

# IMPERFLEX-PLUS

## GENERAL

**IMPERFLEX-PLUS** are high performance torch applied SBS modified bitumen waterproofing membranes designed to provide roof & sub-structure concrete surface with perfect waterproofing protections.

## SALIENT FEATURES

- Perfect all purpose protection for sub grade concrete.
- Excellent elongation and recovery properties.
- Superior flexibility and pliability.
- Exceptional bonding strength to self and substrates.
- Easily workable around protrusions and profiles.
- Unaffected by corrosive salts and dilute acids found in ground water.

## DESCRIPTION

**IMPERFLEX-PLUS** membranes are made by saturating and coating a reinforcement core with a homogeneous elastomeric blend of SBS (Styrene-Butadiene-Styrene), distilled bitumen and stabilizers. The elastomeric compound is carefully produced under controlled conditions to ensure stability at atmospheric temperatures and flexibility even at very low temperatures. **IMPERFLEX-PLUS** membranes are impermeable to water, very flexible and easy to work around contours and protrusions.

## QUALITY ASSURANCE & MATERIAL WARRANTY

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

**IMPERFLEX-PLUS** membranes conform to the requirement of UEAtc MOAT: 31 – 1984, MOAT 64: 2001 and tested in accordance with UEAtc MOAT 27 – 1983, ASTM D5147.

## REINFORCEMENT

A variety of reinforcement cores are used in the productions of the **IMPERFLEX-PLUS** range, these include 180, 200, 250 & 270 gr/m<sup>2</sup> spun bond polyester, glass fiber tissue and a combination of the two.

## SURFACE FINISH

The top surface of the membrane is finished with PE film with IMI Logo, fine sand. The bottom surface is covered with a thin layer of printed PE film with IMI design. 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, 3.2, 4, 4.5 and 5 mm and in a standard length of 10 meters. (Base sheets are produced in 2.6 & 3.0 mm thickness and in length of 20 mtrs)

## GENERAL APPLICATION

**IMPERFLEX-PLUS 180/200/270/DR/DR-PLUS** membranes are ideal for general use in the waterproofing of all concrete surfaces such as foundations, basement tanking and roofs. They are ideal for use to dress pile caps, tie beams and for the waterproofing of rafts. They are easily workable around contours and protrusions. The spun bond polyester cores provides good tensile strength, toughness, elongation and puncture resistance and can accommodate stresses caused by typical roof expansion and contraction cycles.

## IMPERFLEX-PLUS /DR/DR-PLUS (DOUBLE REINFORCEMENT)

The membrane incorporates two cores. The spun bond polyester core is placed slightly above the centre of the membrane, while the fiberglass mat is positioned at the bottom surface of the membrane. This careful positioning of the reinforcing cores enables the membrane to withstand the dimensional stability required for waterproofing of large roof decks 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 complete 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 IMPERFLEX-PLUS DPC membrane as a base layer/ 1<sup>st</sup> 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 2<sup>nd</sup> layer of IMPERFLEX-PLUS 4 or 5mm membranes over the base layer/ 1<sup>st</sup> 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 **IMPERFLEX-PLUS** 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.



## # TECHNICAL DATA FOR IMPERFLEX-PLUS RANGE

Properties		DPC/BASE SHEET	180	200	DR	DR-PLUS	270	Method of Testing
Reinforcement Core (gr/m <sup>2</sup> )		60GSM Glass Fiber	180 Polyester	200 Polyester	200 Polyester +60 glass fiber tissue	250 Polyester +60 glass fiber tissue	270 Polyester	UEAtc, MOAT 31: Para F
Nominal thickness of membranes		2.6 & 3.0	3, 3.2, 4, 4.5 & 5 mm		4.0, 4.5 & 5 mm			UEAtc, ASTM D 5147
Tensile Strength N/5cm	Longitudinal	350	750	1000	1050	1150	1100	UEAtc
	Transversal	200	600	750	800	850	900	
Tensile Strength kN/m	Longitudinal	5	12	20	20	22	20	ASTM D 5147
	Transversal	3	8	14	15	16	15	
Elongation, %	Longitudinal	3	40	50	50	50	50	UEAtc
	Transversal	3	45	55	50	50	55	
Tear Strength, N (Nail Method)	Longitudinal	100	200	240	250	260	250	UEAtc
	Transversal	75	200	260	280	300	280	
Tear Strength, N (Notch Method)	Longitudinal	200	400	550	600	650	600	ASTM D 5147
	Transversal	125	300	450	500	550	500	
Tensile Strength, N (Shear) of joints	Longitudinal	350	750	1000	1050	1100	1100	UEAtc
	Transversal	200	500	750	800	850	800	
Puncture Resistance, N		120	700	1000	1000	1100	1200	ASTM E 154
Puncture Resistance	Static Indentation	L <sub>2</sub>	L <sub>3</sub>	L <sub>4</sub> (Not perforated at 25 kg)				UEAtc
	Dynamic Indentation	I <sub>2</sub>	I <sub>3</sub>	I <sub>4</sub> (Not perforated at 9 joules, 4-6 mm)				
Resistance to hydrostatic pressure		> 4 Bars	> 7bars (>70 mtrs)					ASTM D 5385, DIN 1048
Flexibility at low temperature, °C			- 15°C					UEAtc
Heat resistance @ 100 °C			No Flow					UEAtc
Resistance to thermal ageing			Passes					UEAtc, ASTM D 5147
Dimensional Stability (%)			≤ 0.4					UEAtc, ASTM D 5147
Softening Point, °C *			120					UEAtc, ASTM D 36
Penetration @ 25°C *			30 dmm					UEAtc, ASTM D 5
Water vapour transmission			< 0.6 gr/m <sup>2</sup> /24 hrs					ASTM E 96
Water Absorption @ 24 hrs (%)			0.15					ASTM D 570

\* Compound properties (Tested during manufacturing process)

The technical data given here are the average results of tests carried out in our laboratory on the **IMPERFLEX-PLUS** 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. **IMPERFLEX-PLUS** membranes are warranted to be free from manufacturing defects for a period of 10 years. **IMPERFLEX-PLUS** membranes are not affected by chlorides, sulphates & phosphates as well as dilute acids found in ground water.

### Packing Configuration:

3/3.2P-PBS/SAND 28 rolls per pallet  
 4P-PBS/SAND 23 rolls per pallet  
 4P-MINERAL 20 rolls per pallet  
 4.5P-PBS/MIN 20 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:

SBS TP-3P-PBS/SAND  
 SBS T-3.2P-PBS/SAND  
 SBS TP-4P/4.5P-PBS/SAND  
 SBS TP-4P/4.5P-MINERAL  
 SBS TP-5P-PBS/SAND/MINERAL

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### HANDLING PRECAUTIONS: IMPERFLEX-PLUS

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. **IMPERFLEX-PLUS** membrane has a shelf life of **24 months** from the date of production, if stored in a cool, dry store in original unopened packing.

