GUM SP

PLASTOMERIC BITUMINOUS MEMBRANES (APP -10°C) FOR BRIDGE-DECKS & UNDERGROUND STRUCTURES WATERPROOFING

GENERAL DESCRIPTION

ESHAGUM SP are plastomeric waterproofing membranes for waterproofing concrete Bridge-Deck and underground structures.
ESHAGUM SP are produced with special types of bitumen and selected polymer materials based on polypropylene (APP). Its special composition offer long-lasting impermeability, protection and endurance of Bridge-deck even at low temperatures.

ESHAGUM SP can be used for:

- Waterproofing Bridge-Decks
- Waterproofing Parking Decks
- Bridge-Decks Waterproofing Repairs
- Waterproofing Tunnels with Cut & Cover method
- Waterproofing of underground structures / Foundations
- Waterproofing of sewers, canals and supporting concrete element structures.

CHARACTERISTICS / ADVANTAGES

- Increased resistance to ageing
- Exceptional resistance to high temperatures
- Flexibility in low temperatures (-10^{o}C)
- Wide temperature application and service range
- Very good behavior to corrosive environment (acids, inorganic salts, air pollutants, ozone etc)
- Advanced weldability to all substrates

REINFORCEMENT

ESHAGUM SP is based on modified A.P.P. bitumen (A.P.P=Atactic PolyPropylene).It has special reinforcement of **SpunBond Polyester** of **250 g/m²**, that is situated near by the upper membrane's surface, in order to ensure very good anchorage of the overlayed asphalt layer on the **ESHAGUM SP** waterproofing membrane, while protecting watertightness from the perforation action of the agregates at the same time.

The same perfomance is obtained during side wall concrete structures waterproofing, during soil compaction.

SURFACE FINISH

Top and bottom finish of **ESHAGUM SP** consist of a thin and easily weldable film of polyethelene (PE film). It can also be produced with quartz sand finish (upper side).

NORMS/CERTIFICATION

ESHAGUM SP Bituminous membranes comply with EN 13707, EN 13969 and are certified with CE No. 1020-CPD-010021423. Application to roofs according to EN 13707, underground structures according to EN 13969 and concrete bridge decks according to EN 14695:2010.

For all available certificates and method of application please contact Esha Sales Department.

STORAGE

Membrane rolls should be stored in their original package, in vertical position, protected from direct sunlight, rain, snow and ice. In cold weather it is recommended that the rolls should be kept at a minimum temperature >5^{o}C for at least 10 hours before application.

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APPLICATION PROCEDURE

Surface preparation

- Before application of the membrane it is necessary to prepare properly the substrate surface. The substrate surface must be thoroughly cleaned, remove all dust, loose matter and remaining oils in order to be smooth and dry.
- Recommended surface slope: 1.5% minimum.
- Recommended substrate relative moisture ≤ 6%. The surface must be primed with Eco friendly (VOCs free), elastomeric, waterproofing, bituminous primer with new generation technology **ESHATOPRIMER** at a consumption ~0,3Lt/m^2.
- Alternatively the surface can be primed with **ESHALAC 50S** at a consumption ~0,3 Kg/m^2 .
- As soon as the surface is tack-free, the bituminous membrane can be torch applied

Application of the bituminous membrane

- Membrane application starts from the lowest point of slopes in order to secure unobstructed water flow, when membranes are torched one in parallel to the other.
- The membrane is then rolled and positioned parallel to its adjacent one. It is then rerolled half-way without shifting.
- Welding of bituminous membranes to the surface, is achieved with suitable lap torch, or multihead torch.
- The bottom surface of the re-rolled part is heated with a propane torch until the bitumen becomes fluid and the membrane is unrolled again to apply evenly on the substrate.
- Longitudinal overlaps must be at least 8 cm while transversal ones must be kept to a minimum of 15 cm. Overlapping joints are treated with a metallic lap-joint cylinder in order to apply the optimal pressure in these demanding areas.
- In multiple layer waterproofing, application of the successive layers follows the same procedure and is done in the same direction as the previous ones. Care is taken so that overlaps do not coincide with those of the previous layer.

Application notes

- Application temperature should be higher than 5 °C.
- Waterproofing should be carried out by technicians, properly trained and certified in the bituminous membranes application.

For a more detailed description of bituminous waterproofing membranes' application please contact Esha Sales Department.

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TECHNICAL CHARACTERISTICS

Characteristics	Standard	T	Nominal values	Unit
Length	EN 1849-1		10	m
Width	EN 1849-1		1	m
Upper surface covering	-		PE film / Quartz sand	---
Bottom surface covering	-		PE film	---
Thickness	EN 1849-1	±0.2	4.5	mm
Weight	EN 1849-1	±0.2	5.4	kg/m^2
Type	-		Plastomeric (APP)	---
Softening Point	EN 1427	≥	145	ºC
Penetration at 25 °C	EN 1426	± 5	25	dmm
Tensile strength L/T	EN 12311-1	± 20%	1100/900	N/50mm
Elongation L/T	EN 12311-1	± 15%	50/60	%
Tear resistance L/T	ASTM D4073-94	± 15%	550/650	N
Static puncture resistance (concrete)	EN 12730/UEAtc MOAT27		L4 (>25)	kg
Dynamic puncture resistance (concrete)	EN 12691/UEAtc MOAT27		I4	Φ 6mm
Flexibility to low temperatures	EN 1109	≤	-10	ºC
Water tightness (72h)	UEAtc/EN 1928		Passed	
Vapor permeability coefficient	EN 1931	≥	20000	---
Heat resistance	EN 1110	≥	130	ºC
Resistance to compaction of an asphalt layer at 160°C	EN14695:2010 EN14692:2005 METHOD-2		Resistant - No Bleeding	---
Reaction to fire	EN 13501-1		F	---
Thermal conductivity	EN 1107-1	≤	-0.4/+0.3	%

Tolerances in the nominal values are in accordance with respective standards. Producer reserves the right to modify the properties of his products.

The information contained in this leaflet is, to the best of our knowledge, true and reliable and is supported by the present state of our knowledge. According to the care taken and the method of application, upon which we have no influence, the values are subject to divergence. Therefore for best results, prior to use, an application test should be made by the user under his own processing conditions.

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