ORIENTAL YUHONG | OYH

Construction Materials
System Service Provider
建筑建材系统服务商

PMH-3080

High Density Polyethylene (HDPE)
Pre-applied Waterproof Membrane

Construction Techniques and Key Points

Method Statement

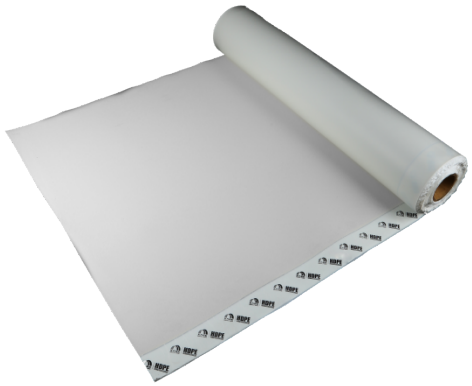
METHOD STATEMENT
PMH-3080 HDPE PRE-APPLIED MEMBRANE

1. INTRODUCTION

This Method Statement Proposal is designed to complement OYH Data Sheets, where specific details required.

2. MATERIALS

PMH-3080 High Density Polyethylene (HDPE) Pre-applied Waterproofing Membrane



Please refer to detail drawings for location.

3. CONSTRUCTION PREPERATION

Preparation of Material

No.	Item	Function
1	PMH-3080 High-Density Polyethylene (HDPE) Pre-applied Membrane	Waterproof Membrane for Base Slab
2	PMH-T-160 Single-Sided Tape	End laps for of PMH-3080
3	PMH-T-S80 Cover Tape	Detailing & Repairing
4	PMH-S-600 HDPE Special Affiliated Sealant	Detailing areas such as pile terminations & pipe penetrations. Membrane termination
5	Fixing Gasket	Used for fixing the shim on inclined surfaces at the base slab.
6	Double-sided Self-adhesive Butyl Tape	Used for overlapping treatment when the polymer membrane and the sidewall waterproof layer are made of incompatible materials.
7	Single-sided Self-adhesive Butyl Tape	Used for sealing reinforcement at the overlap areas when the polymer membrane and the sidewall waterproof layer are made of incompatible materials

Preparation of Substrate

- It is essential to create a sound and solid substrate to eliminate movement during the concrete pour. Substrates shall be regular and relatively even with no gaps or voids exceeding 12mm. The blinding / lean concrete shall be relatively free of loose aggregates and sharp protrusion leveled as much as possible.
- The substrate shall be free of visible water. The surface does not need to be dry, but standing water shall be removed.
- Waterproofing construction shall commence only after all components protruding from the substrate have been installed.
- The substrate shall be inspected and approved by the supervising engineer prior to constructing the waterproofing layer.

Item	Photo	Function	Item	Photo	Function
Trowel		Cleaning The Substrate	Blower		Cleaning The Substrate
Hammer		Chisel The Substrate	Broom		Cleaning The Substrate
Chisel		Chisel The Substrate	Shovel		Clean Up The Waste
Angle Grinder		Grind And Polish The Substrate	Wheelbarrow		Remove the waste

Preparation of Equipment for Application

Item	Photo	Function	Item	Photo	Function
Knife		Cutting The Roll Membrane	Scissors		Cutting of Reinforcement Material for Additional Layers
Tape Measure		Measurement	Ink Cartridge		Snap a Chalk Line
Roller		Rolling the membrane seams	Hand-held Hot Air Welder		Waterstop welding
Roller Brush		For rolling application	Brsush		Brushing Waterproof Coating on Detailed Nodes

4. PMH-3080 APPLICATION PROCEDURES

PMH-3080 HDPE Pre-applied Waterproof Membranes are supplied in rolls 1.2m wide with a selvedge on one side to provide self-adhered lap for continuity between rolls.

To prevent distortion of the roll material due to stress, which affects the quality of the waterproofing project, the roll material should be pre-laid out on site to fully release the bundled stress generated during packaging and transportation. This prevents the roll material from developing later wrinkles, twists, and other apparent quality defects.

APPLICATION PROCESS

Substrate Preparation → Snap Reference Lines → Application of the Waterproof Membrane → Overlap Edge Treatment → Detail Nodes Treatment → Membrane Repair → Quality Inspection and Acceptance

APPLICATION

Horizontal Base Slab

- The base slab is constructed using the loose-laid method, and the waterproof layer should be laid on a substrate that meets the requirements. Determine the specific location for laying and first spread out the roll material, adjusting the laying position.
- 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.
- Unroll and position the adjacent rolls to overlap the side of the previous sheet 80mm along the Pre-marked selvedge.

Vertical Wall

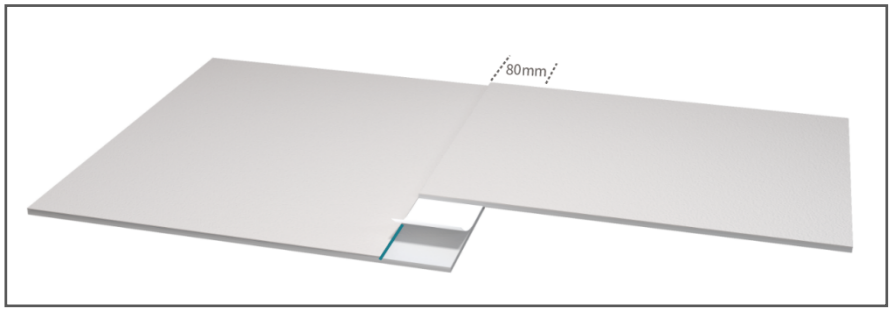
- Plan layout of PMH-3080 HDPE Pre-applied Waterproof Membrane, ensuring installation starts from the bottom of the external basement wall and working upwards. That way water is always shed over the front edge of the lap.
- Within 10 to 20 mm from the edge of the membrane, mechanical fixation using gaskets should be applied every 500 to 800 mm, ensuring that the fixed positions are completely covered by the membrane. Heat with an electromagnetic welder for 3 seconds and weld the gaskets to the PMH-3080 HDPE Pre-applied Waterproof Membrane.



- For the upturn connections between vertical wall and the horizontal slab, ensure vertical wall waterproof membrane overlaps PMH-3080 along external basement wall by at least 160mm.

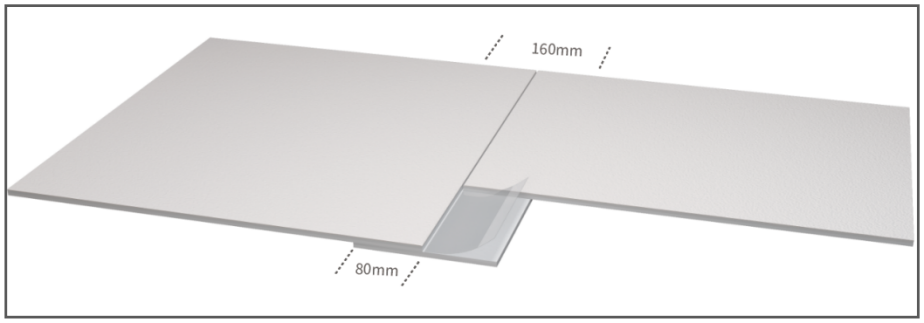
Long Edge Overlap Treatment

- Peel back the plastic release liner from the overlap and firmly press in with a heavy hand or roller to achieve a continuous bond. Ensure the underside of the membrane is clean, dry and free from contamination before attempting to overlap.



End Edge Overlap Treatment

- The end laps between two different rolls shall be joined together to form a complete and continuous waterproof layer using PMH-T-160 Single-Sided Tape. The tape width is 160mm. The specific construction details are shown in the figure below.





T-Joint

- Cross-joints are not allowed where PMH-3080 HDPE Pre-applied Waterproof Membrane are overlapped. The short edge overlap should ideally be staggered by 1/3 to 1/2 of the width. When multiple sheets of membrane are laid with aligned short edges, the long edge of the membrane is allowed to overlap transversely, forming a T-joint. Use a metal scraper to remove the loose sand from the surface of the membrane at T-joints. PMH-T-S80 Cover Tape shall cut into circles with a diameter of approximately 80mm for reinforced sealing.



Detail Nodes Treatment

- Pile Heads: PMH-3080 HDPE Pre-applied Waterproof Membrane to be laid tight up to the edge of the pile heads. Use a metal scraper to remove the loose sand from the surface of the membrane around the pile head, and then clean it thoroughly. Apply a generous coat of PMH-S-600 at edge of membrane using brush, overlapping PMH-3080 membrane by minimum 80mm and to turn up by 80mm.

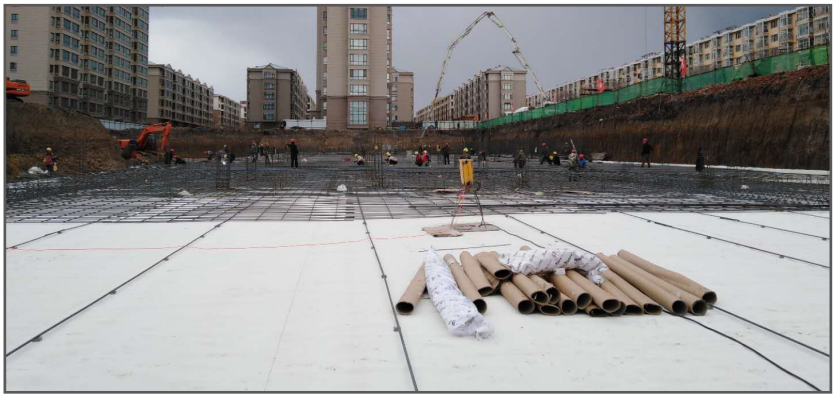


- Penetrations: PMH-3080 membrane to be laid tight around the penetration, and wrap PMH-T-C120 Cover Tape around the pipe. Then, use a metal scraper to remove the loose sand from the surface of the membrane around the pile head, and then clean it thoroughly. To achieve waterproofing continuity seal penetration, using PMH-S-600. Apply a generous coat of PMH-S-600 using brush overlapping PMH-3080 membrane by minimum 80mm and to turn up or down penetration by 80mm.
- Construction Joints: a strip of 120mm of PMH-T-S80 Cover Tape shall be applied in the center of construction joints.

INSPECTION PROCEDURES

PMH-3080 HDPE Pre-applied Waterproof Membrane shall be inspected on completion of a specific area before placing any reinforcing steel.

- The laps between the rolls should be firmly adhered, sealed tightly, and free from defects such as wrinkles, holes, or edges lifting. After self-inspection and ensuring compliance, request the general contractor, supervisor, and the client to conduct an acceptance check according to national standards. Once the acceptance is confirmed, promptly proceed with the subsequent construction processes.



DAMAGE REPAIR PROCEDURE

Inspect membrane for damage before installation of reinforcement steel, formwork and final placement of concrete. Clean by jet wash if required. Identify and mark damaged area, wipe the area clean with damp cloth to ensure it is free from dust and allow it to dry. If damage completely penetrates the membrane, a patch of the 3080 membrane with PMH-T-160 Single-Sided Tape is required to cover the penetration and be joined to the back of the membrane.

PLACING OF CONCRETE

- Ensure the release silicone liner is removed from all areas of PMH products (self-adhesive edge and tapes).
- It is recommended that concrete be poured within 42 days of application of the membrane.
- If the membrane is to be left exposed for longer than 42 days, the temporary protection shall be applied.
- Concrete must be placed and compacted carefully to avoid damage to the membrane.
- Never use a sharp object to consolidate the concrete.



5. FINISHED PRODUCT PROTECTION MEASURES

- During waterproofing construction, warning lines and clear signs should be set up to prevent unauthorized personnel from entering the construction area and causing damage to the worked surface.
- Operators from all teams should wear clean soft-soled shoes, and the wearing of spiked shoes to step on the waterproof layer during construction is strictly prohibited.
- Parts such as structural pipe roots and pre-embedded components should be protected and must not be damaged or displaced during construction.
- When transporting and placing construction machinery and materials, protective measures should be taken on the already constructed waterproof layer.
- After the roll material is laid, when hoisting down reinforcing bars, padding such as square timbers and templates should be placed under the bars to avoid mechanical damage caused by the impact of the bars directly on the roll material.
- When tying reinforcing bars, pads should be placed for fixing the bars. If the load of the reinforcing bars is large, an additional piece of roll material of the same material can be attached under the concrete pad for reinforcement. After the roll material is laid, care should be taken to protect it from extensive contamination by silt and mud (if any, measures such as flushing should be taken for removal).
- When local welding of reinforcing bars is required, measures such as sprinkling water below and laying a damp geotextile cloth can be taken to prevent the waterproof layer from being punctured by welding slag.
- The flange of the waterproof layer at the guide wall position must be protected with hard materials to prevent damage during the construction of the side wall structure.
- It is strictly forbidden to drill or chisel on the completed waterproof layer.
- Discarded paint buckets and used brushes, trowels should not be discarded indiscriminately and should be stored centrally in a place that does not affect other bases or parts to prevent secondary pollution.

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