APP BITUBOND Mineral

Heavy Duty APP Modified Bitumen Waterproofing Membranes.
With Composite Polyester Reinforcement

THE PRODUCT

BITUBOND Mineral are self-protected plastomeric waterproofing membranes, 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 APP polymers. While the APP polymers enhance the thermal, mechanical, and aging properties of the membrane compound, the mechanical characteristics of **BITUBOND 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 **BITUBOND 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

BITUBOND Mineral can be used for heavy duty roofing and waterproofing applications with high dimensional stability requirements & subjected to extreme weathering conditions.
BITUBOND Mineral is used as a top layer in an exposed multi layer roofing system where there is a need to satisfy specific aesthetical requirements and/or for exposed systems for the following roofing applications:

- Exposed roofing in civil, industrial, and military works where the roof finish needs to blend harmoniously with the surrounding environment.
- 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 Surface Characteristics:** where the slate chips 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 -20◦C to 150◦C)
- **Fire Retarding Properties.**

SURFACE FINISH

The lower surface of **BITUBOND 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 **BITUBOND Mineral** – GY
- Green **BITUBOND Mineral** – GR
- Red **BITUBOND Mineral** – R
- white **BITUBOND Mineral** – W

APPLICATION

BITUBOND 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. **BITUBOND 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

BITUBOND 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
5000	5005	5.0 Kg/sqm	1M X 10M	23	25
5500	5505	5.5 Kg/sqm	1M X 8 M	23	25
6000	-	6.0 Kg/sqm	1M X 5 M	33	-

*Weight tolerance as per UEAtc. Directives for Group 1000 and UEAtc. ± 5% for Group 1005

BITUBOND
Mineral

BITUBOND 15 Mineral
BITUBOND 20 Mineral

APP 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	BITUBOND 15 CZM	BITUBOND 20 CZM
Dimensional Properties		Thickness	mm	EN-1849-1	± 5%	-	-
		Weight (Mass Per Unit Area)	kg/m^2	EN-1849-1	± 10%	5	5
		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	150
		Compound Elongation	%	UNI 8202/8	± 15%	-	-
Membrane Properties	Mechanical properties	Tensile Strength - Longitudinal	N/50mm	EN-12311-1	± 20%	1200	1200
		Tensile Strength - Transverse	N/50mm	EN-12311-1	± 20%	1100	1100
		Elongation At Break - Longitudinal	%	EN-12311-1	±15	40	40
		Elongation At Break - Transverse	%	EN-12311-1	±15	45	45
		Tearing Strength - Longitudinal (Nail-Shank)	N	EN-12310-1	± 30%	300	300
		Tearing Strength - Transverse(Nail-Shank)	N	EN-12310-1	± 30%	400	400
		Tensile Tear Resistance - Longitudinal	N	ASTM D- 5147 . D 4073	± 30%	950	950
		Tensile Tear Resistance - Transverse	N	ASTM D- 5147 . D 4073	± 30%	600	600
		Resistance to Static Loading	Kg	EN 12730 Method A	Min.	30	30
		Dynamic Puncturing (Impact Resistance)	mm	EN 12691 Method B	Min.	1200	1200
	Thermal Properties	Flow Resistance At Elevated Temprature	°C	EN-1110	Min.	120	130
		Flexability At Low Temprature(1)	°C	EN-1109	-	-15 TO -20	≤-20
		Dimensional Stability	%	EN-1107-1	Max.	±0.3	±0.3
		Water Impermeablility- Watertightness at Low pressure	60 Kpa	EN-1928 Method A	-	Passed	Passed
		Water Impermeablility- Watertightness at High pressure(2)	Kpa	EN-1928 Method B	Min.	800	800
	Miscellaneous Properties	Water Absorption	%	ASTM D-5147	Max.	< 1	< 1
		Vapour Permeability	μ	EN 1931	-	80000	80000
		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%	1200	1200
		Shear Resistance Of joints - Transverse	N/50mm	EN-12317-1	± 20%	1100	1100
		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 - Extemal 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	20
		Resistance to root pentration	-	EN-13948	-	NPD	NPD
Supply Data		weight	kg/m2	-	-	5 to 6	5 to 6
		Thickness	mm	-	-	4 to 5	4 to 5
		Roll Length	M	-	-	10	10
		Roll Width	M	-	-	1	1
		Surface finish (E: Polyethylene film S: Sand SL:Slates GR: Granule)					
		Upper Surface Finish	-	-	-	SL or GR	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/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**