

# HYPERFLEX



**HYPERFLEX** membranes are highly SBS modified bitumen reinforced tanking & roofing BBA (British Board of Agreement) certified membranes.

## STANDARDS

HYPERFLEX membranes conform to the requirements of ASTM D-6162 / D-6164 Type I, II & UEAtc MOAT 31-1984

## QUALITY ASSURANCE & MATERIAL WARRANTY

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

## REINFORCEMENT

A variety of reinforcement cores are used in the production of the HYPERFLEX range, these include 200, 230, 270 gr/m<sup>2</sup> spun bond polyester, 60 gr/m<sup>2</sup> glass fibre tissue or a combination of the two.

## SURFACE FINISH

The top surface of the membrane is finished with BBA logo PE film, fine sand or mineral slate flakes (capsheet). The bottom surface is covered with a thin layer of IMI printed PE film.

## GENERAL APPLICATION

**HYPERFLEX 200/HYPERFLEX 270/HYPERFLEX 6164** membranes are ideal for general use in the waterproofing of all concrete surfaces such as foundations, basements, roofs, wet areas etc. The spun bond polyester core provides good tensile strength, toughness, elongation and puncture resistance and can accommodate stresses created by typical roof expansion and contraction cycles.

## DPC MEMBRANES

**HYPERFLEX-DPC** membranes are ideal for general use in civil construction as a damp proof layer in the absence of hydrostatic pressure. Use **HYPERFLEX-DPC** to arrest the rise of moisture due to capillary action in masonry walls.

## VENTING SHEETS

**HYPERFLEX VENT SHEETS** are used to diffuse moisture pressure under cap sheets in exposed or inverting roofing systems. Employing this system prolongs the service life of the cap sheet.

## HYPERFLEX-CRS

**HYPERFLEX-CRS** are ideal for steel deck roof, plywood deck, concrete slabs. HYPERFLEX-CRS can also be fixed mechanically by torching or hot air welding.

## HYPERFLEX-DR

Double reinforced membranes for waterproofing of large decks where dimensional stability of the membrane is important. The combination of polyester and glass fibre tissue reinforcement ensures superior shape and dimensional stability under severe cyclic conditions.

## 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 should be 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 application of the membrane. 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; the bead is then smoothed out with the trowel to ensure a properly welded joint. Make side laps minimum 10 cm & end laps 15 cm. Bond HYPERFLEX 4, 4.5 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.

**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** 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.

## EXPOSED ROOFING SYSTEM

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

HYPERFLEX		DPC/BASE SHEET	200	270	6164	CRS	DR	Method of Testing
Standard compliance		ASTM D 6163 TYPE I	ASTM D 6164 TYPE I & II UEAtc MOAT: 31			ASTM D 6162 Type I & II		
Nominal thickness of membranes		2.0, 2.6 & 3	4.0, 4.5 & 5.0					UEAtc, ASTM D 5147
Spun bond polyester reinforcing core (gr/m <sup>2</sup> )		50 – 60 Glass fiber	200	270	230	250 Scrim	200 + 50-60 Glass fiber	UEAtc MOAT: 31 Para F
Tensile strength N/5cm	Longitudinal	350	950	1200	900	1000	1050	UEAtc MOAT: 31
	Transversal	200	750	900	700	1000	850	
Tensile strength KN/m	Longitudinal	5	17	23	17	17	20	ASTM D 5147
	Transversal	3	14	17	14	17	16	
Elongation %	Longitudinal	2.55	50	50	50	40	50	UEAtc MOAT: 31
	Transversal	2.55	55	55	50	50	50	
Tear Resistance Nail method, N	Longitudinal	100	220	250	250	280	250	UEAtc
	Transversal	75	250	300	250	300	300	
Tear Strength Notch method, N	Longitudinal	200	500	650	500	650	700	ASTM D 5147
	Transversal	125	400	500	400	550	500	
Tensile Strength (shear) of joints, N	Longitudinal	350	950	1200	950	1000	1050	UEAtc MOAT: 27
	Transversal	300	750	900	750	1000	850	
Dimensional Stability, L/T (%)			± 0.2					ASTM D 5147
Puncture Resistance, N		120	950	1100	900	1000	1100	ASTM E 154
Resistance to hydrostatic pressure		> 4 bars	> 70 mtrs ( > 7 bars)					ASTM D 5385, DIN 1048
Puncture resistance	Static indentation	L <sub>2</sub>	L <sub>4</sub> (Not perforated @ 25 kgs)					UEAtc
	Dynamic indentation	l <sub>2</sub>	l <sub>4</sub> (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°C					UEAtc, ASTM D 36
Penetration @ 25°C *			25 dmm					UEAtc, ASTM D 5
Flexibility at low temperature			- 20°C to - 25°C					UEAtc MOAT:31, ASTM D 5147
Heat resistance 102 °C			No flow					ASTM D 5147, UEAtc MOAT:31
Granule Embedment, g , (max) (Granule finish membranes only)			2					ASTM D 5147, ASTM D 4977

\* 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** 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** membranes are warranted to be free from manufacturing defects for a period of 20 years. **HYPERFLEX** 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
- 4P-MINERAL 20 rolls per pallet
- 4.5P-PBS/SAND 20 rolls per pallet
- 4.5P-MINERAL 16 rolls per pallet
- 5P-PBS/SAND/MINERAL 16 rolls per pallet

Nominal roll length for above products = 10 mtrs.

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

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

**Product generic name**

- SBSXR-3P-PBS/SAND
- SBSXR-4P-PBS/SAND
- SBSXR-4P-MINERAL
- SBSXR-4.5P-PBS/SAND
- SBSXR-4.5P-MINERAL
- SBSXR-5P-PBS/SAND
- SBSXR-5P-PBS/MINERAL

**HANDLING PRECAUTIONS:** **HYPERFLEX** 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 10°C, the rolls should be exposed to warmer temperatures of 10°C to 40°C 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. **HYPERFLEX** 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