

PVC Waterproofing Sheet Membrane

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Product Overview

PVC waterproofing membrane is a high-performance polymer sheet material. It is produced by extrusion using PVC resin as the main raw material, together with plasticizers, UV absorbers, anti-aging agents, stabilizers, and other processing aids. The membrane is available in widths of 1.05 m, 2.05 m, and 2.1 m; thicknesses of 0.8 mm, 1.0 mm, 1.2 mm, 1.5 mm, and 2.0 mm; and a standard length of 20 m (special sizes can be customized). The product is reliable in quality and easy to apply. Thanks to its unique formulation, its service life far exceeds that of ordinary waterproofing materials. The entire waterproofing system lasts over 20 years on roofs and over 50 years below grade.

The product is suitable for roofing waterproofing of industrial and commercial buildings, including green roofs, flat roofs, and sloped roofs; below-grade waterproofing of buildings – reservoirs, water tanks, canals, and all
parts of basements; and waterproofing of tunnels, grain depots, civil air defense projects, landfills, artificial lakes, etc.

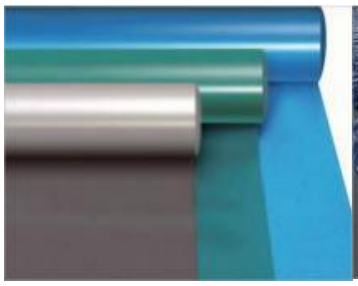
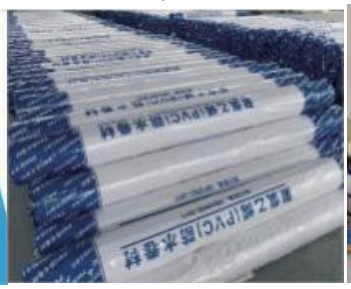
Product Features

- Long service life and aging resistance – over 20 years on roofs, up to 50 years below grade.
- High tensile strength, high elongation, and low dimensional change after heat treatment.
- Good low-temperature flexibility – adapts well to ambient temperature differences.
- Good root penetration resistance – suitable for green roofs.
- Good puncture and impact resistance.
- Easy application – wide widths mean fewer overlaps; weldable, strong and reliable, eco-friendly with no pollution.
- Strong chemical resistance – suitable for special environments.
- Good formability – quick and easy detailing of edges and corners.
- Easy repair and low cost.
- Light-colored surface reflects UV radiation – low heat absorption and surface temperature.
- Good water vapor diffusion – condensate easily releases; moisture left in the substrate can escape.

Application Method

◎ **Roofing works (GB50207-2002)**

(1) The strength, thickness, moisture content, and other parameters of the substrate must meet national standards and design requirements before installing the PVC waterproofing membrane.
(2) Determine the laying direction and sequence. Position the membrane naturally on the substrate according to the waterproofing layer outline. Keep it flat and straight without bending. Overlap according to the width required by the standard.


(3) Fix the membrane according to the selected method, such as mechanical fastening, full bonding, or strip bonding.
(4) The welded overlap area of the membrane shall be wiped clean and dry. Use hot-air welding. During welding, the nozzle shall be at a 45° angle to the welding direction. The pressure roller shall be parallel to the nozzle and maintain a distance of approximately 5 mm. A bright, molten bead shall appear at the
welded edge. Burn marks shall not occur.
(5) The membrane termination points shall be secured with battens, sealed with sealant, and closed with cement mortar.
(6) After completing the waterproofing work for the entire project, conduct a comprehensive quality inspection and make necessary corrections.

◎ **Below-grade works (GB50208-2002)**

(1) The strength, thickness, moisture content, and other parameters of the substrate must meet national standards and design requirements before installing the PVC waterproofing membrane.
(2) Select the appropriate application method according to the waterproofing location, following the GB50208-2002 standard.
(3) The membrane overlap width shall be 100 mm. The lower membrane shall overlap the upper membrane.
(4) Multi-welding is recommended for overlap joints. The width of a single weld shall not be less than 100 mm.
(5) The PVC waterproofing membrane shall be laid smoothly and firmly fixed to the substrate. There shall be no sagging, tensioning, or damage. Only after inspection and confirmation may the next step proceed.

Performance

PVC waterproofing membrane complies with GB12952-2011 standard.

No.	Parameter		Index				
			H	L	P	G	G
1	Resin layer thickness over mid-layer carrier (mm) ≥		-		0.4		
2	Tensile propertie	Max. tensile force (N/cm) ≥	-	120	250	-	120
		Tensile strength (Mpa) ≥	10.0	-	-	10.0	-

	s	Elongation at max. tensile force (%) ≥	-	-	15	-	-
		Elongation at break (%) ≥	200	150	-	200	100
3	Dimensional change after heat treatment (%) ≤		2.0	1.0	0.5	0.1	0.1
4	Low temperature bending		-25℃, no cracks				
5	Water impermeability		0.3 MPa, 2h, no leakage				
6	Impact resistance		0.5 kg·m, no leakage				
7	Static load [a]		-	-	20 kg, no leakage		
8	Peel strength of weld (N/cm) ≥		4.0 or membrane failure		3.0		
9	Right-angle tear strength (N/cm) ≥		50	-	-	50	-
10	Trapezoidal tear strength (N) ≥		-	150	250	-	220
11	Water absorption (70℃ 168h) (%)	After immersion ≤	4.0				
		After drying ≥	-0.40				
12	Heat aging (80℃)	Duration	672h				
		Appearance	no blistering, cracking, delamination, adhesion, or holes				
		Max. tensile force retention (%) ≥	-	85	85	-	85
		Tensile strength retention (%) ≥	85	-	-	85	-
		Elongation at max. tensile force retention (%) ≥	-	-	80	-	-
		Elongation at break retention (%) ≥	80	80	-	80	80
		Low temperature bending	-20℃ no cracks				
13	Chemical resistance	Appearance	no blistering, cracking, delamination, adhesion, or holes				
		Max. tensile force retention (%) ≥	-	85	85	-	85
		Tensile strength retention (%) ≥	85	-	-	85	-
		Elongation at max. tensile force retention (%) ≥	-	-	80	-	-
		Elongation at break retention (%) ≥	80	80	-	80	80
		Low temperature bending	-20℃ no cracks				
14	Accelerated weathering a	Duration	1500hb				
		Appearance	no blistering, cracking, delamination, adhesion, or holes				
		Max. tensile force retention (%) ≥	-	85	85	-	85
		Tensile strength retention (%) ≥	85	-	-	85	-

		Elongation at max. tensile force retention (%) ≥	-	-	80	-	-
		Elongation at break retention (%) ≥	80	80	-	80	80
		Low temperature bending	-20℃no cracks				
a . Static load applies only to membranes used for ballasted roofs ; b. For single-ply roofing products, the duration for accelerated weathering is 2500h.; c . Accelerated weathering is not required for non-exposed applications.							