Seven Seas Consulting

PRODUCT DATA SHEET

LIGHTERFLEX HPCP POLYESTER

(REINFORCED ELASTOPLASTOMERIC WATERPROOFING MEMBRANES WITH HIGH CONCENTRATION OF BITUMEN AND POLYMERS)

CAN I HAVE A HIGH QUALITY AND HIGH RESISTANCE MEMBRANE WITH ONLY 0,9 KG/M^2 WEIGHT?

Description LIGHTERFLEX HPCP is the range of membranes developed based on the technology used up-to-date for some membranes sold abroad, where a minimum amount of bonding was requested, which has now been further implemented and applied to a specific line of membranes.

The LIGHTERFLEX HPCP membranes are produced in a range of "cold" flexibility such to satisfy the various technical/economic requirements of the national market.

The membranes of the LIGHTERFLEX HPCP series consist of a polymer-bitumen mix in which, by means of the mixers and the high shear homogenizers installed on the production lines, the pool of usual polymers has been partially replaced by a blend of elastomers, plastomers and metallocene copolymers of higher molecular weight than that used for the corresponding standard membrane with the same "cold" flexibility. The alloy "with phase inversion" thus obtained presents a continuous polymeric phase featuring a higher concentration of copolymers with elastomeric reaction. This enables the production of membranes with higher bonding but with performance comparable to standard membranes, which consequently produces two advantages.

The first advantage lies in the production of membranes featuring high thermoplastic bonding that makes it easier for the mix to melt, which translates into faster laying and lower consumptions of gas compared to the equivalent standard membranes.

The second advantage depends on the increase in low density components which, with the same thickness, implies a consequent reduction in the mass per unit area of the product. The LIGHTERFLEX HPCP membranes are lighter than the equivalent range of standard products and still maintain their water tightness over time. The reduction in the weight of the rolls may even be as much as 40% approximately.

More rolls can therefore be transported at a time, respecting the load-bearing capacity of the vehicles and the lifting equipment, plus they are easier for operators to handle.

LIGHTERFLEX HPCP 5 POLYESTER membranes are reinforced with a composite nonwoven rot-proof polyester fabric stabilized with fiberglass. It offers high mechanical and elastic resistance and has an excellent dimensional stability when hot, which reduces problems of fabric warping and shrinkage of the end joints, because it is 2 to 3 times more stable than normal non-woven polyester fabric reinforcements. LIGHTERFLEX HPCP 20 POLYESTER, 15 POLYESTER and 10 POLYESTER reinforced with Spunbond non-woven fabric stabilized in the same way with fiberglass are further characterized by superior mechanical resistance. LIGHTERFLEX HPCP 5V is reinforced longitudinally with fiberglass mat, is rot-proof and offers high dimensional stability.

CE INTENDED USE OF "CE" MARKING SPECIFIED ACCORDING TO THE AISPEC-MBP GUIDLINES

EN 13707 - REINFORCED BITUMEN SHEETS FOR ROOF WATERPROOFING

- **Under layer or intermediate layer in multi-layer systems without permanent heavy surface protection**
  - LIGHTERFLEX HPCP 20 POLYESTER
  - LIGHTERFLEX HPCP 15 POLYESTER
  - LIGHTERFLEX HPCP 10 POLYESTER
  - LIGHTERFLEX HPCP 5 POLYESTER
  - LIGHTERFLEX HPCP 5V
- **Upper layer in multi-layer systems without permanent heavy surface protection**
  - LIGHTERFLEX HPCP 20 POLYESTER
  - MINERAL LIGHTERFLEX HPCP 20 POL.
  - LIGHTERFLEX HPCP 15 POLYESTER
  - MINERAL LIGHTERFLEX HPCP 15 POL.
  - LIGHTERFLEX HPCP 10 POLYESTER
  - MINERAL LIGHTERFLEX HPCP 10 POL.
  - LIGHTERFLEX HPCP 5 POLYESTER
  - MINERAL LIGHTERFLEX HPCP 5 POL.
- **Under heavy protection in multi-layer systems**
  - LIGHTERFLEX HPCP 20 POLYESTER
  - LIGHTERFLEX HPCP 15 POLYESTER
  - LIGHTERFLEX HPCP 10 POLYESTER
  - LIGHTERFLEX HPCP 5 POLYESTER

EN 13969 - BITUMEN DAMP PROOF SHEET INCLUDING BITUMEN BASEMENT TANKING SHEETS

- **Membranes for foundations**
  - LIGHTERFLEX HPCP 20 POLYESTER
  - LIGHTERFLEX HPCP 15 POLYESTER
  - LIGHTERFLEX HPCP 10 POLYESTER
  - LIGHTERFLEX HPCP 5 POLYESTER

EN 13970 - BITUMEN WATER VAPOUR CONTROL LAYERS

- LIGHTERFLEX HPCP 5V

EN 13859-1 - UNDERLAY FOR DISCONTINOUS ROOFING

- MINERAL LIGHTERFLEX HPCP 20 POL.
- MINERAL LIGHTERFLEX HPCP 15 POL.
- MINERAL LIGHTERFLEX HPCP 10 POL.
- MINERAL LIGHTERFLEX HPCP 5 POL.

The top face of the LIGHTERFLEX HPCP membranes is covered with fine screen-printed talcum, which is uniformly distributed. This is a patented treatment that makes the rolls easy to unwind and makes the sealing of the overlap joints quicker and more secure.
The top face of the MINERAL LIGHTERFLEX HPCP version is self-protected with slate granules, glued and pressed hot, with the exception of a side overlap strip without slate and protected with a strip of Flamina film that is flame-melted to seal the overlap joint.
The bottom face of both types is covered with Flamina, a plastic hot-melt film and is embossed to obtain both the pretension (consequently the excellent heat-shrinkage of the film) and to ensure a larger flame surface (consequently more secure and quicker lying).

Applications field The durable mechanical and elastic resistance and stability at both high and low temperatures of the LIGHTERFLEX HPCP and MINERAL LIGHTERFLEX HPCP membranes means that they can be used as a sealing element for new builds and renovations:
On all sloping surfaces: flat, upright and curved. On different types of laying surfaces: cement- based laying surfaces cast on site or prefabricated; on metal or wood roofing and on the most widely used thermal insulation systems in the building trade.
For the most extensive range of uses: flat and pitched roofs, under-tile, dielectric coverings and foundation walls.
The high dimensional stability of LIGHTER-FLEX HPCP 5V makes it suitable to be used as a layer underneath other membranes reinforced with non-woven polyester fabric to build-up double layer waterproof coverings.
LIGHTERFLEX HPCP 5V can be used in single layers as a vapour barrier.

POSSIBLE USAGE	
FOUNDATIONS	any kind
FLAT ROOF	that can be walked over with floor laid on site
FLAT ROOF	that can be walked over with floating floor
FLAT ROOF	that cannot be walked over on concrete
FLAT ROOF	that cannot be walked over refurbishment
FLAT ROOF	that cannot be walked over on wood
UNDER-TILE	on concrete
UNDER-TILE	on wood
RIBBED METAL SHEET	any kind
REFURBISHMENT OF ASBESTOS CEMENT ROOFING	any kind

Method of use	Torch Application	Hot Air Applicatio	Nailing
	✓	✓	✓

Loading Table (in Metric Tons)		**Product specifications**			**Loading in 20' FCL**	
	Thickness	Weight	m^2/roll	Rolls/pallet	Pallets	M^2
Lighterflex HPCP -20°C -15°C -10°C	3mm	2,7 kg/m^2	10	30	20	6000
	4 mm	3,6 kg/m^2	10	24	20	4800
Lighterflex HPCP -5°C	3mm	2,5 kg/m^2	10	30	20	6000
	4 mm	3,4 kg/m^2	10	24	20	4800
Mineral Lighterflex HPCP -20°C -15°C -10°C	4,5 mm	4,5 kg/m^2	10	20	20	4000
Mineral Lighterflex HPCP -5°C	4,5 mm	4,5 kg/m^2	10	20	20	4000

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TECHNICAL SPECIFICATIONS

	Standard	T	LIGHTERFLEX HPCP -20°C -15°C -10°C	MINERAL LIGHTERFLEX HPCP -20°C -15°C -10°C	LIGHTERFLEX HPCP -5°C	MINERAL LIGHTERFLEX HPCP -5°C
Reinforcement			Non woven composite stabilized spunbound polyester	Non woven composite stabilized spunbound polyester	Non woven composite stabilized polyester	Non woven composite stabilized polyester
Thickness Mass per Unit Area	EN 1849-1	±0,2 ±12%	3mm / 4mm	4,5mm	3mm / 4mm	4,5 mm
Roll size	EN 1848-1		1x10m	1x10m	1x10m	1x10m
Watertightness	EN 1928 – B	≥	60 kPa	60 kPa	60 kPa	60 kPa
Shear resistance L/T	EN 12317-1	20%	600/400 N/50mm	600/400 N/50mm	300/200 N/50mm	300/200 N/50mm
Maximum tensile force L/T	EN 12311-1	-20%	700/500 N/50mm	700/500 N/50mm	450/300 N/50mm	450/300 N/50mm
Elongation L/T	EN 12311-1	15%	40%/45%	40%/45%	40%/40%	40%/40%
Resistance to impact	EN 12691 – A		1250 mm	1250 mm	700 mm	700 mm
Rsistance to Static Loading	EN 12730 A		15 kg	15 kg	10 kg	10 kg
Resistance to tearing (nail shank) L/T	EN 12310-1	-30%	170/170 N	170/170 N	120/120 N	120/120 N
Dimensional Stability	En 1107-1	≤	-0,30/+0,10	-0,30/+0,10	-0,25/+0,10	-0,25/+0,10
Flexibility to low temperature	EN 1109	≤	-20°C -15°C -10°C	-20°C -15°C -10°C	-5°C	-5°C
Flow resistance at high temperature	EN 1110	≥	120°C	120°C	100°C	100°C
Water vapour transmission after ageing	EN 1931 EN 1296-1931	-20%	-	-	-	-
UV Ageing	EN1297		Test Passed		Test Passed	Test Passed
Reaction to Fire - Euroclass	EN 13501-1		E	E	E	E
External fire performance	EN 13501-5		F roof	F roof	F roof	F roof
Thermal specifications						
Thermal conductivity			0.2 W/mK	0.2 W/mK	0.2 W/mK	0.2 W/mK
Heat capacity			3,51 KJ/K / 4,68 KJ/K	5,40 KJ/K	3,25 KJ/K / 4,42 KJ/K	5,40 KJ/K