

High Density Polyethylene (PE) / PP Self-Adhesive Roll-On Waterproof Membrane

HDPE/PP Waterproofing Roll

Product Overview

Polyethylene polymer polypropylene (polyester) fiber polymer waterproof membrane is a composite waterproofing material that integrates four layers into one sheet: a reinforced protective layer, an anti-aging layer, a waterproof layer, and an adhesion-enhancing layer. It is made primarily of polypropylene non-woven fabric and polyethylene, with additives to improve performance.

Product Features

- The product is composed of different materials, significantly improving its performance. The dedicated anti- aging layer greatly extends service life to over 50 years.
- Both the upper and lower surfaces are rough. The non-woven fibers form an irregular cross structure,creating a three-dimensional mesh. This results in high tensile strength, strong impermeability, good low- temperature flexibility, low expansion coefficient, low temperature rise effect, strong deformation adaptability, and a high friction coefficient. It works well with various adhesives for excellent bonding.
- When bonding to cement-based substrates, cement paste can be used as the adhesive. The cement paste directly enters the mesh on the membrane surface and solidifies together with the cement. Cement paste does not age, mold, or hydrolyze, so the bond is permanent and strong, not prone to peeling.
- After application, the waterproof layer surface can be directly decorated (e.g., with ceramic tiles, floor tiles, mosaics, cement plaster, etc.).
- The application of this product has no special requirements for the moisture content of the screed (substrate). Construction can proceed as long as there is no standing water, with reliable quality.
- This product belongs to the resin-based polyethylene series of polymer waterproofing membranes. It is non- toxic, non-polluting, and environmentally friendly.

Product Specifications

- Thickness: 0.5mm – 1.5mm
- Length: 100m/roll, 50m/roll
- Width: 1200mm, 1500mm
- Color: any color available upon customer request

Applications

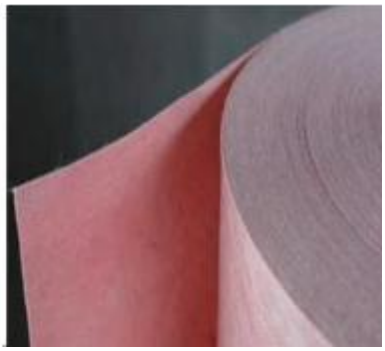
Suitable for waterproofing of various buildings such as roofs, basements, tunnels, etc.; roofing and below-gradewaterproofing for civil and industrialbuildings; water storage tanks; municipal engineering; bridges; subways;tunnels; dams; and especially for key projects requiring high durability, high corrosion resistance, and resistance to deformation.

Application Method

I. Construction procedure:

Acceptance of screed → Clean substrate → Prepare cement adhesive → Apply reinforcement layer → Install membrane → Apply protection layer → Cure





II. Before bonding:

First, pre-roll the membrane to locate and align it. Then fold both ends toward the center and roll up. Pour the prepared cement adhesive onto the substrate and spread evenly with a trowel. Then unroll the membrane forward, and promptly use a trowel to remove any air trapped inside and scrape off excess adhesive. The bonding rate between the membrane and the screed shall be ⩾ 85%.

III. Joint treatment:

- Roof waterproofing joints: The vapor barrier, waterproofing layer, and reinforcement layer all use lap joints bonded with cement adhesive. Lap width: 10 cm. Joints of the reinforcement layer and the waterproofing layer shall be staggered by at least 5 cm.
- Below-grade waterproofing joints: Use a cover strip with a lap width of 10–15 cm. The cover strip shall be bonded with a polymerjoint adhesive.
- Lap widths for waterproofing membrane: Long side: 8–10 cm; short side: 10–15 cm. Adjacent short-side joints shall be staggered by at least 100 cm. At wall-floor corners, the lap width shall be at least 30 cm.

IV. Protection layer:

After the membrane is fully laid, apply a 2 cm thick protection layer of 1:2.5 cement mortar over the waterproofing layer. Apply in two separate coats, with the joint between the two coats staggered by at least 20 cm. The protection layer must be smooth and water- cured. When bonding the Polyethylene polymer polypropylene (polyester) fiber polymer waterproof membrane to the main structure, use cement material mixed with the dedicated "Zhengshun" proprietary powder as the adhesive.

◎ **Building application – Part 1:**

- Roof waterproofing: Special attention must be paid to the bonding area and bonding strength between the membrane and the screed – this is key to ensuring waterproofing effectiveness and service life.
- Below-grade waterproofing: The membrane should be designed for use under hydrostatic pressure with a backing to prevent peeling. If used without a backing, the peel strength of the membrane must be calculated.
- Interior leak prevention: When used on interior walls including floor slabs, after the membrane is bonded, ensure the adhesive layer hardens before applying surface decoration. Before applying the decorative finish on interior walls, brush one coat of cement paste containing 1.5% of the dedicated powder for Polyethylene polymer polypropylene (polyester) fiber polymer waterproof
- Floor damp-proofing: Pay attention to the thickness of the floor surface layer to ensure floor stability. At wall corners, the vertical height of the membrane shall not be less than 200 mm.
- Insulation vapor barrier: When used as a vapor barrier for insulation, a single-side composite membrane may be used. Bonding and laying are the same as for roof waterproofing. Joints shall use a double-side composite membrane strip. No protection layer is

- required.

◎ **Building application – Part 2:**

Anti-seepage for canals and reservoirs; anti-seepage for earth-rock dams.

◎ **Other applications:**

Can be used in metallurgy, chemical anti-pollution, anti-seepage, pipeline waterproofing,

Performance

Polyethylene polymer polypropylene (polyester) fiber polymer waterproof membrane complies with GB18173.1-2012 standard.

No.	Parameter		Index	
			≥ 1.0mm	≤ 1.0mm
1	Tensile strength (N/cm)	23°C ≥	60	50
		60°C ≥	30	30
2	Elongation at break (%)	23°C ≥	400	100
		-20°C ≥	300	80
3	Tear strength (N)		50	50
4	Water impermeability: 0.3 MPa, 30 min		No leakage	No leakage
5	Low temperature bending (°C)		-20, no cracks	-20, no cracks
6	Heat shrinkage (mm)	Extension ≤	2	2
		Contraction ≤	4	4
7	Heat aging (80℃ × 168 h)	Tensile strength retention (%) ≥	80	80
		Elongation retention (%) ≥	70	70
8	Alkali resistance [saturated $Ca(OH)_2$ solution, 23°C × 168h]	Tensile strength retention (%) ≥	80	80
		Elongation retention (%) ≥	80	80
9	Accelerated weathering	Tensile strength retention (%) ≥	80	80
		Elongation retention (%) ≥	70	70
10	Peel strength (sheet to sheet))	(N/mm) under standard conditions ≥	1.5	1.5
		Retention after water immersion (23°C × 168h) (%) ≥	70	70
11	Composite strength (FS2 top/core layer) (N/mm) ≥		0.8	0.8