



SBS

NiloFlex 20

Smooth

NiloFlex 20

Mineral

THE PRODUCT

NiloFlex 20 are elastomeric 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, modified with SBS polymers. While the SBS polymers enhance the thermal, mechanical, and aging properties of the membrane compound, the mechanical characteristics of **NiloFlex 20** 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 surfaces of **NiloFlex 20** is covered with an anti adhesive finish material, whereas the lower surface is laminated with a thermo-fusible polyethylene film.

USES

NiloFlex 20 are multi-purpose membranes for roofing and waterproofing applications subjected to different mechanical stresses, movement and critical weathering conditions, in multi-layer systems and can be used as a single layer in specific applications.

NiloFlex 20 membranes are particularly recommended for the following applications:

- Protected waterproofing of roof decks or substrates subject to movements.
- Foundations & underground structures.
- Waterproofing of wet areas, mechanical rooms and terraces.

NiloFlex 20 Mineral is used for exposed applications or as a cap-sheet in a multi-layer system

SBS Modified Bitumen Waterproofing Membranes

With Non-Woven Spun-Bond Polyester Or Glassfiber Reinforcement

MAJOR FEATURES

Significant compound elastic behavior

Enhanced resistance to chemicals

Excellent mechanical properties

Enhanced performance under a wide range of temperature fluctuation, (From -20 °C to 130 °C)

SURFACE FINISH

The lower surface of **NiloFlex 20** is laminated with a Polyethylene film while the upper surface is covered with one of the following surface finish materials:

- Fine Sand **NiloFlex 20 – S/E**
- Polyethylene Film **NiloFlex 20 – E/E**
- Mineral Slate Chips or Special Granules **NiloFlex 20 Mineral**

APPLICATION

NiloFlex 20 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. **NiloFlex 20** 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 information on application refer to BituNil application guide.

STORAGE & HANDLING

NiloFlex 20 rolls should be kept in an upright position in a flat, properly ventilated and sheltered storage area.

STANDARD SUPPLY DATA & PALLETISING

Group 100	Group 105	Thickness *	Standard Roll Size	Rolls/ Pallet	
				Group 100	Group 105
300	305	3mm	1M x 10M	28	28
400	405	4mm	1M x 10M	23	23
*Thickness tolerance as per UEAtc. Directives for Group 100 and UEAtc. ± 5% for Group 105.					
Group 1000	Group 1005	Weight **	Standard Roll Size	Group 1000	Group 1005
4000	4005	4.0 Kg/ sqm	1M x 10M	30	30
4500	4505	4.5 Kg/ sqm	1M x 10M	25	25
5000	5005	5.0 Kg/sqm	1M x 10M	23	25
**Weight tolerance as per UEAtc. Directives for Group 1000 and UEAtc. ± 5% for Group 1005.					

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.

SBS Modified Bitumen Waterproofing Membranes

G :Glassfiber , GF: Low Weight, GP: Medium 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	NiloFlex 20						
					GP	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/m ²	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.	130	130	130	130	130	130	
	Compound Elongation	%	UNI 8202/8	± 15%	1200	1200	1200	1200	1200	1200	
Membrane Properties	Mechanical properties	Tensile Strength - Longitudinal	N/50mm	EN-12311-1	± 20%	400	600	750	900	950	1000
		Tensile Strength - Transverse	N/50mm	EN-12311-1	± 20%	300	400	500	600	700	750
		Elongation At Break - Longitudinal	%	EN-12311-1	±15 %(Polyester only)	2	35	35	40	45	50
		Elongation At Break - Transverse	%	EN-12311-1	±15 %(Polyester only)	2	40	40	40	50	50
		Tearing Strength - Longitudinal (Nail-Shank)	N	EN-12310-1	± 30%	125	200	225	250	250	275
		Tearing Strength - Transverse(Nail-Shank)	N	EN-12310-1	± 30%	125	225	250	250	250	275
		Tensile Tear Resistance - Longitudinal	N	ASTM D- 5147 . D 4073	± 30%	425	500	650	700	850	850
		Tensile Tear Resistance - Transverse	N	ASTM D- 5147 . D 4073	± 30%	275	275	400	500	600	600
		Resistance to Static Loading	Kg	EN 12730 Method A	Min.	7	15	20	20	25	25
	Dynamic Puncturing (Impact Resistance)	mm	EN 12691 Method B	Min.	300	550	650	700	900	1100	
	Thermal Properties	Flow Resistance At Elevated Temperature	° C	EN-1110	Min.	110	110	110	110	110	110
		Flexibility At Low Temperature ⁽¹⁾	° C	EN-1109	-	-25 TO -20	-25 TO -20	-25 TO -20	-25 TO -20	-25 TO -20	-25 TO -20
		Dimensional Stability	%	EN-1107-1	Max.	±0.1	±0.5	±0.5	±0.5	±0.5	±0.5
		Water Impermeability- Watertightness at Low pressure	60 Kpa	EN-1928 Method A	-	Passed	Passed	Passed	Passed	Passed	Passed
		Water Impermeability- Watertightness at High pressure ⁽²⁾	Kpa	EN-1928 Method B	Min.	100	150	200	300	350	400
	Miscellaneous Properties	Water Absorption	%	ASTM D-5147	Max.	< 1	< 1	< 1	< 1	< 1	< 1
		Vapour Permeability	µ	EN 1931	-	60000	60000	60000	60000	60000	60000
		Fatigue resistance on cracks	200 cycles	UNI 8202/13	-	-	Passed	Passed	Passed	Passed	Passed
			500cycles		-	Passed	Passed	Passed	Passed	Passed	
		Shear Resistance Of joints - Longitudinal	N/50mm	EN-12317-1	± 20%	400	600	750	900	950	1000
		Shear Resistance Of joints - Transverse	N/50mm	EN-12317-1	± 20%	300	400	500	600	700	750
		Thermal Ageing in air (in oven 28 days at 70 °C)	-	UNI 8202 /26	-	Passed	Passed	Passed	Passed	Passed	Passed
		Ageing Due To Atmospheric Agents (U.V Test weathering)	-	ASTM G 53 UNI 8202/29	-	Passed	Passed	Passed	Passed	Passed	Passed
		Fatigue resistance at Joints	200 cycles	UNI 8202/32	-	-	Passed	Passed	Passed	Passed	Passed
			500 cycles		-	Passed	Passed	Passed	Passed	Passed	
		Fire Classification - External Fire Performance	Class	EN 13501-5/ ENV 1187	-	B Roof(t2)	B Roof(t2)	B Roof(t2)	B Roof(t2)	B Roof(t2)	B Roof(t2)
		Reaction to fire	Class	EN 13501-1	-	E	E	E	E	E	E
		Adhesion Of Granules	%	EN-12039	Max.	≤30	≤30	≤30	≤30	≤30	≤30
	Adhesion To Concrete (Torch Applied)	N/ 50mm	Pelage UEAtc	-	40	40	40	40	40	40	
	Resistance to root penetration	-	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 or SL or GR	S or E or SL or GR	S or E or SL or GR	S or E or SL or GR	S or E or SL or GR	S or E or SL or GR	
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 .

Distributor:

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

- (1) Exact value depends on thickness of the product.
- (2) Deviating from the standard method , The assessment is made in 1 Hour test 4mm or 4.5Kg/m2 products.



Nile Waterproofing Material Co. S.A.E

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