

HYPERFLEX GARDEN

Anti-Root Membranes



HYPERFLEX GARDEN are Anti-Root membranes for the protection of planters and roof slabs under roof GARDEN from damage by plant roots.

SALIENT FEATURES

- Designed for roof gardens, Planters, Subways etc.
- Achieves FLL and EN 13918 root resistance test (2 years).
- Non harmful to plants.
- Tough & flexible membrane for prolonged life.
- Superior bonding to concrete and at seams.



FLL approved
root resistant membranes

DESCRIPTION

HYPERFLEX GARDEN membranes are made by blending special long life chemical additives to the SBS modified bitumen compound. The additives do not allow roots to penetrate the membrane, without causing any harm to the plant or vegetation. **HYPERFLEX GARDEN** membranes are impermeable to water and easy to apply.

QUALITY ASSURANCE & MATERIAL WARRANTY

Imperbit Membrane Industries' Management system is registered to ISO 9001 standards & all **HYPERFLEX GARDEN** membranes carry a 20 years material warranty. In addition to stringent regular test by IMI laboratory, our products are also tested periodically by independent laboratories.

STANDARDS

HYPERFLEX GARDEN membranes conforms to the requirement of FLL and EN 13948 standards, ASTM D6164 TYPE I & II, and UEAtc MOAT:31 ([FLL certificate/test report can be provided on request](#))

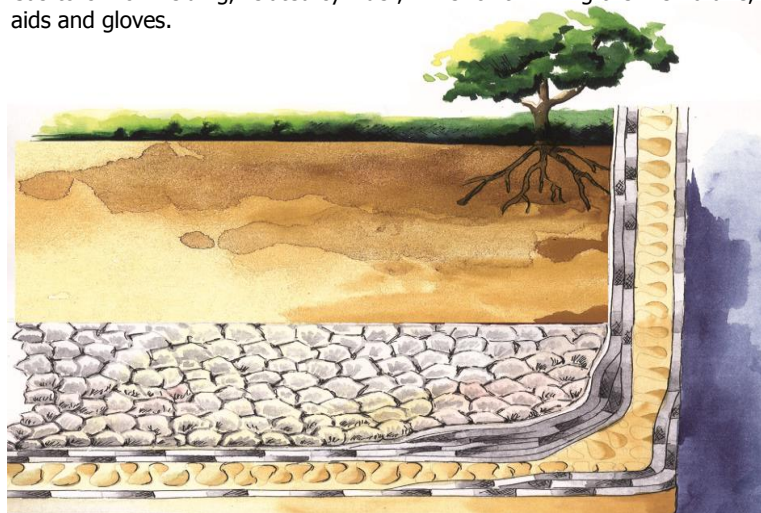
SURFACE FINISH AND SIZE OF ROLL

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

HYPERFLEX- DPC are available as a base sheet in thickness of 2.0, 2.6mm & 3mm.

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.



TYPICAL ROOF HYPERFLEX GARDEN APPLICATION

The roof deck or planters must be clean and free of protruding nibs, nails, oil and grease. (Slope concrete shall be laid to desired slope over the RCC roof slab) IMI Concrete Primer should be applied to the concrete surfaces, covering the entire area. Usage is about 200 – 300 grms/m². The primer must be allowed to dry completely. Apply HYPERFLEX-DPC membrane as a base layer to the primed concrete by torching the underside.

SBS Membranes are generally soft therefore care should be taken when applying heat to the underside or when making a lap joint, which should be heated from top to produce a thin bead of molten bitumen at the seam, then be smoothed out with the trowel to ensure a properly welded joint. Make side laps minimum 10 cm & end laps 15 cm. Bond **HYPERFLEX GARDEN** 4 or 5mm membranes over the base layer by torching the underside. Stagger lap joints so that the lap joint of the top layer does not fall over a lap joint of the base layer. A separation layer of geotextile is used over the **HYPERFLEX GARDEN** membrane. Over the separation layer it is recommended to use a draining bed of loose gravel round shaped size 25 – 40 mm topped by a filter bed/nonwoven fabric before filling in the GARDEN soil. Care should be taken to reinforce cant strips in planters. This is necessary to reduce the pressure on the membrane at all internal angles. Proper design of planters will ensure excess water runoff to drains. Drain outlets must be constructed at GARDEN membrane level.

EXPOSED ROOFING SYSTEM

For exposed application, skirting and flashings, **HYPERFLEX GARDEN MINERAL** 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.

CORNERS AND TERMINATION Use fillets or cant strips at all internal corners and chamfer external corners before applying the membrane. Apply a 600-mm wide reinforcing strip of **HYPERFLEX GARDEN** 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 sealant.

HYPERFLEX GARDEN		200	270	DR	Method of Testing
Standard compliance		ASTM D 6164 TYPE I & II UEAtc MOAT: 31		ASTM D 6162 Type I & II	
Nominal thickness of membranes		4.0, 4.5 & 5.0			UEAtc, ASTM D 5147
Spun bond polyester reinforcing core (gr/m ²)		200	270	200 + 50-60 Glass fiber	UEAtc MOAT: 31 Para F
Tensile strength N/5cm	Longitudinal	950	1200	1050	UEAtc MOAT: 31
	Transversal	750	900	850	
Tensile strength KN/m	Longitudinal	17	23	20	ASTM D 5147
	Transversal	14	17	16	
Elongation %	Longitudinal	50	50	50	UEAtc MOAT: 31
	Transversal	55	55	50	
Tear Resistance Nail method, N	Longitudinal	220	250	250	UEAtc
	Transversal	250	300	300	
Tear Strength Notch method, N	Longitudinal	500	650	700	ASTM D 5147
	Transversal	400	500	500	
Tensile Strength (shear) of joints, N	Longitudinal	950	1200	1050	UEAtc MOAT: 27
	Transversal	750	900	850	
Dimensional Stability, L/T (%)		± 0.2			ASTM D 5147
Puncture Resistance, N		950	1100	1100	ASTM E 154
Resistance to hydrostatic pressure		> 70 mtrs (> 7 bars)			ASTM D 5385, DIN 1048
Puncture Resistance	Static identification	L ₄ (Not perforated @ 25 kgs)			UEAtc
	Dynamic indentation	I ₄ (Not perforated @ 9 joules, 4 – 6 mm)			
Water absorption @ 24 Hrs		0.15 %			ASTM D 570
Resistance to thermal ageing (6 months) & UV (2000 Hrs)		Passes			UEAtc MOAT: 31, ASTM G 154, ASTM D 5147/13
Softening point *		125 ^o C			UEAtc, ASTM D 36
Penetration @ 25 ^o C *		25 dmm			UEAtc, ASTM D 5
Flexibility at low temperature		- 20 ^o C			UEAtc MOAT:31, ASTM D 5147
Heat resistance 102 °C		No flow			ASTM D 5147, UEAtc MOAT:31

- Compound Properties (Tested during manufacturing process)

The technical data given here are the average results of tests carried out in our laboratory on the **HYPERFLEX GARDEN** 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. **HYPERFLEX GARDEN** membranes are warranted to be free from manufacturing defects for a period of 20 years. **HYPERFLEX GARDEN** membranes are not affected by chlorides, sulphates & phosphates as well as dilute acids found in ground water.

HYPERFLEX GARDEN membrane has a shelf life of 12 months from the date of production, if stored in a cool, dry store in original unopened packing.

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 10^oC, the rolls should be exposed to warmer temperatures of 10^oC to 40^oC for periods of up to 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.

Packing Configuration:

4P-PBS 23 rolls per pallet
 5P-PBS/MINERAL 16 rolls per pallet
 4P MINERAL 20 rolls per pallet
 Nominal roll length for above products = 10 mtrs

Product generic name:

SBS XG-200-4P-PBS/MINERAL
 SBS XG-200-5P-PBS/MINERAL
 SBS XG-270-4P-PBS/MINERAL
 SBS XG-270-5P-PBS/MINERAL

Indicative Loading Capacity for 4mm thickness:

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

IMPERBIT MEMBRANE INDUSTRIES L.L.C.

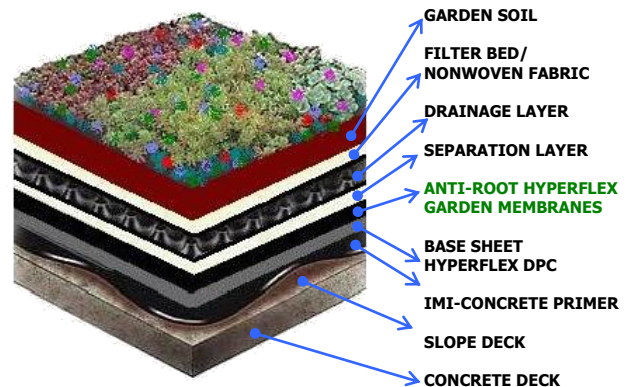
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* This technical data sheet supersedes all previous publications pertaining to this product