PMH-3080 Plus

High Density Polyethylene (HDPE) Pre-applied Waterproofing Membrane

DESCRIPTION

PMH-3080 Plus is a pre-applied high density polyethylene (HDPE) waterproofing membrane. It consists of a thick HDPE film, pressure sensitive adhesive and weather resistance granular layer. Plus is for dual lap design, ensuring consistent seam integrity by “adhesive to adhesive” bonding technology under wet, rainy and slurry surroundings.

WHERE TO USE

PMH-3080 Plus is an economic HDPE pre-applied waterproofing membrane featuring a specially engineered sanded surface, suitable for various underground waterproofing projects, such as foundation slabs of underground structures, tunnels, subways.

CHARACTERISTICS AND PACKAGING

Item	Description
Packaging	Roll
Thickness(mm)	1.2, 1.5
Width(m)	1.2, 2.4
Length(m)	20 or Customized
Roll Size(m^2/roll)	24,48 or Customized

ADVANTAGES

- Unaffected by ground settlement.
- Easy application & reduced installation time.
- No lateral migration of water.
- Can be applied to permanent formwork, allows maximum use of confined sites.
- High puncture resistance, trafficable immediately after application.
- Simplified construction procedures and reduced costs, no need for a protective concrete layer, directly tie the re-bar and pour the concrete, reducing the consumption of manpower, materials, and machinery.
- Efficient process and environmentally friendly, cold apply, no primer.
- Compatible with self-adhesive bitumen membrane and polyurethane used on side walls, ensuring construction quality is easy to maintain.
- Chemical resistance, designed to help protect the structure from salt or sulphate attack, and is effective in most types of soils and waters.
- Resistant to methane and radon gases.

PROPERTIES

Description	Test Methods	Values
Tensile strength	ASTM D412	21 MPa
Elongation	ASTM D412	500%
Puncture resistance	ASTM E154	1000 N
Peel adhesion to concrete	ASTM D903	1800N/m
Resistance to hydrostatic head	ASTM D5385	71 m
Peel strength in lap	ASTM D1876	1800N/m
Crack cycling@-23℃,100 cycles	ASTM C1305	No crack
Flexibility at low temperature	ASTM D1970	-29℃
Rn diffusion coefficient D	ISO/TS 11665-13 Method A	$(1.7\pm0.2)\times10^{-12}$ m^2/s
Water vapor transmission	ASTM E96 Method B	0.0043 $g/(m^2.h)$

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.

APPLICATION INSTRUCTIONS

Accessories: PMH-T-160 Butt Joint tape, PMH-T-S80 Particle Cover Tape, PMH-S-600 Sealant, PMH-T-B250D Double-sided Butyl Tape, etc.

Construction Tools: Pressing plates, Rollers, Hot Welding Gun, etc.

Application Instructions

Horizontal Installation:

Substrate Preparation→Set Guide Lines→Lay Pre-applied Waterproof Membranes→Overlap Treatment→Detailing at Nodes→Reinforcing Steel Bar Binding→Concrete Pouring

Vertical Wall Installation:

Install Vertical Supports→Set Guide Lines→Lay Pre-applied Waterproof Membranes→Mechanical Fixing of Membrane→Overlap Treatment→Detailing at Nodes→Reinforcing Steel Bar Binding→Concrete Pouring

Tunnel Arch Construction:

Initial Surface Treatment of Primary Support → Laying and Fixing Geotextile→Lay Pre-applied Waterproof Membranes→Overlap Treatment→Detailing at Nodes→Reinforcing Steel Bar Binding→Concrete Pouring.

Construction Key Point:

- The membrane can be directly applied on "not fully cured concrete" or damp substrates without standing water. However, the substrate should be smooth, solid, and free of significant standing water. The long edges of the membrane should be joined using dual-lap self-adhesive overlapping with width of 80mm. The short edges should be joined using an 160mm wide butt joint adhesive tape, ensuring that the overlapping areas at the ends of the membrane are staggered.

- For vertical surface applications, mechanical fixing should be done every 400-600mm within 10-20mm from the edge of the self-adhesive strip, ensuring that the fixing points are completely covered by the membrane.
- The reinforcing steel bars can be placed directly on top of the membrane without any protection, but attention should be taken not to damage the waterproofing layer. Concrete should be poured within 21 days after the membrane installation is completed.

TRANSPORTATION AND STORAGE

- Different types and specifications of products should be stored separately to avoid mixing.
- When storing rolled materials horizontally, the height should not exceed five layers. When storing them vertically, they should be placed in a single layer. During transportation, prevent tilting or lateral pressure.
- Avoid exposure to sunlight and rain. If necessary, cover with felt cloth. Ensure proper ventilation, and the storage temperature should not exceed 45°C.
- Do not allow contact with acids, alkalis, oils, and organic solvents.
- Under normal transportation and storage conditions, the storage period is one year from the production date.

PRECAUTIONS

- Contractors must undergo training before starting work.
- During construction, if it rains or snows, appropriate protective measures should be taken for the already laid materials.
- It is strictly forbidden for personnel wearing studded shoes to enter the construction site. Special attention must be paid to site protection during the construction process, and smoking is strictly prohibited on the construction site.
- The laying of materials is strictly prohibited during rainy or snowy weather, or in winds of level 5 or higher. The environment temperature for cold application of self-adhesive membranes and tapes should not be lower than 5°C (this includes storage, construction, and the 24 hours following the completion of construction).
- If the overlapping edges lose their adhesion or are not properly sealed, they should be covered and pressed with tape, or the overlapping edges should be heated to enhance adhesion and pressed to form a whole.
- When overlapping two lengths of self-adhesive membranes in the longitudinal direction, ensure the bonding surfaces are clean. After overlapping, the edges should be rolled and pressed firmly to ensure good adhesion.
- The waterproof layer should not be damaged when pouring structural concrete, which should be completed within 21 days after the installation of the membranes.

HEALTH AND SAFETY

Please read the safety manual carefully, our security experts will be pleased to give you advises about safety, health and environmental issues.

DISCLAIMER

The above information and recommendations which are based on our experience are as for reference, they can't replace the customers' own experimental results. Since our company, our representatives or distributors can't control the transportation, storage, handling and use conditions of the products, the economic disputes and the quality accident caused by improper use can't be attributed to our suggest. In any application, the customer shall be responsible to comply with obligations of third-party intellectual property rights. Without our consent, anyone shall not provide technical information to third parties.