effectiveness.
4. Concrete placement should occur within 21 days following the installation of the membrane system.
5. Achieving the best possible bond between the membrane system and concrete necessitates proper concrete installation, encompassing both mix design and workmanship.
6. 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, and ensure cleanliness of the adhesive layer surface.
7. Upon Formwork removal: Seal all penetrations such as shuttering anchors, any membrane impairments, and construction joints using suitable ancillary items.
8. Adhere closely to installation protocols outlined in method statements, application guides, and operational directives, ensuring adaptation to always prevailing site conditions.
9. Kindly refer to the MSDS, which gives detailed information on safety measures while handling.