



# SBS

# BITUFLEX FR Mineral

## High Performance Fire Retardant SBS Modified Bitumen Waterproofing Membrane

With Composite Polyester Reinforcement

### THE PRODUCT

**BITUFLEX FR Mineral** is a self-protected elastomeric waterproofing membrane, manufactured in an advanced continuous calendaring process by saturating and coating a composite carrier with a waterproofing compound made of a special grade of bitumen, modified with SBS polymers and special **FIRE RETARDING** chemical additives. While the SBS polymers enhance the thermal, mechanical, and aging properties of the membrane compound, the mechanical characteristics of **BITUFLEX FR Mineral** are established by the composite carrier made of non-woven Polyester armoured with Glassfiber filaments, which acts as the reinforcement that provides the membrane with the profound mechanical properties of the Polyester and the prominent dimensional stability of Glassfiber mats.

The upper surfaces of **BITUFLEX FR Mineral** is covered with colored mineral slate chips, with an 8cm slate free side margin for overlap welding, whereas the lower surface is laminated with a thermo-fusible polyethylene film.

### USES

**BITUFLEX FR Mineral** can be used for special roofing and waterproofing applications with fire-retarding property requirements & subjected to excessive mechanical stresses, movement, and critical weathering conditions.

**BITUFLEX FR Mineral** is used as a single layer or as a top layer in an exposed multi layer roofing system for the following roofing applications:

- Exposed roofing in civil, industrial, and military works.
- Exposed re-roofing jobs on compatible substrates.
- Under roofing clay tiles on pitched roofs where tiles are fixed with mortar
- Flashings for exposed up-stands in SBS modified bitumen roofing systems.

### MAJOR FEATURES

- **Enhanced Fire Retarding Properties:** shielding the roof from both spread of flames and fire penetration.
- **Excellent Surface Characteristics:** where the slate chips surfacing reduces the membrane's exposure to thermal stresses, extending its service life and decelerating its aging.
- **High Resistance to Chemicals** and industrial environment when used without protection.
- **High U.V. Resistance**
- **Excellent Isotropic Mechanical Properties** represented by:
  - Good tensile strength, tear and puncture resistance.
  - Significant dimensional stability.
  - Ideal longitudinal & transverse elongation.
  - High resistance to mechanical stresses in exposed applications.
- **High Performance** under a wide range of temperature fluctuation,

### SURFACE FINISH

The lower surface of **BITUFLEX Mineral** is laminated with a Polyethylene film while the upper surface is covered with one of the mineral slate chips or special granules, available in the following colors:

- Grey **BITUFLEX FR Mineral – GY**
- Green **BITUFLEX FR Mineral – GR**
- Red **BITUFLEX FR Mineral – R**
- white **BITUFLEX FR Mineral – W**

### APPLICATION

**BITUFLEX FR Mineral** 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. **BITUFLEX FR Mineral** can be applied to the substrate fully bonded, semi bonded or mechanically fastened, and the method of adhesion to the substrate shall be decided according to the waterproofing system design. Side laps shall be 8 cm, while end laps shall be from 12-15 cm. Loose mineral slate chips can be used to treat overlaps for aesthetical requirements. For more info on application refer to BituNil application guide.

### STORAGE & HANDLING

**BITUFLEX FR Mineral** rolls should be kept in an upright position in a flat, properly ventilated and sheltered storage area.

### STANDARD SUPPLY DATA & PALLETISING

Group 1000	Group 1005	Weight*	Standard Roll size	Rolls/ Pallet	
				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

# BITUFLEX - FR

## Fire Retardant SBS Modified Bitumen Waterproofing Membrane

C: Composite Polyester Reinforcement

CP: Low Wt. CS: Medium Wt. CX: High Wt. CZ: Heavy Duty .

Properties	Test	Unit	Test Method	Tolerance	BITUFLEX FR CXM	
Dimensional Properties	Thickness	mm	EN-1849-1	± 5%	-	
	Weight (Mass Per Unit Area)	kg/m <sup>2</sup>	EN-1849-1	± 10%	4.5	
	Determination Of Width	m	EN-1848-1	± 1%	1	
	Determination Of Length	m	EN-1848-1	± 1%	10	
	Straightness (Ortometry )	mm	EN-1848-1	-	± 10	
Compound Properties	Softening point (R&B)	° C	ASTM D- 36	Min.	130	
	Compound Elongation	%	UNI 8202/8	± 15%	1100	
Membrane Properties	Mechanical properties	Tensile Strength - Longitudinal	N/50mm	EN-12311-1	± 20%	1000
		Tensile Strength - Transverse	N/50mm	EN-12311-1	± 20%	650
		Elongation At Break - Longitudinal	%	EN-12311-1	±15	40
		Elongation At Break - Transverse	%	EN-12311-1	±15	40
		Tearing Strength - Longitudinal ( Nail-Shank )	N	EN-12310-1	± 30%	200
		Tearing Strength - Transverse( Nail-Shank )	N	EN-12310-1	± 30%	225
		Tensile Tear Resistance - Longitudinal	N	ASTM D- 5147 . D 4073	± 30%	750
		Tensile Tear Resistance - Transverse	N	ASTM D- 5147 . D 4073	± 30%	500
		Resistance to Static Loading	Kg	EN 12730 Method A	Min.	25
	Dynamic Puncturing (Impact Resistance)	mm	EN 12691 Method B	Min.	1000	
	Thermal Properties	Flow Resistance At Elevated Temperature	° C	EN-1110	Min.	110
		Flexibility At Low Temperature <sup>(1)</sup>	° C	EN-1109	-	-20 TO -15
		Dimensional Stability	%	EN-1107-1	Max.	±0.3
		Water Impermeability- Watertightness at Low pressure	60 Kpa	EN-1928 Method A	-	Passed
		Water Impermeability- Watertightness at High pressure <sup>(2)</sup>	Kpa	EN-1928 Method B	Min.	500
	Miscellaneous Properties	Water Absorption	%	ASTM D-5147	Max.	< 1
		Vapour Permeability	µ	EN 1931	-	80000
		Fatigue resistance on cracks	200 cycles	UNI 8202/13	-	Passed
			500 cycles		-	Passed
		Shear Resistance Of joints - Longitudinal	N/50mm	EN-12317-1	± 20%	1000
		Shear Resistance Of joints - Transverse	N/50mm	EN-12317-1	± 20%	650
		Thermal Ageing in air (in oven 28 days at 70 °C)	-	UNI 8202 /26	-	Passed
		Ageing Due To Atmospheric Agents (U.V Test weathering)	-	ASTM G 53 UNI 8202/29	-	Passed
		Fatigue resistance at Joints	200 cycles	UNI 8202/32	-	Passed
			500 cycles		-	Passed
		Fire Classification - Extemal Fire Performance	Class	EN 13501-5/ ENV 1187	-	B Roof(t2)
		Reaction to fire	Class	EN 13501-1	-	E
Adhesion Of Granules		%	EN-12039	Max.	≤30	
Adhesion To Concrete (Torch Applied )	N/ 50mm	Pelage UEAtc	-	40		
Resistance to root penetration	-	EN-13948	-	NPD		
Supply Data	weight	kg/m <sup>2</sup>	-	-	3 to 6	
	Thickness	mm	-	-	2 to 5	
	Roll Length	M	-	-	10	
	Roll Width	M	-	-	1	
	<b>Surface finish</b> (E: Polyethylene film S: Sand SL:Slates GR: Granule)					
	Upper Surface Finish	-	-	-	-	SL or GR
Lower Surface Finish	-	-	-	-	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/m<sup>2</sup> products.



Nile Waterproofing Material Co. S.A.E

شركة النيل للمواد العازلة ش.م.م

50, Al Khalifa Al Maamoun St. Roxy - Heliopolis, Cairo - Egypt, Tel : (202) 24511194 - 24511195 Fax: (202) 24511198

Plant: ASPPC Industrial complex - Merghem - Alexandria

Web Site: www.bitunil.com

Email: bitunil@bitunil.com



# APP OR SBS

# BITUGARDEN

High Performance Anti-Root  
APP or SBS Modified Bitumen Waterproofing Membranes  
For Roof Gardens and Terraces

## THE PRODUCT

**BITUGARDEN** is a waterproofing membrane manufactured in an advanced continuous calendaring process by saturating and coating a robust composite carrier with a waterproofing compound made of a special grade of bitumen, which is modified with polymers and special **ANTI-ROOT** chemical additives. While the polymers (APP) or (SBS) enhance the thermal, mechanical, and aging properties of the membrane compound, the mechanical characteristics of **BITUGARDEN** are established by the composite carrier made of non-woven Polyester armoured with fiberglass filaments, which acts as the reinforcement that provides the membrane with the profound mechanical properties of the Polyester and the prominent dimensional stability of Glassfiber mat.

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

## USES

Due to its special properties, **BITUGARDEN** is particularly used for roof gardens, terraces, planters, and all waterproofing applications where membrane is subject to root penetration.  
(Refer to BituNil Roof Garden System Design Ref. MG 10)

## MAJOR FEATURES

**BITUGARDEN** is a membrane specially designed to resist root puncture. This feature has been achieved by adding a special chemical additive to the bitumen compound the gives the membrane the ability to resist roots and prevent its penetration without losing any of its premium waterproofing characteristics. Even in direct contact with soil, **BITUGARDEN** does not transfer any polluting elements or present any algacide or bactericide effects.

**BITUGARDEN MINERAL** is used as Flashings for exposed up-stands in roof garden/ plaza decks, where membrane is subject to root penetration.

## SURFACE FINISH

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

- Fine Sand **BITUGARDEN- S/E**
- Polyethylene Film **BITUGARDEN- E/E**
- Mineral Slate chips or Special Granules **BITUGARDEN MINERAL**

## APPLICATION

**BITUGARDEN** is usually applied by using a propane torch. 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. **BITUGARDEN** 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

**BITUGARDEN** 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
4500	4505	4.5 Kg/ sqm	1M x 10M	25	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.

### Anti – Root APP or SBS Modified Bitumen Waterproofing Membranes.

C: Composite Polyester Reinforcement

CP: Low Wt. CS: Medium Wt. CX: High Wt. CZ: Heavy Duty .

Properties	Test	Unit	Test Method	Tolerance	BITUGARDEN APP	BITUGARDEN SBS	
					CX	CS	
Dimensional Properties	Thickness	mm	EN-1849-1	± 5%	4	4	
	Weight (Mass Per Unit Area)	kg/m <sup>2</sup>	EN-1849-1	± 10%	-	-	
	Determination Of Width	m	EN-1848-1	± 1%	1	1	
	Determination Of Length	m	EN-1848-1	± 1%	10	10	
	Straightness (Ortometry )	mm	EN-1848-1	-	± 10	± 10	
Compound Properties	Softening point (R&B)	° C	ASTM D- 36	Min.	150	125	
	Compound Elongation	%	UNI 8202/8	± 15%	-	1100	
Membrane Properties	Mechanical properties	Tensile Strength - Longitudinal	N/50mm	EN-12311-1	± 20%	1050	850
		Tensile Strength - Transverse	N/50mm	EN-12311-1	± 20%	650	550
		Elongation At Break - Longitudinal	%	EN-12311-1	±15	35	35
		Elongation At Break - Transverse	%	EN-12311-1	±15	40	35
		Tearing Strength - Longitudinal ( Nail-Shank )	N	EN-12310-1	± 30%	275	200
		Tearing Strength - Transverse( Nail-Shank )	N	EN-12310-1	± 30%	350	225
		Tensile Tear Resistance - Longitudinal	N	ASTM D- 5147 . D 4073	± 30%	850	750
		Tensile Tear Resistance - Transverse	N	ASTM D- 5147 . D 4073	± 30%	450	400
		Resistance to Static Loading	Kg	EN 12730 Method A	Min.	25	25
	Dynamic Puncturing (Impact Resistance)	mm	EN 12691 Method B	Min.	1000	750	
	Thermal Properties	Flow Resistance At Elevated Temperature	° C	EN-1110	Min.	120	100
		Flexability At Low Temperature <sup>(1)</sup>	° C	EN-1109	-	-15 to -10	-20 TO -15
		Dimensional Stability	%	EN-1107-1	Max.	±0.3	±0.3
		Water Impermeability- Watertightness at Low pressure	60 Kpa	EN-1928 Method A	-	Passed	Passed
		Water Impermeability- Watertightness at High pressure <sup>(2)</sup>	Kpa	EN-1928 Method B	Min.	500	300
	Miscellaneous Properties	Water Absorption	%	ASTM D-5147	Max.	< 1	< 1
		Vapour Permeability	μ	EN 1931	-	70000	60000
		Fatigue resistance on cracks	200 cycles	UNI 8202/13	-	Passed	Passed
			500 cycles		Passed	Passed	
		Shear Resistance Of joints - Longitudinal	N/50mm	EN-12317-1	± 20%	1050	850
		Shear Resistance Of joints - Transverse	N/50mm	EN-12317-1	± 20%	650	550
		Thermal Ageing in air (in oven 28 days at 70 °C)	-	UNI 8202 /26	-	Passed	Passed
		Ageing Due To Atmospheric Agents (U.V Test weathering)	-	ASTM G 53 UNI 8202/29	-	Passed	Passed
		Fatigue resistance at Joints	200 cycles	UNI 8202/32	-	Passed	Passed
			500 cycles		Passed	Passed	
		Fire Classification - External Fire Performance	Class	EN 13501-5/ ENV 1187	-	B Roof(t2)	B Roof(t2)
		Reaction to fire	Class	EN 13501-1	-	E	E
		Adhesion Of Granules	%	EN-12039	Max.	≤30	≤30
		Adhesion To Concrete (Torch Applied)	N/ 50mm	Pelage UEAtc	-	20	40
	Resistance to root penetration	-	EN-13948	-	Passed	Passed	
	Supply Data	weight	kg/m <sup>2</sup>	-	-	3 to 6	3 to 6
		Thickness	mm	-	-	2 to 5	2 to 5
		Roll Length	M	-	-	10	10
Roll Width		M	-	-	1	1	
<b>Surface finish</b> (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
Lower Surface Finish	-	-	-	-	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/m<sup>2</sup> products.



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# APP

# BITUTER FR Mineral

## High Performance Fire Retardant APP Modified Bitumen Waterproofing Membrane

With Composite Polyester Reinforcement

### THE PRODUCT

**BITUTER FR Mineral** is a self-protected plastomeric waterproofing membrane, manufactured in an advanced continuous calendaring process by saturating and coating a composite carrier with a waterproofing fire-retardant compound made of a special grade of bitumen, modified with APP polymers and special **FIRE RETARDING** chemical additives. While the APP polymers enhance the thermal, mechanical, and aging properties of the membrane compound, the mechanical characteristics of **BITUTER FR Mineral** are established by the composite carrier made of non-woven Polyester armoured with Glassfiber filaments, which acts as the reinforcement that provides the membrane with the profound mechanical properties of the Polyester and the prominent dimensional stability of Glassfiber mats.

The upper surfaces of **BITUTER FR Mineral** is covered with colored mineral slate chips, with an 8cm slate free side margin for overlap welding, whereas the lower surface is laminated with a thermo-fusible polyethylene film.

### USES

**BITUTER FR Mineral** can be used for special roofing and waterproofing applications with fire-retarding property requirements & subjected to significant mechanical stresses and weathering conditions.

**BITUTER FR Mineral** is used as a single layer or as a top layer in an exposed multi layer roofing system for the following roofing applications:

- Exposed roofing in civil, industrial, and military works.
- Exposed re-roofing jobs on compatible substrates.
- Under roofing clay tiles on pitched roofs where tiles are fixed with mortar
- Flashings for exposed up-stands in APP modified bitumen roofing systems.

### MAJOR FEATURES

- **Enhanced Fire Retarding Properties:** shielding the roof from both spread of flames and fire penetration.
- **Enhanced Surface Characteristics:** where the mineral granule surfacing reduces the membrane's exposure to thermal stresses, extending its service life and decelerating its aging.
- **Good Resistance to Chemicals** and industrial environment when used without protection.
- **High U.V. Resistance**
- **Excellent Isotropic Mechanical Properties** represented by:
  - Good tensile strength, tear and puncture resistance.
  - Significant dimensional stability.
  - Ideal longitudinal & transverse elongation.
  - Distinguished resistance to mechanical stresses in exposed applications.
- **Superior Performance** under a wide range of temperature fluctuation, (from -10°C to 150°C)

### SURFACE FINISH

The lower surface of **BITUTER FR Mineral** is laminated with a Polyethylene film while the upper surface is covered with one of the mineral slate chips or special granules, available in the following colors:

- Grey **BITUTER FR Mineral – GY**
- Green **BITUTER FR Mineral – GR**
- Red **BITUTER FR Mineral – R**
- white **BITUTER FR Mineral – W**

### APPLICATION

**BITUTER FR Mineral** 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. **BITUTER FR Mineral** can be applied to the substrate fully bonded, semi bonded or mechanically fastened, and the method of adhesion to the substrate shall be decided according to the waterproofing system design. Side laps shall be 8 cm, while end laps shall be from 12-15 cm. Loose mineral slate chips can be used to treat overlaps for aesthetical requirements. For more info on application refer to BituNil application guide.

### STORAGE & HANDLING

**BITUTER FR Mineral** rolls should be kept in an upright position in a flat, properly ventilated and sheltered storage area.

### STANDARD SUPPLY DATA & PALLETISING

Group 1000	Group 1005	Weight*	Standard Roll size	Rolls/ Pallet	
				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

## Fire Retardant APP Modified Bitumen Waterproofing Membrane

C: Composite Polyester Reinforcement

CP: Low Wt. CS: Medium Wt. CX: High Wt. CZ: Heavy Duty .

Properties	Test	Unit	Test Method	Tolerance	BITUTER FR CXM	
Dimensional Properties	Thickness	mm	EN-1849-1	± 5%	-	
	Weight (Mass Per Unit Area)	kg/m <sup>2</sup>	EN-1849-1	± 10%	4.5	
	Determination Of Width	m	EN-1848-1	± 1%	1	
	Determination Of Length	m	EN-1848-1	± 1%	10	
	Straightness (Ortometry )	mm	EN-1848-1	-	± 10	
Compound Properties	Softening point (R&B)	° C	ASTM D- 36	Min.	150	
	Compound Elongation	%	UNI 8202/8	± 15%	-	
Membrane Properties	Mechanical properties	Tensile Strength - Longitudinal	N/50mm	EN-12311-1	± 20%	1050
		Tensile Strength - Transverse	N/50mm	EN-12311-1	± 20%	650
		Elongation At Break - Longitudinal	%	EN-12311-1	±15	35
		Elongation At Break - Transverse	%	EN-12311-1	±15	40
		Tearing Strength - Longitudinal ( Nail-Shank )	N	EN-12310-1	± 30%	275
		Tearing Strength - Transverse( Nail-Shank )	N	EN-12310-1	± 30%	350
		Tensile Tear Resistance - Longitudinal	N	ASTM D- 5147 . D 4073	± 30%	850
		Tensile Tear Resistance - Transverse	N	ASTM D- 5147 . D 4073	± 30%	450
		Resistance to Static Loading	Kg	EN 12730 Method A	Min.	25
		Dynamic Puncturing (Impact Resistance)	mm	EN 12691 Method B	Min.	1000
	Thermal Properties	Flow Resistance At Elevated Temperature	° C	EN-1110	Min.	120
		Flexibility At Low Temperature <sup>(1)</sup>	° C	EN-1109	-	-15 to -10
		Dimensional Stability	%	EN-1107-1	Max.	±0.3
		Water Impermeability- Watertightness at Low pressure	60 Kpa	EN-1928 Method A	-	Passed
		Water Impermeability- Watertightness at High pressure <sup>(2)</sup>	Kpa	EN-1928 Method B	Min.	500
	Miscellaneous Properties	Water Absorption	%	ASTM D-5147	Max.	< 1
		Vapour Permeability	μ	EN 1931	-	70000
		Fatigue resistance on cracks	200 cycles	UNI 8202/13	-	Passed
			500 cycles		Passed	
		Shear Resistance Of joints - Longitudinal	N/50mm	EN-12317-1	± 20%	1050
Shear Resistance Of joints - Transverse		N/50mm	EN-12317-1	± 20%	650	
Thermal Ageing in air (in oven 28 days at 70 °C)		-	UNI 8202 /26	-	Passed	
Ageing Due To Atmospheric Agents (U.V Test weathering)		-	ASTM G 53 UNI 8202/29	-	Passed	
Fatigue resistance at Joints		200 cycles	UNI 8202/32	-	Passed	
		500 cycles		Passed		
Fire Classification - External Fire Performance		Class	EN 13501-5/ ENV 1187	-	B Roof(t2)	
Reaction to fire		Class	EN 13501-1	-	E	
Adhesion Of Granules		%	EN-12039	Max.	≤30	
Adhesion To Concrete ( Torch Applied )		N/ 50mm	Pelage UEAtc	-	20	
Resistance to root penetration		-	EN-13948	-	NPD	
Supply Data	weight	kg/m <sup>2</sup>	-	-	3 to 6	
	Thickness	mm	-	-	2 to 5	
	Roll Length	M	-	-	10	
	Roll Width	M	-	-	1	
	<b>Surface finish</b> (E: Polyethylene film S: Sand SL:Slates GR: Granule)					
	Upper Surface Finish	-	-	-	-	SL or GR
	Lower Surface Finish	-	-	-	-	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/m<sup>2</sup> products.



Nile Waterproofing Material Co. S.A.E

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Plant: ASPPC Industrial complex - Merghem - Alexandria

Web Site: [www.bitunil.com](http://www.bitunil.com)

Email: [bitunil@bitunil.com](mailto:bitunil@bitunil.com)

### THE PRODUCT

**NILOSHEILD APP** is a plastomeric waterproofing membrane manufactured in an advanced continuous calendaring process by saturating and coating two synthetic carriers (Glassfiber mat and nonwoven Polyester) with a waterproofing compound made of a special grade of bitumen, which is modified with APP polymers. While the polymers APP enhance the thermal, mechanical, and aging properties of the membrane compound, the mechanical characteristics of **NILOSHEILD APP** are established by the dual synthetic carriers made of non-woven Polyester and fiberglass mat, which acts as the reinforcement that provides the membrane with the profound mechanical properties of the Polyester and the prominent dimensional stability of Glassfiber mat.

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

### USES

**NILOSHEILD APP** can be used for roofing & waterproofing applications with high dimensional stability requirements and subjected to considerable mechanical stresses & Moderate weathering conditions.

**NILOSHEILD APP** is a multi-purpose waterproofing membrane particularly recommended in single or multi-layer systems for the following applications:

- Flat and sloped ballasted roofs.
- Underground structures waterproofing.
- Re-roofing works.
- Wet areas and mechanical rooms waterproofing.

**NILOSHEILD APP MINERAL** is used for exposed applications or as a cap-sheet in a multi-layer system.

### SURFACE FINISH

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

- Fine Sand **NILOSHEILD APP – S/E**
- Polyethylene Film **NILOSHEILD APP – E/E**
- Mineral Slate Chips **NILOSHEILD APP MINERAL**  
Or Special Granules

### APPLICATION

**NILOSHEILD APP** 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. **NILOSHEILD APP** can be applied to the substrate fully bonded, semi bonded or loose laid, 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

**NILOSHEILD APP** 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
3000	3005	3Kg/ sqm	1M x 10M	39	39
4000	4005	4 Kg/ sqm	1M x 10M	30	30
5000	5005	5 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.

# NEILOSHEILD APP

## APP Modified Bitumen Waterproofing Membranes With Dual Reinforcement.

Properties	Test	Unit	Test Method	Tolerance	NILOSHEILD APP	
Dimensional Properties	Thickness	mm	EN-1849-1	± 5%	4	
	Weight (Mass Per Unit Area)	kg/m <sup>2</sup>	EN-1849-1	± 10%	-	
	Determination Of Width	m	EN-1848-1	± 1%	1	
	Determination Of Length	m	EN-1848-1	± 1%	10	
	Straightness (Ortometry )	mm	EN-1848-1	-	± 10	
Compound Properties	Softening point (R&B)	° C	ASTM D- 36	Min.	150	
	Compound Elongation	%	UNI 8202/8	± 15%	-	
Membrane Properties	Mechanical properties	Tensile Strength - Longitudinal	N/50mm	EN-12311-1	± 20%	800
		Tensile Strength - Transverse	N/50mm	EN-12311-1	± 20%	500
		Elongation At Break - Longitudinal	%	EN-12311-1	±15	40
		Elongation At Break - Transverse	%	EN-12311-1	±15	45
		Tearing Strength - Longitudinal ( Nail-Shank )	N	EN-12310-1	± 30%	200
		Tearing Strength - Transverse( Nail-Shank )	N	EN-12310-1	± 30%	250
		Tensile Tear Resistance - Longitudinal	N	ASTM D- 5147 . D 4073	± 30%	500
		Tensile Tear Resistance - Transverse	N	ASTM D- 5147 . D 4073	± 30%	375
		Resistance to Static Loading	Kg	EN 12730 Method A	Min.	15
	Dynamic Puncturing (Impact Resistance)	mm	EN 12691 Method B	Min.	500	
	Thermal Properties	Flow Resistance At Elevated Temperature	° C	EN-1110	Min.	100
		Flexibility At Low Temperature <sup>(1)</sup>	° C	EN-1109	-	-10 to -5
		Dimensional Stability	%	EN-1107-1	Max.	±0.3
		Water Impermeability- Watertightness at Low pressure	60 Kpa	EN-1928 Method A	-	Passed
		Water Impermeability- Watertightness at High pressure <sup>(2)</sup>	Kpa	EN-1928 Method B	Min.	300
	Miscellaneous Properties	Water Absorption	%	ASTM D-5147	Max.	< 1
		Vapour Permeability	µ	EN 1931	-	40000
		Fatigue resistance on cracks	200 cycles	UNI 8202/13	-	-
			500 cycles		-	-
		Shear Resistance Of joints - Longitudinal	N/50mm	EN-12317-1	± 20%	800
		Shear Resistance Of joints - Transverse	N/50mm	EN-12317-1	± 20%	500
		Thermal Ageing in air (in oven 28 days at 70 °C)	-	UNI 8202 /26	-	Passed
		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
		Reaction to fire	Class	EN 13501-1	-	E
		Adhesion Of Granules	%	EN-12039	Max.	≤30
Adhesion To Concrete ( Torch Applied )		N/ 50mm	Pelage UEAtc	-	20	
Resistance to root penetration	-	EN-13948	-	NPD		
Supply Data	weight	kg/m <sup>2</sup>	-	-	3 to 6	
	Thickness	mm	-	-	2 to 5	
	Roll Length	M	-	-	10	
	Roll Width	M	-	-	1	
	<b>Surface finish</b> (E: Polyethylene film S: Sand SL:Slates GR: Granule)					
	Upper Surface Finish	-	-	-	-	S or E or SL or GR
Lower Surface Finish	-	-	-	-	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/m<sup>2</sup> products.



Nile Waterproofing Material Co. S.A.E

شركة النيل للمواد العازلة ش.م.م

50, Al Khalifa Al Maamoun St. Roxy - Heliopolis, Cairo - Egypt, Tel : (202) 24511194 - 24511195 Fax: (202) 24511198

Plant: ASPPC Industrial complex - Merghem - Alexandria

Web Site: [www.bitunil.com](http://www.bitunil.com)

Email: [bitunil@bitunil.com](mailto:bitunil@bitunil.com)



# SBS

# NILOSHEILD SBS

## SBS Modified Bitumen Waterproofing Membrane

With Dual Reinforcement (Glassfiber & Nonwoven Polyester)

### THE PRODUCT

**NILOSHEILD SBS** is an elastomeric waterproofing membrane manufactured in an advanced continuous calendaring process by saturating and coating two synthetic carriers (Glassfiber mat and nonwoven Polyester) with a waterproofing compound made of a special grade of bitumen, which is modified with SBS polymers. While the polymers SBS enhance the thermal, mechanical, and aging properties of the membrane compound, the mechanical characteristics of **NILOSHEILD SBS** are established by the dual synthetic carriers made of non-woven Polyester and fiberglass mat, which acts as the reinforcement that provides the membrane with the profound mechanical properties of the Polyester and the prominent dimensional stability of Glassfiber mat.

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

### USES

**NILOSHEILD SBS** can be used for roofing & waterproofing applications with high dimensional stability requirements and subjected to movement, considerable mechanical stresses & moderate weathering conditions.

**NILOSHEILD SBS** is a multi-purpose waterproofing membrane particularly recommended in single or multi-layer systems for the following applications:

- Flat and sloped ballasted roofs.
- Underground structures waterproofing.
- Re-roofing works.
- Wet areas and mechanical rooms waterproofing.

**NILOSHEILD SBS MINERAL** is used for exposed applications or as a cap-sheet in a multi-layer system.

### SURFACE FINISH

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

- Fine Sand **NILOSHEILD SBS– S/E**
- Polyethylene Film **NILOSHEILD SBS– E/E**
- Mineral Slate Chips **NILOSHEILD SBS MINERAL**  
Or Special Granules

### APPLICATION

**NILOSHEILD SBS** 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. **NILOSHEILD SBS** can be applied to the substrate fully bonded, semi bonded or loose laid, 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

**NILOSHEILD SBS** 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
3000	3005	3Kg/ sqm	1M x 10M	39	39
4000	4005	4 Kg/ sqm	1M x 10M	30	30
5000	5005	5 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.

# NEILOSHEILD SBS

## SBS Modified Bitumen Waterproofing Membranes With Dual Reinforcement.

Properties	Test	Unit	Test Method	Tolerance	NILOSHEILD SBS	
Dimensional Properties	Thickness	mm	EN-1849-1	± 5%	4	
	Weight (Mass Per Unit Area)	kg/m <sup>2</sup>	EN-1849-1	± 10%	-	
	Determination Of Width	m	EN-1848-1	± 1%	1	
	Determination Of Length	m	EN-1848-1	± 1%	10	
	Straightness (Ortometry )	mm	EN-1848-1	-	± 10	
Compound Properties	Softening point (R&B)	° C	ASTM D- 36	Min.	110	
	Compound Elongation	%	UNI 8202/8	± 15%	900	
Membrane Properties	Mechanical properties	Tensile Strength - Longitudinal	N/50mm	EN-12311-1	± 20%	800
		Tensile Strength - Transverse	N/50mm	EN-12311-1	± 20%	500
		Elongation At Break - Longitudinal	%	EN-12311-1	±15	40
		Elongation At Break - Transverse	%	EN-12311-1	±15	45
		Tearing Strength - Longitudinal ( Nail-Shank )	N	EN-12310-1	± 30%	200
		Tearing Strength - Transverse( Nail-Shank )	N	EN-12310-1	± 30%	250
		Tensile Tear Resistance - Longitudinal	N	ASTM D- 5147 . D 4073	± 30%	500
		Tensile Tear Resistance - Transverse	N	ASTM D- 5147 . D 4073	± 30%	375
		Resistance to Static Loading	Kg	EN 12730 Method A	Min.	15
	Dynamic Puncturing (Impact Resistance)	mm	EN 12691 Method B	Min.	500	
	Thermal Properties	Flow Resistance At Elevated Temperature	° C	EN-1110	Min.	90
		Flexibility At Low Temperature <sup>(1)</sup>	° C	EN-1109	-	-10 to -5
		Dimensional Stability	%	EN-1107-1	Max.	±0.3
		Water Impermeability- Watertightness at Low pressure	60 Kpa	EN-1928 Method A	-	Passed
		Water Impermeability- Watertightness at High pressure <sup>(2)</sup>	Kpa	EN-1928 Method B	Min.	300
	Miscellaneous Properties	Water Absorption	%	ASTM D-5147	Max.	< 1
		Vapour Permeability	µ	EN 1931	-	40000
		Fatigue resistance on cracks	200 cycles	UNI 8202/13	-	-
			500 cycles		-	-
		Shear Resistance Of joints - Longitudinal	N/50mm	EN-12317-1	± 20%	800
		Shear Resistance Of joints - Transverse	N/50mm	EN-12317-1	± 20%	500
		Thermal Ageing in air (in oven 28 days at 70 °C)	-	UNI 8202 /26	-	Passed
		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
		Reaction to fire	Class	EN 13501-1	-	E
		Adhesion Of Granules	%	EN-12039	Max.	≤30
		Adhesion To Concrete ( Torch Applied )	N/ 50mm	Pelage UEAtc	-	40
	Resistance to root penetration	-	EN-13948	-	NPD	
	Supply Data	weight	kg/m <sup>2</sup>	-	-	3 to 6
		Thickness	mm	-	-	2 to 5
		Roll Length	M	-	-	10
Roll Width		M	-	-	1	
<b>Surface finish</b> (E: Polyethylene film S: Sand SL:Slates GR: Granule)						
Upper Surface Finish		-	-	-	-	S or E or SL or GR
Lower Surface Finish	-	-	-	-	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/m<sup>2</sup> products.



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شركة النيل للمواد العازلة ش.م.م

50, Al Khalifa Al Maamoun St. Roxy - Heliopolis, Cairo - Egypt, Tel : (202) 24511194 - 24511195 Fax: (202) 24511198

Plant: ASPPC Industrial complex - Merghem - Alexandria

Web Site: [www.bitunil.com](http://www.bitunil.com)

Email: [bitunil@bitunil.com](mailto:bitunil@bitunil.com)



# SBS

## NILO-STICK 1000

SELF-ADHESIVE SBS BITUMEN MEMBRANE

### PROPERTIES

- 1- Safe in application, no torch used, no hazardous fumes involved.
- 2- Easy to apply.
- 3- No special tools needed for application. Applicator tools comprise a brush, a cutter and a rubber roller.
- 4- Suitable for roofing and re roofing of historical structures, combustible deck structures, health care and educational facilities.
- 5- Fiberglass reinforcement ensures maximum dimensional stability to the membrane
- 6- Reliable barrier against vapor and water above and below ground.
- 7- Provides protection for sub structure against corrosive ground water and salts.
- 8- Selvage strip provides bitumen to bitumen seal ensuring water tightness at longitudinal joints.

### APPLICATION TEMPERATURE

Ideal Application temperature is 10 - 40 °C. For lower temperatures it is essential to heat the primed surface prior to application using a torch or hot air. At above 40 °C it may be difficult to remove the release film and material need to be relocated to a cooler area.

### PACKAGING & STORING

Roll Size: 20M X 1M

#### Storage:

- 6 Months in original packaging, stored in cool, dry conditions, protected against weathering. Open package immediately before laying.
- Store vertically, never stacked. If stored at temperature below 20 °C, leave exposed to warmer temperatures before application for 6-8 hours.

### DESCRIPTION

**Nilo-Stick 1000** is a self-adhesive, cold applied SBS modified waterproofing membrane, with a Fiberglass carrier. It has a release film on the under layer while the upper surface is covered with any of the following surface finish material:

- |                     |                                  |
|---------------------|----------------------------------|
| - Nilo-Stick 1000   | Polyethylene film 8              |
| - Nilo-Stick 1000 H | Polypropylene film 25            |
| - Nilo-Stick 1000 X | Cross Laminated Polyethylene 100 |
| - Nilo-Stick 1000 A | Aluminum film                    |

### USES

#### Nilo-Stick 1000

- 1- Bathrooms, Kitchens, and wet areas waterproofing.
- 2- Base layer in a double layer roofing/ waterproofing system applications.
- 3- Waterproofing of balconies.

#### Nilo-Stick 1000H

- 4- All Above uses in addition to Waterproofing of partially buried walls, cold pipes, tanks, and irrigation ditches.

#### Nilo-Stick 1000X

- 5- All above uses in addition to Foundations waterproofing where cross lamination film enhances puncture and impact resistance.

#### Nilo-Stick 1000A

- 6- Top layer in a multilayer system or as a single layer in specific exposed applications, where the aluminum surfacing enhances solar reflectivity.

### INSTALLATION

#### A- Priming

- a. All surfaces to receive membrane must be clean, dry, and free of any oils or loose material, and must receive a coat of primer. Allow primer to completely cure (2- 6 hours), and apply membrane no later than 24 hrs from priming. Re-prime areas if contaminated by dust.

#### B- Fixing Membrane

- a. Peel back the release film no more than 30 cm at a time, with adhesive side facing primed surface.
- b. Press down the membrane against the substrate with a rubber/ wooden roller, starting from center to side edges in order to expel any entrapped air.
- c. For vertical application, installation shall be in approximately 2.5M manageable lengths.

#### C- Overlaps

- a. Membranes are produced with selvage to facilitate bitumen to bitumen strong lap joint.
- b. Side laps shall be 7-10cm, and end laps 15cm min.
- c. After removing selvage release film, press down firmly against side and end laps, with the help of a light roller.

#### D- Protection against backfill

- a. Membrane should always be protected to avoid damage caused by other trades, backfill material, tools, or earth moving equipment.
- b. "Nilo-board" asphalt impregnated protection board, by BituNil, shall be applied, spot bonded, to vertical and horizontal surfaces following membrane installation. Horizontal surfaces can receive protective screeds, or concrete instead of the protection board.

# NILO-STICK 1000

Self –Adhesive SBS Modified Bitumen Waterproofing Membrane

NILO-STICK 1000  
NILO-STICK 1000 H  
NILO-STICK 1000 X  
NILO-STICK 1000 A

Properties	Test	Unit	Test Method	Tolerance	NILOSTICK 1000	NILOSTICK 1000 H	NILOSTICK 1000 X	NILOSTICK 1000 A	
Dimensional Properties	Thickness	mm	EN-1849-1	± 5%	1.5	1.5	1.5	1.5	
	Weight (Mass Per Unit Area)	kg/m <sup>2</sup>	EN-1849-1	± 10%	-	-	-	-	
	Determination Of Width	m	EN-1848-1	± 1%	1	1	1	1	
	Determination Of Length	m	EN-1848-1	± 1%	10	10	10	10	
	Straightness (Ortometry )	mm	EN-1848-1	-	± 10	± 10	± 10	± 10	
Compound Properties	Softening point (R&B)	°C	ASTM D- 36	Min.	70	70	70	70	
	Compound Elongation	%	UNI 8202/8	± 15%	1200	1200	1200	1200	
Membrane Properties	Mechanical properties	Tensile Strength - Longitudinal	N/50mm	EN-12311-1	± 20%	400	400	400	400
		Tensile Strength - Transverse	N/50mm	EN-12311-1	± 20%	300	300	300	300
		Elongation At Break - Longitudinal	%	EN-12311-1	Min.	2	2	2	2
		Elongation At Break - Transverse	%	EN-12311-1	Min.	2	2	2	2
		Tearing Strength - Longitudinal ( Nail-Shank )	N	EN-12310-1	± 30%	100	125	125	100
		Tearing Strength - Transverse( Nail-Shank )	N	EN-12310-1	± 30%	100	125	125	100
		Tensile Tear Resistance - Longitudinal	N	ASTM D- 5147 . D 4073	± 30%	420	420	420	420
		Tensile Tear Resistance - Transverse	N	ASTM D- 5147 . D 4073	± 30%	275	275	275	275
		Resistance to Static Loading	Kg	EN 12730 Method A	Min.	7	7	7	7
	Dynamic Puncturing (Impact Resistance)	mm	EN 12691 Method B	Min.	200	200	200	200	
	Thermal Properties	Flow Resistance At Elevated Temperature	°C	EN-1110	Min.	60	60	60	60
		Flexibility At Low Temperature <sup>(1)</sup>	°C	EN-1109	-	-25 TO -20	-25 TO -20	-25 TO -20	-25 TO -20
		Dimensional Stability	%	EN-1107-1	Max.	±0.1	±0.1	±0.1	±0.1
		Water Impermeability- Watertightness at Low pressure	60 Kpa	EN-1928 Method A	-	Passed	Passed	Passed	Passed
		Water Impermeability- Watertightness at High pressure <sup>(2)</sup>	Kpa	EN-1928 Method B	Min.	100	100	100	100
	Miscellaneous Properties	Water Absorption	%	ASTM D-5147	Max.	< 1	< 1	< 1	< 1
		Vapour Permeability	μ	EN 1931	-	-	-	-	-
		Fatigue resistance on cracks	200 cycles	UNI 8202/13	-	-	-	-	-
			500 cycles		-	-	-	-	
		Shear Resistance Of joints - Longitudinal	N/50mm	EN-12317-1	± 20%	400	400	400	400
		Shear Resistance Of joints - Transverse	N/50mm	EN-12317-1	± 20%	300	300	300	300
		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
		Reaction to fire	Class	EN 13501-1	-	E	E	E	E
		Adhesion Of Granules	%	EN-12039	Max.	-	-	-	-
	Adhesion To Concrete	N/ 50mm	Pelage UEAtc	-	25	25	25	25	
	Resistance to root penetration	-	EN-13948	-	-	-	-	-	
	Supply Data	weight	kg/m <sup>2</sup>	-	-	1.5 / 1.7	1.5 / 1.7	1.5 / 1.7	1.5 / 1.7
		Thickness	mm	-	-	1.5 / 1.7	1.5 / 1.7	1.5 / 1.7	1.5 / 1.7
		Roll Length	M	-	-	20	20	20	20
Roll Width		M	-	-	1	1	1	1	
Surface finish (E: Polyethylene S: Sand PP: Polypropylene film XL-PE: Cross Lminated Polyethylene)									
Upper Surface Finish		-	-	-	E or S	PP Film	X-L PE	Aluminum	
Lower Surface Finish		-	-	-	Silicone Release Film	Silicone Release Film	Silicone Release Film	Silicone Release Film	

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/m<sup>2</sup> products.



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شركة النيل للمواد العازلة ش.م.م

50, Al Khalifa Al Maamoun St. Roxy - Heliopolis, Cairo - Egypt, Tel : (202) 24511194 - 24511195 Fax: (202) 24511198

Plant: ASPPC Industrial complex - Merghem - Alexandria

Web Site: www.bitunil.com

Email: bitunil@bitunil.com



# SBS

# NILO-STICK 1500

SELF-ADHESIVE SBS BITUMEN MEMBRANE

## PROPERTIES

1- Safe in application, no torch used, no hazardous fumes involved.

2- Easy to apply.

3- No special tools needed for application.

Applicator tools comprise a brush, a cutter and a rubber roller.

4- Suitable for roofing and re roofing of historical structures, combustible deck structures, health care and educational facilities.

5- Polyester reinforcement establishes membrane high tensile strength, puncture resistance, and dimensional stability.

6- Its flexible membrane that easily accommodates substrate movement.

7- Excellent barrier against vapor and water above the below ground.

8- Provides protection for sub structure against corrosive ground water and salts.

9- Selvage strip provides bitumen to bitumen seal ensuring water tightness at longitudinal joints.

## APPLICATION TEMPERATURE

Ideal Application temperature is 10 – 40 °C. For lower temperature it is essential to heat the primed surface prior to application using a torch or hot air. At above 40 °C it may be difficult to remove the release film and material need to be relocated to a cooler area.

## PACKAGING & STORING

Roll Size: 20M X 1M

### Storage:

- 6 Months in original packaging, stored in cool, dry conditions, protected against weathering. Open package immediately before laying.
- Store vertically, never stacked. If stored at temperature below 20 °C, leave exposed to warmer temperatures before application for 6-8 hours.

## DESCRIPTION:

NILO-STICK 1500 is a self-adhesive, cold applied SBS waterproofing membrane, with a composite polyester carrier, It has a release film on the under layer while the upper surface is covered with one of the following surface finish material:

-Nilo-Stick 1500	polyethylene film 8 μ
-Nilo-Stick 1500 H	polyethylene film 25 μ
-Nilo-Stick 1500 X	Cross laminated polyethylene 100 μ
-Nilo-Stick 1500 Mineral	Mineral Granules

## USES

### Nilo-Stick 1500

- 1- Waterproofing of protected roofs.
- 2- Waterproofing of concrete, masonry, and wood surfaces.
- 3- Waterproofing of cold pipes, ridges and hips, and planter boxes.
- 4- Waterproofing of footings and foundations walls above and below grade.

### Nilo-Stick 1500 H

- 5- All Above uses in addition to:  
Retaining walls, Sub-structures waterproofing, and basements tanking, where the polypropylene film enhances puncture and impact resistance.

### Nilo-Stick 1500 X

- 6- All above uses in addition to:  
Heavy duty civil works applications such as bridge deck waterproofing culverts, tunnels, and road ways waterproofing. Where the cross laminated film enhances dimensional stability ,tear strength ,puncture and impact resistance .

### Nilo-Stick 1500 Mineral

- 7-The mineral surfaced membrane is ideal as a top finish layer in a double layer roofing system on exposed roofs, and flashing of up-stands and parapets.

## INSTALLATION

### A- Priming

- a. All surfaces to receive membrane must be clean, dry, and free of any oils or loose material, and must receive a coat of primer. Allow primer to completely cure (2- 6 hours), and apply membrane no later than 24 hrs from priming. Re-prime areas if contaminated by dust.

### B- Fixing Membrane

- a. Peel back the release film no more than 30 cm at a time, with adhesive side facing primed surface.
- b. Press down the membrane against the substrate with a rubber/ wooden roller, starting from center to side edges in order to expel any entrapped air.
- c. For vertical application, installation shall be in approximately 2.5M manageable lengths.

### C- Overlaps

- a. Membranes are produced with selvage to facilitate bitumen to bitumen strong lap joint.
- b. Side laps shall be 7-10cm, and end laps 15cm min.
- c. After removing selvage release film, press down firmly against side and end laps, with the help of a light roller.

### D- Protection against backfill

- a. Membrane should always be protected to avoid damage caused by other trades, backfill material, tools, or earth moving equipment.
- b. "Nilo-board" asphalt impregnated protection board, by BituNil, shall be applied, spot bonded, to vertical and horizontal surfaces following membrane installation. Horizontal surfaces can receive protective screeds, or concrete instead of the protection board.

# NILO-STICK 1500

Self –Adhesive SBS Modified Bitumen Waterproofing Membrane

NILO-STICK 1500  
NILO-STICK 1500 H  
NILO-STICK 1500 X  
NILO-STICK 1500 Mineral

Properties	Test	Unit	Test Method	Tolerance	NILOSTICK 1500	NILOSTICK 1500 H	NILOSTICK 1500 X	NILOSTICK 1500 Mineral	
Dimensional Properties	Thickness	mm	EN-1849-1	± 5%	2	2	2	-	
	Weight (Mass Per Unit Area)	kg/m <sup>2</sup>	EN-1849-1	± 10%	-	-	-	3	
	Determination Of Width	m	EN-1848-1	± 1%	1	1	1	1	
	Determination Of Length	m	EN-1848-1	± 1%	10	10	10	10	
	Straightness (Ortometry )	mm	EN-1848-1	-	± 10	± 10	± 10	± 10	
Compound Properties	Softening point (R&B)	° C	ASTM D- 36	Min.	70	70	70	70	
	Compound Elongation	%	UNI 8202/8	± 15%	1200	1200	1200	1200	
Membrane Properties	Mechanical properties	Tensile Strength - Longitudinal	N/50mm	EN-12311-1	± 20%	400	425	600	600
		Tensile Strength - Transverse	N/50mm	EN-12311-1	± 20%	300	325	400	400
		Elongation At Break - Longitudinal	%	EN-12311-1	±15	30	30	40	40
		Elongation At Break - Transverse	%	EN-12311-1	±15	45	45	45	50
		Tearing Strength - Longitudinal ( Nail-Shank )	N	EN-12310-1	± 30%	175	175	175	175
		Tearing Strength - Transverse( Nail-Shank )	N	EN-12310-1	± 30%	300	300	300	300
		Tensile Tear Resistance - Longitudinal	N	ASTM D- 5147 . D 4073	± 30%	400	400	725	750
		Tensile Tear Resistance - Transverse	N	ASTM D- 5147 . D 4073	± 30%	225	225	350	400
		Resistance to Static Loading	Kg	EN 12730 Method A	Min.	10	10	20	20
	Dynamic Puncturing (Impact Resistance)	mm	EN 12691 Method B	Min.	400	400	700	750	
	Thermal Properties	Flow Resistance At Elevated Temperature	° C	EN-1110	Min.	60	60	60	60
		Flexability At Low Temperature <sup>(1)</sup>	° C	EN-1109	-	-25 TO -20	-25 TO -20	-25 TO -20	-25 TO -20
		Dimensional Stability	%	EN-1107-1	Max.	±0.3	±0.3	±0.3	±0.3
		Water Impermeability- Watertightness at Low pressure	60 Kpa	EN-1928 Method A	-	Passed	Passed	Passed	Passed
		Water Impermeability- Watertightness at High pressure <sup>(2)</sup>	Kpa	EN-1928 Method B	Min.	100	100	200	200
	Miscellaneous Properties	Water Absorption	%	ASTM D-5147	Max.	< 1	< 1	< 1	< 1
		Vapour Permeability	µ	EN 1931	-	-	-	-	-
		Fatigue resistance on cracks	200 cycles	UNI 8202/13	-	Passed	Passed	Passed	Passed
			500 cycles		Passed	Passed	Passed	Passed	
		Shear Resistance Of joints - Longitudinal	N/50mm	EN-12317-1	± 20%	400	425	600	600
		Shear Resistance Of joints - Transverse	N/50mm	EN-12317-1	± 20%	300	325	400	400
		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	-	Passed	Passed	Passed	Passed
			500 cycles		Passed	Passed	Passed	Passed	
		Fire Classification - External Fire Performance	Class	EN 13501-5/ ENV 1187	-	F Roof	F Roof	F Roof	F Roof
		Reaction to fire	Class	EN 13501-1	-	E	E	E	E
	Adhesion Of Granules	%	EN-12039	Max.	-	-	-	≤30	
	Adhesion To Concrete	N/ 50mm	Pelage UEAtc	-	25	25	25	25	
	Resistance to root penetration	-	EN-13948	-	-	-	-	-	
	Supply Data	weight	kg/m2	-	-	2	2	2	3
		Thickness	mm	-	-	2	2	2	3
		Roll Length	M	-	-	20 / 15	20 / 15	20 / 15	10
		Roll Width	M	-	-	1	1	1	1
		<b>Surface finish (E: Polyethylene film S: Sand SL:Slates GR: Granule XL-PE: Cross Lminated Polyethylene)</b>							
		Upper Surface Finish	-	-	-	E or S	PP Film	X-L PE	SL or GR
Lower Surface Finish		-	-	-	Silicone Release Film	Silicone Release Film	Silicone Release Film	Silicone Release Film	

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

شركة النيل للمواد العازلة ش.م.م

50, Al Khalifa Al Maamoun St. Roxy - Heliopolis, Cairo - Egypt, Tel : (202) 24511194 - 24511195 Fax: (202) 24511198

Plant: ASPPC Industrial complex - Merghem - Alexandria

Web Site: www.bitunil.com

Email: bitunil@bitunil.com