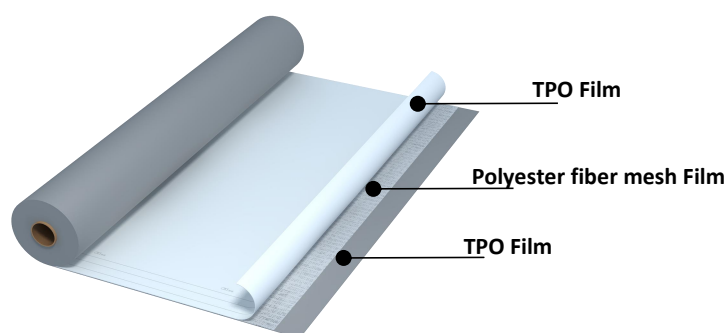


Aquaprufe TPO

Thermoplastic Polyolefin Waterproof Membrane



Product Description

Aquaprufe TPO(Thermoplastic polyolefin) Waterproof membrane is a type of polymer waterproof material based on polypropylene(PP) and rubber. It is recycling throughout its service life (from its production till the end of its service life). There is no chlorine, heavy metal nor elements harmful to the plant root system and it is environmental friendly.

Specification

No.	Length x Width x Thickness	Type
1	20mx2mx1.2mm	H(Homogenous) L(Back-fleece) P(Reinforced)
2	20mx2mx1.5mm	
3	20mx2mx2.0mm	

Product Features

- Excellent performance: high weather resistance, aging resistance, tensile strength and elongation.
- Easy of application: can be done on wet substrate. Directly expose to the weather conditions without any protective layer. No contamination.
- Versatile Welding: Allows repeated welding.
- Reflective: The white color increases reflection of sunlight.
- Resists mold and algae's growth.

Where To Use

Mainly apply to the roof waterproofing construction of industrial, civil and public buildings.

1. Membrane reinforced with mesh (TPO-P) is applied to the single ply roof waterproof system by mechanical fastening.
2. Membrane with fleece back (TPO-L) is applied to the concrete substrate by full adhesion waterproof system.
3. Homogeneous membrane (TPO-H) is applied to the single ply roof as well as flashing area.

Technical Data Based For Reference

No.	Item	Index			Test method
		H(Homogenous)		P(Reinforced)	
1	Linear dimensional change≤	X direction	±3%	±0.5%	ASTM D6878/ASTM D1204-14
		Y direction	±3%	±0.5%	
2	Water absorption ≤	0.1%		0.1%	ASTM D471-16a
3	Tear strength,N/mm	200N		200N	ASTM D6878-17/ASTM D751-19
4	Breaking strength≥	1200N		1200N	ASTM D6878/D6878M-17/ASTM D751-19
5	Elongation at break,%	500%		15%	ASTM D6878/D6878M-17/ASTM D751-19
6	Brittleness point ≤	-70℃		-36℃	ASTM D6878/D6878M-17/ASTM D2137-11(2018)
7	Water vapor transmission rate≤	/		<0.3g(m²24h)	ASTM E96/E96M-16 procedure B
8	Lap strength≥	/		200N	ASTM D6878/D6878M-17ASTM D751-19
9	Puncture resistance ≥	/		1000N	ASTM E154/E154M-08a(2019)
10	Low temperature flexibility	-29℃,no cracks		/	ASTM D1970/D1970M-15

Implemented Standard: GB27789-2011

No.	Item		Index		
			H	L	P
1	Thickness of resin layer on top of intermediate tire base/mm ≥		-	-	0.40
2	Tensile properties	Maximum pulling force/(N/cm) ≥	-	200	250
		Tensile strength/MPa ≥	180	-	-
		Elongation at maximum tension/% ≥	-	-	150
		Elongation at break/% ≥	500	250	-
3	Low temperature flexibility		-40℃, No crack		
4	Seam peel strength/(N/mm) ≥		4.0 or membrane damaged	3.0	
5	Right angle tear strength/(N/mm) ≥		60	-	-
6	Artificial climate accelerates aging	Time	2500h		
		Exterior	No bubbling, cracking, delamination, viscosity and voids		
		Maximum Tensile Retention Rate% ≥	90		
		Elongation retention rate at maximum tensile force% ≥	90		
		Low temperature flexibility	-40℃, No crack		

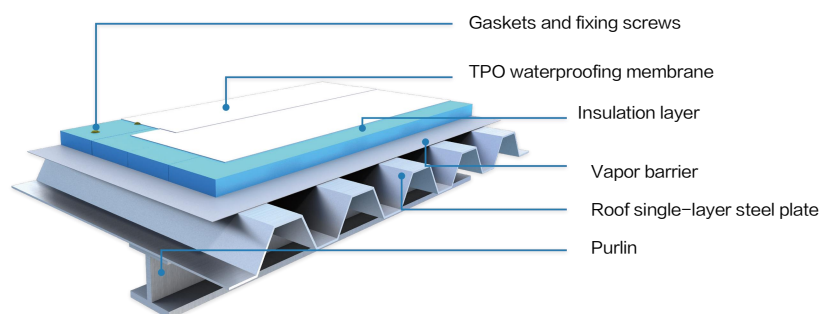
Construction Procedures

The installation of TPO waterproof membrane has advanced and mature complete set of application technology. The lap joint of membrane and the connection between membrane and prefabricated parts adopt hot air welding. According to the different installation foundation and application functions, it is divided into mechanical fixation, full bonding, empty paving and capping and pre-paving anti bonding systems.

Mechanical fixing system

1. When installing the waterproof membrane, use special screws with gaskets or battens to fix the membrane on the roof structural plate (concrete, steel plate, wood board, etc.), the fixings are covered under the waterproof membrane, and the roof forms a complete waterproof system through hot air welding.

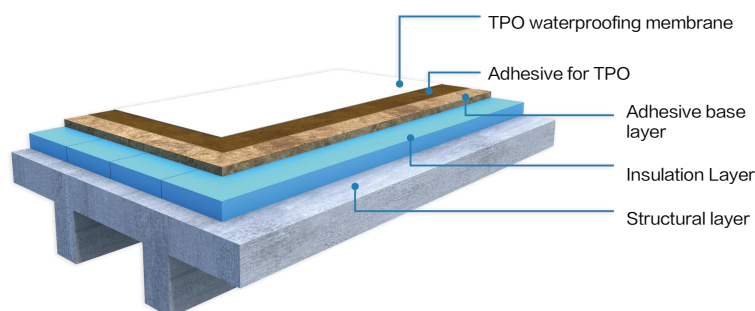
- Easy for detail processing
- Strong wind load resistance
- High comprehensive cost performance
- Light weight



This construction method is applicable to concrete roof, light steel roof, aluminum plate and wood plate roof.

2. When installing waterproof membrane, all membranes shall be bonded to the base course with adhesive, and the lap edge shall be welded with hot air.

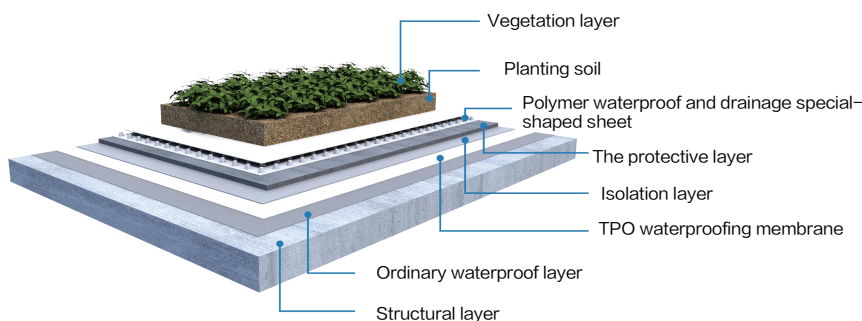
- It is suitable for roofs with complex structures
- Strong wind load resistance
- Full viscosity without water channeling



This method is applicable to concrete roof and light steel roof with hard insulation board.

3. When installing the waterproof membrane, the membrane is only fixed with adhesive / metal strip within a certain range around, and the rest is not fixed. Hot air welding is used between the membrane to resist the buoyancy force of the wind by relying on the upper load.

- Adapt to various grass roots
- Fast installation
- Low installation cost



This construction method is applicable to planting roof, driving roof, accessible roof and non accessible roof pressed with pebbles or precast blocks

CKS TPO AUXILIARY SYSTEM

Fastening sealing system



KS-501 sealant



KS-881 PC building
sealing paste



Non-perforated
fixing gasket (hard base)



(soft base)



Perforated
Fixed gasket



Insulation
Fixed gasket



Inner sticker



Membrane Sleeve



Rock wool
Fixed sleeve



Expansion nail



Mechanical
fixing screws



U-shaped bar

Detail processing system



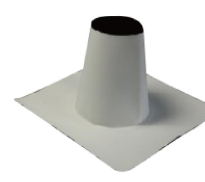
Internal corner
prefab



External corner
prefab



Open round Guaranteed
Prefab



Conical tube



Diagonal Guarantee
prefab



Exhaust system
prefab



Support rib



Walkway board

Functional prefabrication system



Straight drain
system



Lightning protection
bracket



Aluminum base



Safety anchor bolt



Roof bridge



Exhaust pipe

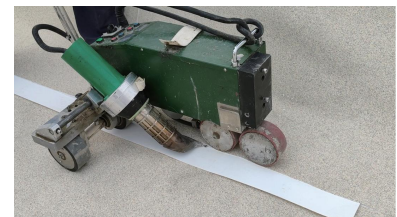


Threading pipe



Purlin bracket

Integration of construction machines and tools



Storage And Transportation

- The storage temperature should be maintained between 5° C and 45° C, avoiding exposure to direct sunlight and rain. Adequate ventilation should be ensured during storage.
- The material should be stored vertically as a single layer. Avoid contact with acids, alkalis, oils, organic solvents, etc.
- Shelf life is 12 months from the date of production under appropriate storage conditions.

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