



SBS

BITUGUM

Smooth

THE PRODUCT

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

USES

BITUGUM membranes are used for heavy duty roofing and waterproofing applications with high dimensional stability requirements & subjected to excessive movements induced by stresses, and to extreme weathering conditions.

BITUGUM membranes are particularly recommended for the following applications:

- Protected roofing subject to high movements such as pre-stressed, pre-cast concrete, or steel structures.
- Roofing for substrates where high vapor impermeability is required.
- Protected waterproofing for civil engineering applications such as hydraulic works, parking decks, bridges, viaducts, tunnels, waste dumps, etc.

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

MAJOR FEATURES

- **Outstanding compound elastic behavior**, which enables the compound to recover 100% of its original dimensions after 100% elongation.
- **Substantial Dimensional Stability:** The composite reinforcement provides the membrane with superior dimensional stability properties when exposed to high temperature during both production process and application in the field.
- **Excellent Resistance to Chemicals:** the superior quality bitumen compound used in **BITUGUM** makes it resistant to the attack by acids, salts and basic solutions usually found in the soil and rainwater.
- **Superior Isotropic Mechanical Properties:** the composite reinforcement provides **BITUGUM** with isotropic mechanical properties, which enables It to exhibit uniform behavior in all directions unlike other types of non-woven polyester.
- **Enormous Resistance**, to impact loads, tear, and puncture.
- **Optimum performance** under a wide range of temperature fluctuation, (from -30°C to 130°C)

SURFACE FINISH

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

- Fine Sand **BITUGUM – S/E**
- Polyethylene Film **BITUGUM – E/E**
- Mineral Slate Chips or Special Granules
(refer to **BITUGUM Mineral** separate TDS)

APPLICATION

BITUGUM 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. **BITUGUM** 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

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

STANDARD SUPPLY DATA & PALLETISING

Group 100	Thickness *	Standard Roll Size	Rolls / Pallet
			Group 100
300	3mm	1M x 10M	28
400	4mm	1M x 10M	23
500	5mm	1M x 8M	23

**Thickness tolerance as per UEAtc. Directives for Group 100*

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.

BITUGUM Smooth

SBS Modified Bitumen Waterproofing Membranes

C: Composite Polyester Reinforcement

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

BITUGUM 20

BITUGUM 25

BITUGUM 30

PROPERTIES	TEST	UNIT	TEST METHOD	TOLERANCE	BITUGUM 20 CX	BITUGUM 25 CX	BITUGUM 30 CX	
Dimensional Properties	Thickness	mm	EN-1849-1	± 5%	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	
	Determination Of Length	m	EN-1848-1	± 1%	10	10	10	
	Straightness (Ortometry)	mm	EN-1848-1	-	± 10	± 10	± 10	
Compound Properties	Softening point (R&B)	° C	ASTM D- 36	Min.	130	130	130	
	Compound Elongation	%	UNI 8202/8	± 15%	1200	1500	1600	
Membrane Properties	Mechanical properties	Tensile Strength - Longitudinal	N/50mm	EN-12311-1	± 20%	1000	1000	1000
		Tensile Strength - Transverse	N/50mm	EN-12311-1	± 20%	650	650	650
		Elongation At Break - Longitudinal	%	EN-12311-1	±15	40	40	40
		Elongation At Break - Transverse	%	EN-12311-1	±15	40	40	40
		Tearing Strength - Longitudinal (Nail-Shank)	N	EN-12310-1	± 30%	250	250	275
		Tearing Strength - Transverse (Nail-Shank)	N	EN-12310-1	± 30%	325	325	350
		Tensile Tear Resistance - Longitudinal	N	ASTM D- 5147 . D 4073	± 30%	750	750	750
		Tensile Tear Resistance - Transverse	N	ASTM D- 5147 . D 4073	± 30%	500	500	500
		Resistance to Static Loading	Kg	EN 12730 Method A	Min.	25	25	25
	Thermal Properties	Dynamic Puncturing (Impact Resistance)	mm	EN 12691 Method B	Min.	1000	1000	1000
		Flow Resistance At Elevated Temperature	° C	EN-1110	Min.	110	120	120
		Flexibility At Low Temperature (1)	° C	EN-1109	-	-25 to -20	-30 to -25	≤ -30
		dimensional Stability	%	EN-1107-1	Max.	±0.3	±0.3	±0.3
		Water Impermeability- Water tightness at Low pressure	60 Kpa	EN-1928 Method A	-	Passed	Passed	Passed
	Miscellaneous Properties	Water Impermeability- Water tightness at High pressure (2)	Kpa	EN-1928 Method B	Min.	500	500	500
		Water Absorption	%	ASTM D-5147	Max.	< 1	< 1	< 1
		Vapour Permeability	μ	EN 1931	-	80000	80000	80000
		Fatigue resistance on cracks	500 cycles	UNI 8202/13	-	Passed	Passed	Passed
			200 cycles		Passed	Passed	Passed	
		Shear Resistance Of joints - Longitudinal	N/50mm	EN-12317-1	± 20%	1000	1000	1000
		Shear Resistance Of joints - Transverse	N/50mm	EN-12317-1	± 20%	650	650	650
		Thermal Ageing in air (in oven 28 days at 70°C)	-	UNI 8202 /26	-	Passed	Passed	Passed
		Ageing Due To Atmospheric Agents (U.V Test weathering)	-	ASTM G 53 UNI 8202/29	-	Passed	Passed	Passed
		Fatigue resistance at Joints	200 cycles	UNI 8202/32	-	Passed	Passed	Passed
			500 cycles		Passed	Passed	Passed	
		Fire Classification - External Fire Performance	Class	EN 13501-5/ ENV 1187	-	B Roof(t2)	B Roof(t2)	B Roof(t2)
		Reaction to fire	Class	EN 13501-1	-	E	E	E
		Adhesion Of Granules	%	EN-12039	Max.	-	-	-
	Adhesion To Concrete (Torch Applied)	N/ 50mm	Pelage UEAtc	-	40	40	40	
	Resistance to root penetration	-	EN- 13948	-	NPD	NPD	NPD	
	Supply Data	weight	kg/m ²	-	-	4 to 6	4 to 6	4 to 6
		Thickness	mm	-	-	3 to 5	3 to 5	3 to 5
		Roll Length	M	-	-	10	10	10
Roll Width		M	-	-	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	
	Lower Surface Finish	-	-	-	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.

(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.



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