

# IMPERMAT



**IMPERMAT** is a range of high performance APP modified bitumen reinforced roofing and waterproofing membranes.

## SALIENT FEATURES

- Robust industrial grade product for heavy-duty application.
- Excellent resistance to ageing, puncture and tear.

## DESCRIPTION

**IMPERMAT** membranes are made by saturating and coating a robust reinforcement of spun bond non woven polyester 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 temperature and flexibility at low temperature.

**IMPERMAT** membranes are impermeable to water, easy to apply and maintain.

## QUALITY ASSURANCE & MATERIAL WARRANTY

Imperbit Membrane Industries' Management system is registered to ISO 9001 standards & all **IMPERMAT** 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.

## STANDARDS

**IMPERMAT** membranes conform to the requirement of ASTM D 6222 Type II, UEAtc MOAT 27 & 30.

## SURFACE FINISH AND SIZE OF ROLL

The top surface of the membrane is finished with PE film with IMI Logo or fine sand. The bottom surface is covered with a thin layer of Printed IMI design film. For exposed application the top surface is covered with a layer of natural slate flakes to protect the membrane from UV rays. The slate flakes are also available in attractive colours on request. The 1 meter wide membranes are produced in thickness of 3, 4, 4.5 and 5 mm and in a standard length of 10 meters.

## REINFORCEMENT

A variety of reinforcement cores are used in the production of the **IMPERMAT** range, these include 200 gr/m<sup>2</sup> & 270 gr/m<sup>2</sup> spun bond polyester and glass fibre tissue.

## USES

**IMPERMAT** waterproofing membranes are ideal for general use in single or multiple system. They should be used on low slope concrete roofs, balconies, multi-story car parks, for lining sewerage canals, sub-grade structures and concrete or cemented flat surface that requires waterproofing.

## 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/m<sup>2</sup>. The primer must be allowed to dry completely before fixing the membrane. **IMPERMAT** 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, **IMPERMAT** mineral 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.

**CORNERS AND TERMINATION:** Use fillets or cant strips at all internal corners and chamfer external corners before applying the membrane. A minimum of 250-mm wide reinforcing strip of **IMPERMAT** is recommended over the corners followed by the full membrane. Top edges of the membrane should be terminated in a chase on vertical surfaces, followed by a suitable bituminous mastic sealant.

IMPERMAT		DPC/BASE SHEET	200	270	Method of Testing
Standard Compliance		-	ASTM D 6222 TYPE II		
Reinforcement core		60 gr/ m <sup>2</sup> Glass fibre tissue	200 gr/m <sup>2</sup> polyester	270 gr/m <sup>2</sup> polyester	UEAtc
Nominal thickness of black membranes, mm		2.0, 2.6 & 3	3, 4, 4.5 & 5	4, 4.5 & 5	ASTM D 5147, UEAtc
Tensile strength @ 25°C, N/5 cm	Longitudinal	300	1050	1250	UEAtc
	Transversal	200	800	950	
Peak load @ 25°C, KN/m	Longitudinal	4	18	22	ASTM D 5147
	Transversal	3	14	17	
Peak load @ -18°C MD & XMD, KN/m	Longitudinal	-	20	22	ASTM D 5147
	Transversal	-	18	20	
Elongation @ 25°C, %	Longitudinal	3	45		ASTM D 5147, UEAtc
	Transversal	3	50		
Elongation @ -18°C MD & XMD, %	Longitudinal	-	20	22	ASTM D 6222 TYPE II, ASTM D 5147
	Transversal	-	20	22	
Tear strength, N	Longitudinal	-	600	625	ASTM D 6222 TYPE II, ASTM D 5147
	Transversal	-	500	550	
Puncture Resistance, N		-	1100	1200	ASTM E 154
Puncture Resistance	Static Indentation	-	L <sub>4</sub>		UEAtc
	Dynamic @ 9 joules	-	I <sub>4</sub>		
Water Absorption, %			< 0.2		ASTM D 5147/ D 6222 ASTM D 570
Flexibility at low temperature, °C			-10		UEAtc, ASTM D 5147
Dimensional Stability, (%)			± 1		UEAtc, ASTM D 5147
Softening Point *, °C			155		UEAtc, ASTM D 36
Penetration @ 25°C *, dmm			20		UEAtc, ASTM D 5
Moisture content % maximum			1		ASTM D 5147
Heat resistance, 110 °C			No flow		UEAtc, ASTM D 5147
Impermeability of membrane to water			Absolute		UNI 8202
Resistance to hydrostatic pressure, mtrs (bar)			70 (7)		DIN 1048, ASTM D 5385
Resistance to thermal ageing & UV			No deterioration		UEAtc, ASTM D 5147, ASTM G 53

\* Compound Properties (Tested during manufacturing process)

The technical data given here are the average results of tests carried out in our laboratory on the **IMPERMAT** 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. 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. **IMPERMAT** membranes are warranted to be free from manufacturing defects for a period of 10 years. **IMPERMAT** 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-PBS/SAND 23 rolls per pallet
- 4.5-PBS/SAND 20 rolls per pallet
- 4P-MINERAL 20 rolls per pallet
- 5P-PBS/SAND 16 rolls per pallet

Nominal roll length for above products = 10 mtrs  
For IMPERMAT Base sheet – 20 rolls per pallet and 20 mtr length

**Indicative Loading Capacity for 4mm thickness:**

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

**Product generic name**

- APP A-200-3P-PBS/SAND
- APP A-200-4P-PBS/SAND
- APP A-200-4.5P-PBS/SAND
- APP A-200-4P-MINERAL
- APP A-200-5P-PBS/MINERAL

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**HANDLING PRECAUTIONS: IMPERMAT** membranes have no health hazard when used with our standard application recommendations. IMI CONCRETE primer contains a flammable solvent with flash point of 42°C. 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°C, the rolls should be exposed to warmer temperatures of 15°C to 40°C 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. **IMPERMAT** membrane has a shelf life of 12 months from the date of production, if stored in a cool, dry store in original unopened packing.

