

TWIN - GUARD



TWIN-GUARD is high performance APP modified bitumen, double reinforced waterproofing membrane for the protection of concrete decks and slabs. The membrane withstands high thermal shock while remaining dimensionally stable.

SALIENT FEATURES

- Industrial grade product, heavy-duty application.
- Excellent resistance to puncture.
- Superior tolerance to thermal shock.
- Excellent dimensional stability.

DESCRIPTION

TWIN-GUARD membranes are made by saturating and coating reinforcements of spun bond non-woven polyester and fiberglass mat with a homogeneous thermoplastic blend of APP (Atactic Polypropylene), distilled bitumen and stabilizers. The mixture is carefully produced under controlled conditions to ensure its stability at high temperatures and its flexibility at lower temperatures.

TWIN-GUARD membranes are impermeable to water, and are specially formulated to withstand high thermal shock.

QUALITY ASSURANCE & MATERIAL WARRANTY

Imperbit Membrane Industries' Management system is registered to ISO 9001 standards & all **TWIN-GUARD** 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

TWIN-GUARD membranes conform to the requirements of ASTM D 6223-type 1, UEAtc, MOAT: 27 and MOAT: 30

DOUBLE REINFORCEMENTS

The membrane incorporates two cores. The non-woven polyester core is placed slightly above the center of the membrane, while the fiberglass mat is positioned at the upper surface of the membrane. This careful positioning of the reinforcing cores enables the membrane to withstand high dynamic stresses transmitted by the substrate, superior puncture resistance and maintains shape stability.

SURFACE FINISH AND SIZE OF ROLL

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

The membranes are produced in thickness of 4mm or 5 mm and in a standard length of 10 mtrs. And 1 mtr width.

USES

TWIN-GUARD membranes are specially produced for heavy-duty applications such as protection of roof decks, multi-storey car parks and other applications that demand an exceptionally stable membrane.

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. **TWIN-GUARD** waterproofing membranes are fixed by torch welding the underside. The membrane rolls are lined up and spread open parallel to bridge length or over the area to which they are to be fixed. 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, **Twin-Guard** membranes are used. These are produced with a self-protecting layer of natural or colored slate flakes. The membranes are provided with a selvage 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.

TECHNICAL DATA FOR TWIN-GUARD AP

Properties	Typical Values	Method of Testing
Reinforcement Core	180 gr./m ² non woven polyester & 60 gr./m ² glass fibre mat	UEAtc, MOAT: 31 Para F
Nominal thickness of membrane	4 & 5 mm	UEAtc, ASTM D 5147
Tensile Strength N/5cm	Longitudinal	850
	Transversal	650
Tensile Strength kN/m	Longitudinal	16
	Transversal	11.5
Elongation, %	Longitudinal	40
	Transversal	42
Tear Strength, N (Notch method)	Longitudinal	600
	Transversal	540
Puncture Resistance, N	880	ASTM E 154
Resistance to Hydrostatic pressure	>7 bar(>70M)	DIN 1048, ASTM D 5385
Flexibility at low temperature	- 5 ^o C	UEAtc
Dimensional Stability, L/T (%)	±0.2	ASTM D 5147
Softening Point *	>150 °C	UEAtc, ASTM D 36
Penetration @25°C *	20 dmm	UEAtc, ASTM D 5
Heat resistance @ 120°C, 2hr	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 **TWIN-GUARD** 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. **TWIN-GUARD** 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. **TWIN-GUARD** membranes are not affected by chlorides, sulphates & phosphates as well as dilute acids found in ground water.

Packing Configuration:

4P-PBS/SAND 20 rolls per pallet

5P-PBS/SAND 16 rolls per pallet

Nominal roll length for above product = 10 mtrs

Indicative Loading Capacity for 4mm thickness:

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

Product generic name:

APP-B-180+60-4P-PBS/SAND

APP-B-180+60-5P-PBS/SAND

HANDLING PRECAUTIONS: **TWIN-GUARD** 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. **TWIN-GUARD** membrane has a shelf life of 12 months from the date of production, if stored in a cool, dry store in original unopened packing.

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

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