



we know how
since 1962

WATERPROOFING MEMBRANES

SPECIAL PLASTOMERIC BITUMINOUS MEMBRANES (APP)

ESHAGUM SP

Special Plastomeric Bituminous Waterproofing 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 longlasting impermeability, protection and endurance of Bridgedeck 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.

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 (SP250) or 180gr/m² (SP180), of high durability, which offers increased resistance to mechanical stress, cracking, shear and tensil forces.

The reinforcement 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.

CHARACTERISTICS / ADVANTAGES

As a result of their high quality **ESHAGUM SP** membranes offer the following advantages:

- ▶ Excellent resistance to ultraviolet radiation
- ▶ Flexibility in low temperatures (-10°C)
- ▶ Increased resistance to ageing
- ▶ Exceptional resistance to high temperatures
- ▶ Wide temperature application and service range
- ▶ Very good behavior to corrosive environment (acids, inorganic salts, air pollutants, ozone etc.)
- ▶ High resistance to mechanical deformation
- ▶ Advanced weldability to all substrates

Alfa-Alfa Energy S.A.

ATHENS | CENTRAL OFFICES-FACORY: Aspropyrgos Beach, 193 00 Aspropyrgos, Attica | T.+ 30 210 5518 700
THESSALONIKI | OFFICES-WAREHOUSE: 18 Epirou Street, 570 09 Kalochoi | T. 2310 783 725
www.eshagr • sales@eshagr



ESHAGUM SP

Ideal for waterproofing bridge-decks & underground structures

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).

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 temperature $>5^{\circ}\text{C}$ for at least 10 hours before installation.

Avoid strong and sudden roll impact, as well as fast unrolling during installation, transportation and storage, at low temperature conditions.

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 $\leq 6\%$.
- The surface must be primed with eco friendly (VOCs free), elastomeric, waterproofing, bituminous primer with new generation technology **ESHATOPRIMER** at a consumption $\sim 0.3 \text{ Lt/m}^2$.
- Alternatively the surface can be primed with **ESHALAC 50S** at a consumption $\sim 0.3 \text{ Lt/m}^2$.
- As soon as the surface is tack-free, the bituminous membrane can be torch applied.

Application of the bituminous membrane

- To avoid water vapor condensation and localized stresses that can lead to local surface cracking, it is recommended to apply a separating/ ventilating layer by installing a special **ESHAPERFO** or **ESHAVENT** or by another similar method of separating the waterproofing membrane **ESHAGUM SP**.
- 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.
- The bottom surface of the re-rolled part is heated with a propane torch until 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 12 cm.
- The overlaps of the membranes during welding are heated and pressed lightly until the molten bitumen appears at the joint, indicating that the membranes are welded tightly.

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 certifications please contact Esha Sales Department.



EPD certification is an independent assessment of a product's environmental impact throughout its entire life cycle, from initial production to disposal or recycling at the end of its life cycle. It contributes points to some of the leading green building programs, such as LEED certified building projects.

ESHAGUM SP

Ideal for waterproofing bridge-decks & underground structures

- Overlapping joints are treated with a metallic lapjoint 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.
- In the case of loose-laid waterproofing (not bonded to the substrate), a protective layer of sufficient weight should be provided to eliminate the risk of the waterproofing membrane being lifted by high wind speeds.

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.



Today, Esha is the No. 1 producer of bituminous waterproofing membranes in Greece, while also offering more than 500 specialized products (emulsions and solutions for surface protection and waterproofing, joint sealing materials, acrylics, epoxies, polyurethanes, polysulfides, modified road asphalt (elastomers, plastomers, recycled tires), asphalt road emulsions, asphalt bridge waterproofing materials, polyurethane thermal insulation boards, etc.).



See the products
and their applications
on our new website
www.esha.gr

ESHAGUM SP

Ideal for waterproofing bridge-decks & underground structures

TECHNICAL CHARACTERISTICS

Characteristics	Standards	T	Nominal values		Units
			Spun Bond polyester (SP) 250	Spun Bond polyester (SP) 180	
Length	EN 1848-1	±0.02	10	8	m
Width	EN 1848-1	-	1	1	m
Upper surface covering	-	-	PE film / Quartz sand	PE film / Quartz sand	---
Bottom surface covering	-	±0.2	PE film	PE film	---
Thickness	EN 1849-1	±0.2	4.5	5.5	mm
Weight	EN 1849-1	-	5.4	5.5	kg/m ²
Type of bituminous mixture	-	≥	Plastomeric (APP)	Plastomeric (APP)	---
Softening Point	EN 1427	± 5	145	148	°C
Penetration at 25°C	EN 1426	± 20%	25	25	dmm
Tensile strength L/T	EN 12311-1	± 15%	1100/900	900/650	N/50mm
Elongation L/T	EN 12311-1	± 15%	50/60	50/60	%
Tear resistance L/T	ASTM D4073-94	-	550/650	350/450	N
Static puncture resistance (concrete)	EN 12730/UEAtc MOAT27	-	L4 (>25)	L3 (>25)	kg
Dynamic puncture resistance (concrete)	EN 12691/UEAtc MOAT27	≤	I4	I3	Φ 6mm
Flexibility to low temperatures	EN 1109	-	-10	-10	°C
Water tightness (72h)	UEAtc/EN 1928	≥	Passed	Passed	
Vapor permeability coefficient	EN 1931	≥	20000	20000	---
Heat resistance	EN 1110	-	130	130	°C
Reaction to fire	EN 13501-1	≤	F	F	---
Dimensional stability L/T	EN 1107-1	-	-0.4/+0.3	-0.4/+0.3	%

Fluctuations in nominal values are in accordance with the relevant standards. The manufacturer reserves the right to modify the properties of its products. Esha provides information and, in particular, recommendations regarding the application and end use of its products based on its current knowledge and experience, when the products are stored, used, and applied under normal conditions. In practice, there are variations in substrates and local application conditions, so Esha cannot guarantee the success of the application of any material. It is recommended that the user test the application of the material under the local application conditions.