

ESHAGUM ANTIROOT

Plastomeric bituminous antiroot
waterproofing membrane
(APP -10°C)

*Ultimate waterproofing and antiroot protection
in 1 product*



GENERAL DESCRIPTION

Plastomeric waterproofing membrane **ESHAGUM ANTIROOT B5** is a part of **ESHAOXYGEN Green Roof System**, developed by **ESHA**.

It is a plastomeric bituminous membrane with extremely effective antiroot properties. The latter are achieved with the addition and homogeneous dispersion of Preventol B5, a special antiroot component, in the modified bituminous binder during production.

Once it is welded on the substrate **ESHAGUM ANTIROOT B5** creates a continuous barrier against plant roots, also along the membrane overlapping areas. Preventol B5 remains active throughout the life span of the waterproofing system, and stays remarkably stable even at relatively high or low temperatures.

ESHAGUM ANTIROOT B5 is produced from special types of bitumen and selected polymer materials based on propylene (APP).

This special composition grants the membrane excellent elasticity in low temperatures and high resistance to ageing.

Applications of **ESHAGUM ANTIROOT B5**:

- Waterproofing and Antiroot protection of flat and inclined roofs.
- Waterproofing and Antiroot protection of underground works / Foundations.

REINFORCEMENT

ESHAGUM ANTIROOT B5 possible reinforcements are:

- Spunbond Polyester (SP) of great durability, which gives the membrane increased resistance to mechanical deformations (cracking, puncture, tearing etc.) and an extended stretching ability
- High stability composite polyester fabric with embedded glass yarns in order to maximize torching membrane's stability & eliminate "banana" effects.
- Composite polyester glass mat giving the membrane isotropic mechanical strength properties.

CHARACTERISTICS/ADVANTAGES

- ▶ Antiroot protection and waterproofing in one product.
- ▶ Increased resistance to ageing
- ▶ Excellent resistance to ultraviolet radiation
- ▶ Increased resistance to high temperatures
- ▶ Flexibility at low temperatures (-10°C)
- ▶ Wide temperature application window
- ▶ Very good behavior in a corrosive environment (acids, inorganic salts, air pollutants, ozone, etc.)
- ▶ Improved endurance to mechanical deformation
- ▶ Advanced weldability to all substrates

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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°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 so as to remove all dust, loose matter and remaining oils, and 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 50-S** 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 ANTIROOT B5**.
- 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.
- 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.

CERTIFICATIONS

Esha Bituminous membranes comply with **EN 13707**, **EN 13969** and are certified with **CE No.1020-CPR-010021423**.

Application to roofs according to **EN 13707** and underground structures according to **EN 13969**. Also for bridge decks according to **EN 14695**.

For all available certificates and certifications please contact EshaSales 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.

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- EshaGum membranes are suitable to apply on mechanical fixation systems (e.g. metal desks or inclined roofs).

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.

ESHAOXYGEN SYSTEM

ESHAGUM ANTIROOT B5 plastic membranes are part of the **ESHAOXYGEN** green roof system developed by **ESHA**.



See detailed information about applications for green roofs here:



Left: planting using a common waterproofing membrane

Right: planting using special EshaGum Antiroot B5 anti-root membrane

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Application of EshaGum Antiroot anti-root membrane, Mall, Agios Dimitrios, Attiki.

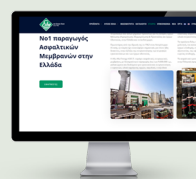


Application of EshaGum Antiroot anti-root membrane on a roof in Thessaloniki.



Application of EshaGum Antiroot anti-root membrane, Sofia, Bulgaria.

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

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TECHNICAL CHARACTERISTICS

Characteristics	Standard	T	Nominal values			Units
			Glass mat combined with polyester	Polyester combined with reinforcing glass yarns	Spun Bond Polyester (SP)	
Length	EN 1848-1	±0.02	10	10	10	m
Width	EN 1848-1	--	1	1	1	m
Upper surface covering	-	--	PE film/mineral granules	PE film/mineral granules	PE film/mineral granules	---
Bottom surface covering	-	--	PE film	PE film	PE film	---
Thickness	EN 1849-1	±0.2	2.5-5	2.5-5	2.5-5	mm
Weight	EN 1849-1	±0.2	3-6	3-6	3-6	kg/m ²
Type of bituminous mixture	-	--	Plastomeric (APP)	Plastomeric (APP)	Plastomeric (APP)	---
Softening Point	EN 1427	≥	150	150	150	°C
Penetration at 25°C	EN 1426	± 5	25	25	25	dmm
Antiroot Agent	-	--	Preventol® B5			--
Root Resistance (Lupine Test, 8 weeks)	DIN 4062 UNE 53420	--	No penetration			--
Tensile strength L/T	EN 12311-1	± 20%	600/600	550/420	900/650	N/50mm
Elongation L/T	EN 12311-1	± 15%	4/4	40/55	50/60	%
Tear resistance L/T	ASTM D4073-94	± 15%	300/300	300/400	350/450	N
Static puncture resistance (concrete)	EN 12730 / UEAtc MOAT27	--	L2 (7-15 kg)	L3 (15-25 kg)	L3 (15-25 kg)	---
Dynamic puncture resistance (concrete)	EN 12691 / UEAtc MOAT27	--	I3 (Φ10mm)	I3 (Φ8)	I3 (Φ8)	mm
Flexibility to low temperatures	EN 1109	± 3	-10	-10	-10	°C
Water tightness (72 h)	UEAtc / EN 1928	--	Passed (≥2)			bar
Vapor permeability coefficient	EN 1931	≥	20000	20000	20000	---
Heat resistance	EN 1110	<	130	130	130	°C
Reaction to fire	EN 13501-1	--	F	F	F	---
Dimensional stability L/T	EN 1107-1	≤	-0.1/+0.1	-0.2/+0.1	-0.4/+0.3	%
Thermal conductivity		--	0.2	0.2	0.2	W/mK

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.