

POLYGARD



POLYGARD are APP modified bitumen reinforced roofing and waterproofing membranes for general waterproofing applications.

DESCRIPTION

POLYGARD membranes are made by saturating and coating a reinforcement core with a homogeneous thermoplastic blend of APP (atactic polypropylene), distilled bitumen and stabilizers. The mixture is carefully produced under controlled conditions to ensure its thermal stability at high temperatures and flexibility at low temperatures.

POLYGARD membranes are impermeable to water & easy to apply.

QUALITY ASSURANCE & MATERIAL WARRANTY

Imperbit Membrane Industries' Management system is registered to ISO 9001 standards & all **POLYGARD** membranes carry a 10 year material warranty. In addition to stringent regular test by IMI laboratory, our products are also tested periodically by independent laboratories.

SURFACE FINISH AND SIZE OF ROLL

The top surface of the membrane is covered with a thin layer of PE film or fine sand. The bottom surface is covered with printed IMI design film.

The membrane are produced in thickness of 2.6, 3, 4 & 5 mm and in a standard length of 10 mtrs and 1 mtr width.

REINFORCEMENT

A variety of reinforcement cores are used in the production of the **POLYGARD** range, these include 180 gr./m² & 250 gr./m² spun bond polyester, fiberglass tissue and a combination of the two.

USES

POLYGARD – DPC/Basesheet membranes are ideal for general use in civil construction as a damp-proof layer or as a base sheet under cap sheets in exposed or inverted roofing systems. **POLYGARD-DPC** are available in thickness of 2.6mm & 3.0mm reinforced with 60 gr./m² GLASS FIBRE TISSUE.

POLYGARD membranes are ideal for general use in single or multi-layer systems. They may be used in low slope concrete roofs, balconies, multi storey car parks, for lining sewerage canals, sub-grade structures and any concrete or cemented flat surface that needs waterproofing.

POLYGARD - DR (DOUBLE REINFORCE MEMBRANES) are used for large roof decks where dimensional stability of the membrane is important. The combination of polyester and fibre glass tissue reinforcements ensures superior shape and dimensional stability under severe cyclic conditions.

POLYGARD – 250 membranes are recommended for heavy duty applications.

TOOLS FOR FIXING THE MEMBRANE

Gas torch for welding, related cylinder, knife for trimming the membrane, a trowel with a rounded tip, marking aids and gloves.

APPLICATION

The surface to be waterproofed must be completely cleaned and free of dust, oil, protruding nibs, nails etc. A coat of IMI Concrete Primer is then applied to the concrete surface at the rate of 200 – 300 gr/m². The primer must be allowed to dry completely before fixing the membrane.

POLYGARD waterproofing membranes are fixed by torch welding the underside. The membrane rolls are lined up and spread open over the area to which they are to be fixed, starting at the lowest point on a roof-deck. The rolls are laid so that they overlap each other by at least 10cms along the side lap, lap-joints should shed water towards drains. The membranes are then rolled back without changing the given orientation. They are then unrolled once again while heating the underside sufficiently to cause surface melting. End laps should be a minimum 15 cms. Avoid excessive and uneven application of heat. The lap joints should be heated from the top to produce a thin bead of molten bitumen at the seam; the bead is then smoothed out with the trowel, ensuring a properly welded joint.

EXPOSED ROOFING SYSTEM

For exposed application, skirting and flashings, **POLYGARD** membranes are used. These are produced with a self-protecting layer of natural or colored slate flakes. The membranes are provided with a selvedge 10 cms wide that is granule-free. This facilitates the forming of lap joints. End of roll joints are made by scraping off 15cm of mineral flakes or heating 15 cms of the mineral surface sufficiently to press-in the slate and expose the bitumen. The next roll is then torched to the bitumen of the exposed area.

Properties	POLYGARD DPC/Base sheet	POLYGARD - 4F	POLYGARD	POLYGARD DR	POLYGARD 250	Method of Testing	
Reinforcement core	60 gr./m ² Glass fibre tissue	60 gr./m ² Glass fibre tissue	180 gr./m ² Polyester	180 gr./m ² Polyester + 60 gr./m ² Glass fibre tissue	250 gr./m ² Polyester	UEAtc MOAT 31: Para F	
Nominal thickness of membrane	2.6 & 3	4	3, 4 & 5	4 & 5	4 & 5	UEAtc , ASTM D 5147	
Tensile Strength N/5cm	Longitudinal	300	400	800	880	1000	UEAtc
	Transversal	200	200	500	620	850	
Tensile Strength kN/m	Longitudinal	4	6	14	16	18	ASTM D 5147
	Transversal	3	4	9	10	15	
Elongation %	Longitudinal	3	3	40	40	45	UEAtc , ASTM D 5147
	Transversal	3	3	45	42	50	
Tear Strength (N) (Notch Method)	Longitudinal	150	200	450	480	550	ASTM D 5147
	Transversal	100	150	300	350	450	
Puncture resistance (N)	250	300	800	880	1000	ASTM E 154	
Resistance to Hydrostatic pressure	>4 bar(>40M)		>7 bar(>70M)			DIN 1048, ASTM D 5385	
Flexibility at low temperature	- 2 ^o C					UEAtc	
Softening Point *	155 ^o C					UEAtc, ASTM D 36	
Penetration @25 ^o C *	20 dmm					UEAtc, ASTM D 5	
Heat resistance @ 100 ^o C	No flow					UEAtc	
Water absorption @ 24 hrs.	< 0.2 %					ASTM D570	

* Compound Properties (Tested during manufacturing process)

The technical data given here are the average results of tests carried out in our laboratory on the **POLYGARD** membrane. IMI reserves the right to change or modify the data without prior notice. All reasonable care has been taken in compiling the data that to the best of our knowledge is accurate and true. All recommendations are made in good faith. **POLYGARD** membranes are warranted to be free from manufacturing defects for a period of 10 years. No responsibility can be accepted by us and no warranty is implied with regard to any of the recommendations made in this data sheet, since the conditions of actual use and the labour involved are beyond our control. **POLYGARD** membranes are not affected by chlorides, sulphates & phosphates as well as dilute acids found in ground water.

Packing Configuration:

- 3P-PBS/SAND 28 rolls per pallet
- 4P/F-PBS/SAND/DR 23 rolls per pallet
- 4P MINERAL 20 rolls per pallet
- 5P-PBS/MINERAL/DR 16 rolls per pallet

Nominal roll length for above products = 10 mtrs
For POLYGARD DPC- 20 rolls per pallet and 20 mtrs length

Indicative Loading Capacity for 4mm thickness:

552 Rolls for 40 ft Trailer / 468 Rolls per 20 ft Container

Product generic name:

- APP XM-3P-PBS/SAND
- APP XM-4P/F-PBS/SAND
- APP XM-4P/F-MINERAL
- APP XM-5P-PBS/MINERAL

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HANDLING PRECAUTIONS: **POLYGARD** membranes have no health hazard when used with our standard application recommendations. IMI CONCRETE primer contains a flammable solvent with flash point of 42^oC. Use primer in well ventilated areas away from sources of direct heat or ignition. Inhalation must be avoided and the use of protective clothing, rubber gloves, goggles and barrier cream is recommended. Do not use solvent to clean skin. After work clean hands with soap and warm water or suitable mild detergent. Obtain immediate medical advice if redness or skin irritation appears. In case of mouth or eye contact, flush immediately with fresh water and seek medical advice.

Storage:

Rolls must be kept up right at all times, in a covered well-ventilated storage area, away from sources of direct heat. If ambient temperatures at storage site fall below 15^oC, the rolls should be exposed to warmer temperatures of 15^oC to 40^oC for periods of upto 2 hours prior to use to facilitate unrolling of the membranes. If stacking is necessary, ensure that rigid sheet of plywood is placed between the pallets. Do not stack more than 2 high. **POLYGARD** membrane has a shelf life of 12 months from the date of production, if stored in a cool, dry store in original unopened packing.



‡ This technical data sheet supersedes all previous publications pertaining to this product