APP

MEMBRANIL

APP Modified Bitumen Waterproofing Membranes
With Non-Woven Spun-Bond Polyester or Glassfiber Reinforcement

THE PRODUCT

MEMBRANIL are plastomeric waterproofing membranes manufactured in an advanced continuous calendaring process by saturating and coating a synthetic carrier with a waterproofing compound made of a special grade of bitumen, which is modified with APP polymers. While the APP polymers enhance the thermal, mechanical, and aging properties of the membranes compound, the mechanical characteristics of **MEMBRANIL** are established by the non-woven continuous filament spun-bond Polyester or Glassfiber mat which acts as the reinforcement that provides the membrane with its particular tensile strength, tear resistance, puncture resistance and elongation properties.

The upper surface of **MEMBRANIL** is covered with an anti-adhesive finish material while the lower face is laminated with a thermo-fusible polyethylene film.

USES

MEMBRANIL are multi-purpose membranes for protected roofing & waterproofing applications subjected to different mechanical stresses and normal weathering conditions, Also recommended as a base layer in multi layer systems in various application.

MEMBRANIL membranes are particularly recommended for the following applications.

- Roofing or re-roofing works for sloped and flat protected roofs.
- Waterproofing of underground structures
- Waterproofing of wet areas, mechanical rooms and terraces.

SURFACE FINISH

The lower surface of **MEMBRANIL** is laminated with a Polyethylene film while the upper surface is covered with one of the following surface finish materials:

• Fine Sand	**MEMBRANIL- S/E**
• Polyethylene Film	**MEMBRANIL- E/E**

APPLICATION

MEMBRANIL is usually applied by using a propane torch or a hot air generator as well as by mechanical fastening. It can also be applied using special adhesives in cold or hot applications. The substrate surface must be clean, dry, smooth, and free from any irregularities. According to the surface conditions, a coat of BituNil primer maybe required prior to the application of the membrane. **MEMBRANIL** can be applied to the substrate fully bonded, semi bonded or loose laid, and the method of adhesion to the substrate shall be decided according to the waterproofing system design. Side laps should be from 8-10 cm, while end laps should be from 12-15 cm. For more info on application refer to BituNil application guide.

STORAGE & HANDLING

MEMBRANIL rolls should be kept in an upright position in a flat, properly ventilated and sheltered storage area.

SUPPLY DATA & PALLETISING

Group 100	Group 105	Thickness *	Standard Roll Size	Rolls/ Pallet	
				Group 100	Group 105
200	205	2mm	1M x 10M	28	28
300	305	3mm	1M x 10M	28	28
400	405	4mm	1M x 10M	23	23
500	505	5mm	1M x 8 M	23	23

*Thickness tolerance as per UEAtc. Directives for Group 100 and UEAtc. ± 5% for Group 105

Loading Capacity: 20 pallets / Container
The above quantities are indicative only and may be subject to changes in order to comply with transport limitations according to the final destination of the product.

BituNil membranes are made of non-polluting substances, therefore are safe products during production, application and use.

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MEMBRANIL GF
MEMBRANIL PP
MEMBRANIL PS
MEMBRANIL PX
MEMBRANIL PY
MEMBRANIL PZ

APP Modified Bitumen Waterproofing Membranes

G :Glassfiber , GF: Low Weight.
P : Polyester , PP: Low Weight, PS: Medium Weight PX:(Medium/High) Weight, PY: High Weight, PZ: Heavy Duty.

Properties		Test	Unit	Test Method	Tolerance	MEMBRANIL					
						GF	PP	PS	PX	PY	PZ
Dimensional Properties		Thickness	mm	EN-1849-1	± 5%	4	4	4	4	4	4
		Weight (Mass Per Unit Area)	kg/m²	EN-1849-1	± 10%	-	-	-	-	-	-
		Determination Of Width	m	EN-1848-1	± 1%	1	1	1	1	1	1
		Determination Of Length	m	EN-1848-1	± 1%	10	10	10	10	10	10
		Straightness (Ortometry)	mm	EN-1848-1	-	± 10	± 10	± 10	± 10	± 10	± 10
Compound Properties		Softening point (R&B)	° C	ASTM D- 36	Min.	150	150	150	150	150	150
		Compound Elongation	%	UNI 8202/8	± 15%	-	-	-	-	-	-
Membrane Properties	Mechanical properties	Tensile Strength - Longitudinal	N/50mm	EN-12311-1	± 20%	350	650	800	900	1000	1100
		Tensile Strength - Transverse	N/50mm	EN-12311-1	± 20%	250	400	550	650	700	900
		Elongation At Break - Longitudinal	%	EN-12311-1	±15(polyester only)	2	30	30	35	40	45
		Elongation At Break - Transverse	%	EN-12311-1	±15(polyester only)	2	35	35	35	40	50
		Tearing Strength - Longitudinal (Nail-Shank)	N	EN-12310-1	± 30%	125	150	200	250	250	250
		Tearing Strength - Transverse(Nail-Shank)	N	EN-12310-1	± 30%	150	200	200	250	300	300
		Tensile Tear Resistance - Longitudinal	N	ASTM D- 5147 . D 4073	± 30%	300	550	600	625	750	800
		Tensile Tear Resistance - Transverse	N	ASTM D- 5147 . D 4073	± 30%	250	325	350	450	550	600
		Resistance to Static Loading	Kg	EN 12730 Method A	Min.	7	15	15	20	25	25
		Dynamic Puncturing (Impact Resistance)	mm	EN 12691 Method B	Min.	300	450	550	700	1000	1100
	Thermal Properties	Flow Resistance At Elevated Temprature	° C	EN-1110	Min.	100	100	100	100	100	100
		Flexability At Low Temprature	° C	EN-1109	-	0 To + 5	0 To + 5	0 To + 5	0 To + 5	0 To + 5	0 To + 5
		Dimensional Stability	%	EN-1107-1	Max.	±0.1	±0.5	±0.5	±0.5	±0.5	±0.5
		Water Impermeablility- Watertightness at Low pressure	60 Kpa	EN-1928 Method A	-	PASSED	PASSED	PASSED	PASSED	PASSED	PASSED
		Water Impermeablility- Watertightness at High pressure	Kpa	EN-1928 Method B	Min.	100	150	150	150	150	150
	Miscellaneous Properties	Water Absorption	%	ASTM D-5147	Max.	< 1	< 1	< 1	< 1	< 1	< 1
		Vapour Permeability	μ	EN 1931	-	40000	60000	60000	60000	60000	60000
		Fatigue resistance on cracks	200 cycles	UNI 8202/13	-	-	-	-	-	-	-
			500 cycles			-	-	-	-	-	-
		Shear Resistance Of joints - Longitudinal	N/50mm	EN-12317-1	± 20%	350	650	650	900	1000	1100
		Shear Resistance Of joints - Transverse	N/50mm	EN-12317-1	± 20%	250	400	400	650	700	900
		Thermal Ageing in air *(in oven 28 days at 70°C)*	-	UNI 8202 /26	-	-	-	-	-	-	-
		Ageing Due To Atmospheric Agents *(U.V Test weathering)*	-	ASTM G 53 UNI 8202/29	-	-	-	-	-	-	-
		Fatigue resistance at Joints	200 cycles	UNI 8202/32	-	-	-	-	-	-	-
			500 cycles		-	-	-	-	-	-	-
		Fire Classification - External Fire Performance	Class	EN 13501-5/ ENV 1187	-	F Roof	F Roof	F Roof	F Roof	F Roof	F Roof
		Reaction to fire	Class	EN 13501-1	-	E	E	E	E	E	E
		Adhesion Of Granules	%	EN-12039	Max.	-	-	-	-	-	-
		Adhesion To Concrete (*Torch Applied*)	N/ 50mm	Pelage UEAtc	-	20	20	20	20	20	20
		Resistance to root pentration	-	EN-13948	-	NPD	NPD	NPD	NPD	NPD	NPD
Supply Data		weight	kg/m2	-	-	3 to 6	3 to 6	3 to 6	3 to 6	3 to 6	3 to 6
		Thickness	mm	-	-	2 to 5	2 to 5	2 to 5	2 to 5	2 to 5	2 to 5
		Roll Length	M	-	-	10	10	10	10	10	10
		Roll Width	M	-	-	1	1	1	1	1	1
		Surface finish (E: Polyethylene film S: Sand SL:Slates GR: Granule)									
		Upper Surface Finish	-	-	-	S or E	S or E	S or E	S or E	S or E	S or E
		Lower Surface Finish	-	-	-	S or E	S or E	S or E	S or E	S or E	S or E

The declared average values represent the best performance achieved at the present state of our knowledge, BITUNIL S.A.E reserves the possibility to change, without warning, the technical characteristics in order to make the product more responding to the application requirements. The choice of the type of membrane for the kind of use is at the purchaser's discretion .

Tolerances for the above values if not mentioned are according to the UEAtc directives.

Distributor:

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