

APP Modified Bitumen Plastomeric Waterproofing Sheets Membrane

APP Waterproofing Membrane

APP

·Product Overview

APP (atactic polypropylene) plastic modified asphalt waterproofing membrane uses APP or polyolefin polymers (APAO, APO) modified bitumen as the coating and impregnating material. The carrier can behigh-quality polyester mat, fiberglass mat, or composite mat. The upper surface is finished with release materials such as PE film, fine sand, or mineral granules. The membrane is a flexible sheet material that can be rolled

·Specifications

Roofing waterproofing for industrial, commercial, and residential buildings – including non-trafficable roofs, trafficable roofs, insulated roofs, non-insulated roofs, green roofs, roof parking decks, and inverted roofs.

Below-grade waterproofing and damp-proofing for industrial and residential buildings, including indoor swimming pools and fire water tanks.

Civil engineering projects: subways, tunnels, bridge decks with concrete paving, wastewater treatment plants, and landfills.

Water conservancy facilities: canals and reservoirs.

·Product Features

Long-fiber polyester mat membranes:

1. Combines high-performance long-fiber polyester mat with APP modified bitumen – excellent performance.
2. Forms a high-strength waterproof layer with strong resistance to water pressure.
3. High tensile strength and elongation – adapts well to substrate shrinkage, deformation, and cracking.
4. Good low temperature resistance, corrosion resistance, mold resistance, and weather resistance.
5. High-strength polyester mat offers strong puncture, tear, and fatigue resistance.
6. Easy torch application year-round – hot-air welded seams are reliable and durable.

Alkali-free fiberglass mat membranes:

1. Combines an economical carrier with high-performance APP modified bitumen.
2. High tensile strength, good thickness, strong damage resistance, and good dimensional stability.
3. Excellent high temperature resistance, corrosion resistance, mold resistance, and weather resistance.
4. Easy torch application year-round – hot-air welded seams are reliable and durable.

Glass-reinforced polyester mat membranes:

1. Can be installed using mechanical fastening – safe and environmentally friendly.
2. Offers better dimensional stability and fire resistance.

·Performance

Plastic modified asphalt waterproofing membrane complies with GB18243-2008 standard.

No.	Parameter		Index				
			Ⅰ		Ⅱ		
			PY	G	PY	G	PYG
1	Soluble content (g/m 2)	3mm	2100				-
		4mm	2900				-
		5mm	3500				
		Test phenomenon	-	Carrier non-combustible	-	Carrier non-combustible	-
2	Heat resistance	℃	110		130		
		≤ mm	2				
		Test phenomenon	No flow, no drip				
3	Low temperature flexibility℃		-7		-15		
4	Water impermeability (30min)		0.3 Mpa	0.2 Mpa	0.3 Mpa		
5	Tensile strength	Max peak (N/50mm) ≥	500	350	800	500	900
		Secondary peak (N/50mm) ≥	-	-	-	-	800
		Test phenomenon	During stretching, partial cracking of asphalt coating or separation from carrier occurs on some specimens				
6	Elongation	At max peak (%) ≥	25	-	40		-
		At secondary peak (%) ≥	-		-		15
7	Mass increase after water immersion(%) ≤	PE、S	1.0				
		M	2.0				
8	Heat aging	Tensile retention (%) ≥	90				
		Elongation retention (%) ≥	80				
		Low temperature flexibility (℃)	-2		-10		
			no cracks				

		Dimensional change (%) ≤	0.7	-	0.7	-	0.3	
		Mass loss (%) ≤	1.0					
9	Peel strength of joint (N/mm) ≥		1.0					
10	Nail tear strength [a] (N) ≥		-				300	
11	Mineral granule adhesion [b] (g) ≤		2.0					
12	Lower asphalt coating thickness [c] (mm) ≥		1.0					
13	Accelerated weathering	Appearance	no slip, flow, drip					
		Tensile retention (%) ≥	80					
		Low temperature flexibility (℃)	-2		-10			
			no cracks					

a Only for membranes used in single-layer mechanical fastening
b Only for mineral-surfaced membranes.
c Only for torch-applied membranes.

Asphalt composite base waterproofing membrane – Complies with JC/T 690-2008

No.	Parameter		Index	
			I	II
1	Soluble content (g/m^2) ≥	3mm	1600	
		4mm	2200	
2	Heat resistance℃		90	
			no slip, flow, or drip	
3	Low temperature flexibility℃		-5	-10
			no cracks	
4	Water impermeability		0.2 Mpa , 30min no leakage	
5	Maximum tensile strength (N/50mm) ≥	Longitudinal	500	600
		Transverse	400	500
6	Peel strength of joint / (N/mm)		0.5	
7	Heat aging	Tensile retention / % ≥	90	
		Low temperature flexibility/ ℃	0	-5
			no cracks	
		Mass loss / % ≤	2.0	

Application Methods

- Torch-applied, cold adhesive, or a combination of both.
- The membrane can be applied using torch-applied or cold adhesive alone, or a combined method: cold adhesive for large areas and torch-applied for overlaps.

- Torch-applied: Use a flame torch or burner to heat the underside of the membrane and the substrate until the bitumen melts. Roll the membrane forward while heating, then press with a roller to ensure strong bonding to the substrate or to the membrane below.
- Cold adhesive: First apply adhesive evenly to the substrate and the membrane. Allow it to dry slightly, then position the membrane. Roll to expel air underneath, making the membrane flat, tight, and firmly bonded.

Tools & Accessories

- Substrate cleaning tools: shovels, brooms, dust blowers, hammers, chisels, etc.
- Membrane laying tools: scissors, tape measures, chalk line reels, trowels, brushes, rollers.
- Specialized torch tools: single or multi-nozzle torches or burners.
- Accessories: primer, membrane adhesive, edge sealing strips.

Membrane Laying

- Before starting, clean the approved substrate thoroughly. Blow dust off corners and edges.
- Apply primer evenly. Do not brush back and forth repeatedly.
- After primer dries, apply additional reinforcement layers at locations required by design (e.g., roof details, below-grade waterproofing details).
- Determine the laying sequence and direction, then snap chalk lines on the substrate. Lay the membrane according to the following bonding requirements for different areas:
- Roof: Spot-bond or strip-bond membrane to substrate. The 800mm perimeter of the roof must be fully bonded. On sloped roofs, bond at least 70% of the area; membrane-to-membrane overlaps must be
100% bonded.
- Below-grade slab: Membrane can be fully bonded, spot-bonded, strip-bonded, or loose-laid to the substrate, but membrane-to-membrane overlaps must be fully bonded.
- Below-grade walls: Both membrane-to-substrate and membrane-to-membrane must be full

◎ **Slope 3% – 15%: Lay either parallel or perpendicular to the ridge.**

◎ **Slope >15% or when subject to vibration: Lay perpendicular to the ridge.**

◎ **Lap joints parallel to the ridge: Align with water flow direction. For laps perpendicular to the ridge, align with the prevailing wind direction.**





