

# HYPERFLEX-P20

## SBS MODIFIED BITUMEN ELASTOMERIC WATERPROOFING MEMBRANE REINFORCED WITH COMPOSITE POLYESTER

### What is HYPERFLEX?

Produced by the Modern Waterproofing Company, HYPERFLEX – P20 is a line of polymer-modified bitumen waterproofing membrane of the highest quality.

HYPERFLEX – P20 is modified by SBS, thus guaranteeing high flexibility under very low temperature

HYPERFLEX P20 is reinforced with composite polyester (P) of non-woven polyester armoured with glass fiber filaments which provides highly mechanical properties and dimensional stability

### Uses

HYPERFLEX – P20 is a high performance membrane, can be applied virtually anywhere where torch applied modified bitumen membranes subject to high mechanical stresses are specified, and low temperature performance is required,

HYPERFLEX – P20 can be applied in:

- Single layer roofing system subject to low temperature
- Foundations and underground structures subject to movements
- Waterproofing of toilets, wet area inside buildings

HYPERFLEX – P20 with Mineral Slated Finish is recommended for exposed roofing system (Unprotected) for Non-accessible roofs or roofs subject to low traffic conditions.

### Advantages

HYPERFLEX – P20 has been designed with special regard to providing clients with an excellent and versatile product.

Advantages of HYPERFLEX – P20 include:

- Easy to apply (by torch).
- Highly mechanical properties.
- Absolute impermeability to water.
- High elasticity at sever low temperature up to -20°C.
- Resistant to chemicals attack probable to be existing in soil.
- Excellent high temperature performance.
- Excellent adhesion on any surface.
- High dimensional stability.
- Environmentally friendly.

### Quality Control

The Modern Waterproofing Company is ISO 9001 certified. It applies a stringent quality control system utilizing its in-house laboratory. Occasional samples are analyzed by independent laboratories to ensure continued adherence to the highest standers (ASTM, DIN, UNI, etc.).

Each roll HYPERFLEX – P20 is individually coded with a label containing all necessary information about the roll. This is intended to ensure tractability in accordance with ISO control standards.

### Product Range

Standard thickness available includes 3mm and 4mm. Some types could be available by weight 3kg/m<sup>2</sup> and 4kg/m<sup>2</sup>.

Bottom surface finish is normally Polyethylene Film (PE).

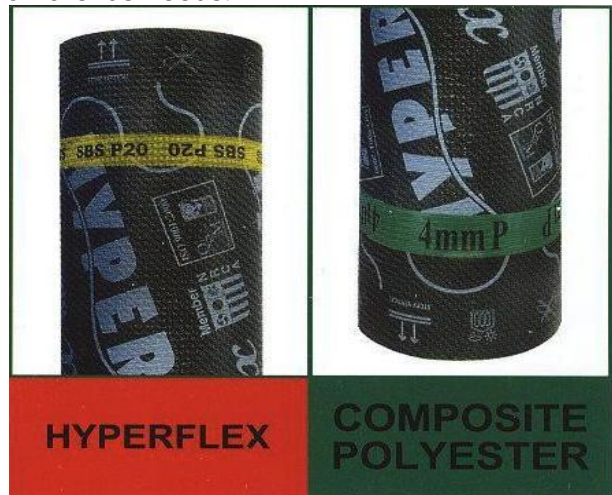
Upper surface finish choices include:

- Polyethylene Film (PE).
- Fine Sand (S).
- Mineral Granule Grey (MG).
- Mineral Granule Green (MGRN).
- Mineral Granule Blue (MBL).
- Mineral Slated Grey (GY).
- Mineral Slated Green (GRN).
- Mineral slated White (WT).
- Mineral slated Red (RD).

Slated rolls are available in 4kg, 4.5kg and 5kg per square meter.

The nominal length of each roll is 10 meters and the nominal width is one meter.

Special specification can be designed based on client's needs.



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## SBS MODIFIED BITUMEN ELASTOMERIC WATERPROOFING MEMBRANE REINFORCED WITH COMPOSITE POLYESTER

TECHNICAL DATA		TEST METHOD	UNIT	RESULT
Roll Length		EN 1848- 1	m	10
Roll Width		EN 1848- 1	m	1
Thickness for PE finish		EN 1849- 1	mm	2 , 3 & 4
Softening point (Ring & Ball)		ASTM D-36	°C	≥ 125
Penetration at	25 °C	ASTM D-5	dmm	30 to 35
	60 °C		dmm	110 to 120
Elongation of compound		EN 12311- 1	%	1400
Cold Flexibility		EN 1109	°C	-20
Heat Resistance		EN 1110	°C	100
Reinforcement				Non- Woven Composite Polyester
Tensile strength	Long	EN 12311-1	N/5cm	1000
	Wide		N/5cm	750
Elongation	Long	EN 12311- 1	%	≥ 50
	Wide		%	≥ 55
Tear Resistance (Nail – shank)	Long	EN 12310- 1	N	300
	Wide		N	350
Tensile-tear Resistance	Long	ASTM D-5147	N	750
	Wide		N	550
Joint tensile strength	Long	EN 12317-1	N/5cm	1000
	Wide		N/5cm	750
Dimensional stability	Long Wide	EN 1107 -1	%	± 0.2
			%	± 0.1
Water absorption		ASTM D-5147	%	1 max.
Static puncture resistance		EN 12730:2001	kg	20
Dynamic puncture resistance		EN 12691	mm	1750
Water impermeability 100 k pa		EN 1928:2000	-	Absolutely impermeable
Impermeability to water vapor		EN 1931	μ	80,000
Ageing due to U.V. radiation		EN 1296	-	Pass
Resistance to thermal ageing		EN 1296	-	No signs of deterioration after the test
Adhesion to concrete		EN 13596	N/cm <sup>2</sup>	40
Thermal conductivity		ASTM C-177	Kcal/mh °C	0.12
Dielectric constant ( k )		ASTM D-150	-	2.5
Average Granule loss for Mineral Slated Finish		ASTM D-4977	Gm/m <sup>2</sup>	Less than 200

### NOTES:

- Above results are based on 4mm membrane.
- Tolerance within 20% of the above results for mechanical characteristics complies with the tolerance specification of (ASTM, EN).
- Due to constant product improvements, MODERN company reserves the right to change above values without advance notice.

### Storage:

- HYPERFLEX – P20 membranes should be stored vertically in well covered and ventilated place not subject to direct sunlight.

### APPLICATION INSTRUCTIONS:

- HYPERFLEX – P20 membranes are installed by propane torch welding method, loose laid or fully bonded to the substrate depending on system requirements.
- While unloading from truck the rolls shall by no means allowed to fall or be thrown down from the truck.
- To avoid applying the membrane to corners with 90 °C angle, sand cement cant strip 5x5 cm should be executed at horizontal - vertical intersections.
- Surface to be waterproofed should be clean, dry, free from dust and smooth, in case of irregular surface a sand cement screed is recommended.
- Before laying HYPERFLEX – P20 membranes, surface should be primed with cold applied bituminous primer (NIROL – S) or (NIROL – w).
- Membrane is unrolled and placed in aligned position.
- Each roll should overlap the next by 10 cm side laps and 15 cm staggered end laps.
- Then, membrane should be re-rolled about half of its length without changing its orientation.
- Using a propane gas torch the membrane is un-rolled again slowly while applying the flame to the entire exposed lower face (For fully bonded system) - until the plastic cover film burns off and the bituminous mass starts melting, thus creating a heat weld between the membrane and the substrate.
- Then, torching of the seams takes place by heating the contact line at side and end laps by torch from above, pressing the upper membrane on to the lower one using a trowel, the torch has to be carefully used avoiding to keep the flame on the same point for too long.
- For sloping roofs start laying the membrane from the lower edge with longitudinal direction of rolls perpendicular to slope direction, side lap of next roll to be placed above the first one etc...

For detailed application procedures please refer to HYPERFLEX MANUAL GUIDE, where you can find construction detail drawings.

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