



# PMH-3040

## High Density Polyethylene (HDPE) Pre-applied Waterproofing Membrane

### Product Description

PMH-3040 Pre-Applied High Density Polyethylene (HDPE) Waterproofing Membrane is a composite sheet comprised of thick HDPE film, pressure sensitive adhesive and weather resistant protective coating.

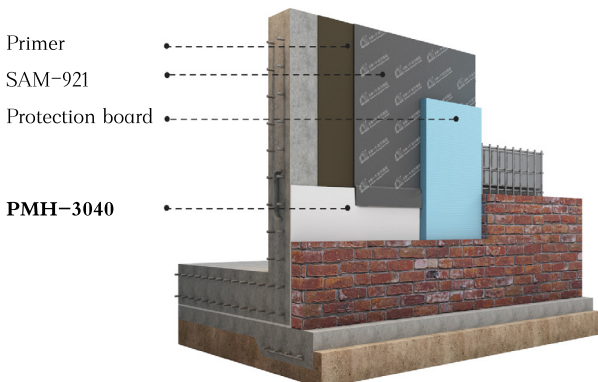
The membrane has high dimensional stability, puncture and tear resistance. The membrane is self-protecting which means that it is trafficable immediately after application and ready for immediate placement of reinforcement. There is a 80mm strong adhesive lap at the edge of membrane.

The unique pressure sensitive adhesive technology ensures the continuous seal between the membrane and concrete thus preventing water lateral migration and improves the membrane performance.

### Features & Benefits

- Simple and quick to install, requiring no priming or fillets.
- No lateral water migration.
- Not affected by soil settlement.
- Designed with fully adhered adhesive-to-adhesive watertight seams and for easy to execution and detailing.
- White solar-reflective surface results in reduced temperature gain.
- Can be trafficked immediately after application and ready for immediate placing of steel reinforcement.
- Membrane is unaffected by wet jobsite conditions.
- Installed membrane is unaffected by freeze/thaw or wet/dry cycling.
- Resistant to methane and radon gases.

### System Structure



### Packing and Specifications

Item	Description
Packaging	Roll
Width (m)	1.2 or 2.4
Thickness (mm)	1.2 or 1.5
Length (m)	30m (can be customized)
Roll Size (m <sup>2</sup> /roll)	36m <sup>2</sup> (can be customized)

P.S. Customization to other configuration is possible, Please contact the relevant sales personnel.

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## Auxiliary Components

Product No.	Specification	Application
PMH-T-D80 Double-sided tape	80mm x 0.4mm x 50m	End laps for of PMH-3040
PMH-T-C120 Cover tape	120mm x 0.35mm x 50m	Reinforced sealing, Overlapping & repair of PMH-3040 Plus.
PMH-S-600 HDPE Special Affiliated Sealant	600ml	For detailings such as pipe penetrations and pile & membrane terminations.
BH2 Water-based bituminous waterproof coating	50kg/pail	For membrane terminations and detailing areas.

## Typical Properties

Description	Test Methods	Values
Color	-	White
Thickness, mm	ASTM D3767	1.2 mm
Tensile strength	ASTM D412	27.6MPa
Elongation	ASTM D412	500 %
Puncture resistance	ASTM E154	1000 N
Peel adhesion to concrete	ASTM D903	880 N/m
Resistance to hydrostatic head	ASTM D5385	71 m
Peel strength in lap	ASTM D1876	1000 N/m
Crack cycling	ASTM C1305	Passed
Water vapour transmission	ASTM E96 Method B g/(m <sup>2</sup> .h )	0.0043
Water Absorption	ASTM 570	0.5%
Flexibility at low temperature	ASTM D1970	-29°C

Note:

All values are based in test results determined under laboratory conditions and with product samples taken from original stock. Independent laboratory test values available upon request.

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## Application Method

### Surface Preparation

The substrate shall be sound and solid to eliminate movement during the concrete pour. Substrates shall have no voids exceeding 12mm.

#### Horizontal Substrate:

- The blinding / lean concrete shall be relatively free of loose aggregates and sharp protrusion are to be levelled as much as possible. The surface does not need to be dry, but standing water must be removed.

#### Vertical Substrate:

- All surfaces to receive pre-applied waterproofing membrane shall be sound and clean. The surfaces shall be relatively even and free of defects or irregularities that might damage the membrane.

### Application

- Do not lay membrane in temperature below 5°C.
- Where temperature exceed 38°C (100°F) for more than a total of 7 days, concrete shall be cured for 42 days before installation of the membrane.
- If water pressure is above 10m, it is recommended to use PMH 3040 Plus.
- Concrete must be placed and compacted carefully to avoid damages to the membrane.
- Sharp objects are strictly forbidden to be used to consolidate the concrete during concrete pour.

#### Horizontal substrate:

- Place the membrane with the HDPE film side facing the prepared substrate and the pressure sensitive adhesive surface facing towards the direction of concrete pour.
- Carefully unroll and position the adjacent rolls to overlap the side of the previous sheet 80mm along the pre-marked selvedge.
- Peel back the plastic release liner from between the overlaps and firmly press in with a heavy hand or roller to achieve a continuous bond.
- The end laps between two different rolls must be sealed using Accessory Tapes of minimum 80mm width.
- Peel back silicone release paper on tape and with heavy hand or roller, press both membranes together to achieve a continuous bond.
- Completely remove liner before placement of reinforcement bar on membrane. No protection screed is necessary.
- No protection screed is required.

#### Vertical Substrate:

- Plan layout of PMH-3040 Pre-applied membrane, ensuring installation starts from the bottom of the external basement wall and working upwards. In that way, water is always shed over the front edge of the lap.
- Roll out membrane into position ensuring side edge of material lines up with chalk lines and other reference marks.
- Ensure membrane overlaps adjacent rolls at least 80mm at edge of rolls and 80mm at end of laps.
- Ensure SAM/TKB self-adhesive sheet membrane overlaps PMH-3040 Plus membrane along external basement wall by at least 100mm.

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- Ensure SAM/TKB self-adhesive sheet membrane has appropriate overlapping at edges, corners, etc.
- No protection board required .

## Termination & Penetrations (Through walls & slabs)

- PMH-3040 membrane shall be installed around the penetration with PMH Tape to secure the membrane.
- To achieve waterproofing continuity, seal penetration using PMH-S-600 and BH2. Apply a generous coat of PMH-S-600 and BH2 using brush. Brush it over the membrane to turn up or down by minimum 50mm.

## Termination at Pile caps & CBP wall

- PMH-3040 membrane shall be installed up to the edge of the pile caps or CBP walls. The membrane shall be secured to substrate with nails.
- For membrane termination, apply a generous coat of PMH-S-600 and BH2 at edge of membrane using brush or roller. Apply it over the membrane by minimum 50mm . Minimum upturn at CBP wall shall be 50mm.

## Membrane Repair

- Inspect membrane for damages before the installation of reinforcement steel, formwork and final placement of concrete.
- Clean by jet wash if required.
- Identify and mark damaged areas. Wipe the area clean with damp cloth to ensure it is free from dust and allow it to dry.

- For minor repairs, apply PMH Tape over the damaged area and press on tape firmly.
- For larger repairs: Cut a patch of PMH-3040 Plus membrane to extend beyond edge of damaged area by 100mm and tape all edges of the patch. Place PMH-3040 Plus membrane patch over damaged area, remove silicone liner from tape and press firmly to ensure continuous bond.
- Where the exposed selvedge has lost adhesion, clean the area, place PMH Tape along pre-marked selvedge. Position adjacent rolls over it, remove silicone liner and press the top membrane down with heavy hand or roller to form a continuous seal.
- Where laps are not sealed: ensure the area is clean; overlapped that area with PMH Tape. Press firmly in place with heavy hand press or roller.

## Inspection Procedure

- PMH-3040 Plus membrane shall be inspected upon the completion of a specific area before placing any reinforcing steel. Any damage to the membrane should be made good. (Refer to Membrane Repair section)
- During placing of reinforcing steel any damage should be identified and made good.

## Pouring Of Concrete

- It is recommended that concrete be poured within 42 days after application of the membrane.
- Concrete must be placed and compacted carefully. Never use a sharp object to compact the concrete.

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## Application Areas

- Grounds slabs.
- All underground structure.
- Areas in contact with earth (Slabs & Walls).
- Caverns, tunnels, subways, municipal pipe corridors.
- Permanent and removable formwork .

## Transportation & Storage

- To avoid extrusion and packing damages, the membrane shall be stored in well-ventilated and dry place. Storage temperature shall be below 45°C and away from direct exposure to sunlight, rain and high temperature.
- The membrane can only be placed horizontally, minimum of five-level stacks. Prevent slope, tilt or lateral drift of membrane when necessary.
- The membrane shall not be in contact with acids, alkalis, oils and organic solvents during storage.

## Precautions

- Read the product label and Material Safety Data Sheet (MSDS) before using it. Users should acquaint themselves with all risks & safety phrases.
- Conform to manufacturer' s recommendations, material handling and storage specifications.
- Protect all materials from extreme temperature.
- Store and transport rolls in such a manner to prevent bending of the inner core and membrane edge damages.
- To prevent work interruption, it is important to have all the necessary tools and equipment on the job-site when you begin.

## Product Liability

The above information and suggestions are based on our experience and are for reference only. Since Oriental Yuhong Company and its dealers cannot control the storage and handling conditions after delivery, Oriental Yuhong shall not be liable for any quality issues caused by improper use. No technical information shall be provided to any third parties without manufacturer' s consent.