



UNIVERSAL

POCB Waterproofing Membranes

GENERAL DESCRIPTION

ESHA UNIVERSAL is a POCB (PolyOlefin Copolymer Bitumen binder), which is a form of modified bitumen membrane that has the low temperature performance of a SBS membrane and the high-end performance of an APP one. The result is a strong, flexible, and extremely stable single-ply waterproofing layer with very high puncture resistance. Additionally **ESHA UNIVERSAL**'s top finish consists from a special thin non woven geotextile that can be painted with acrylic, or aluminium based waterproofing coatings (e.g. **ESHACRYCOAT**, **ESHALUMIN**) resulting in a uniform highly reflective waterproofed surface.

Polyolefins used in **ESHA UNIVERSAL** are blends of amorphous synthetic copolymers of polyethylene and polypropylene. The chlorine-free, non-halogenated formulation of this organic alloy contributes to the waterproofing system's environmental friendliness, offering, at the same time longer service life cycle.

ESHA UNIVERSAL's unique characteristics, such as toughness, rigidity, high puncture resistance and high resistance on warm asphalt layers make this waterproofing membrane perfect candidate for all bridge - deck waterproofing applications.

ESHA UNIVERSAL can also be used for:

- Waterproofing of flat and inclined roofs.
- Waterproofing of parking decks.
- Waterproofing of corrugated metal decks.

CHARACTERISTICS/ADVANTAGES

As a result of their unique quality **ESHA UNIVERSAL** membranes offer the following advantages:

- Single layer waterproofing.
- High resistance to «foot-printing».
- Design life up to 20 years with conventional annual inspections.
- Difficult to damage, easy to repair.
- Environmental friendly (polyolefins have long life cycle).
- Production of polyolefin is clean and efficient, with virtually no waste or by-products.
- Since it is manufactured from Bitumen/Polyolefin Compounds, it doesn't contain halogens, bromides, heavy metals.
- Easy installation by approved installers.
- More durable than any other kind & type of roofing.
- High bond strength at laps due to special compound.
- High puncture resistance.



SURFACE FINISH

ESHA UNIVERSAL finishes are thin polypropylene paintable geotextiles on both sides of the membrane.

REINFORCEMENT

ESHA UNIVERSAL reinforcement is:

Spunbond Polyester (SP) of 250 g/m², that exhibits great durability, which gives the membrane increased resistance to mechanical deformations (cracking, puncture, tearing etc.) and an extended stretching ability.

NORMS/CERTIFICATION

ESHA Bituminous membranes comply with EN 13707, EN 13969 and are certified with CE No. 1020-CPD-010021423. Application to roofs according to EN 13707 and underground structures according to EN 13969.

For all available certificates and certifications please contact Esha Sales Department.



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APPLICATION INFORMATION

ESHA UNIVERSAL can be applied:

a) Fully bonded to the substrate.

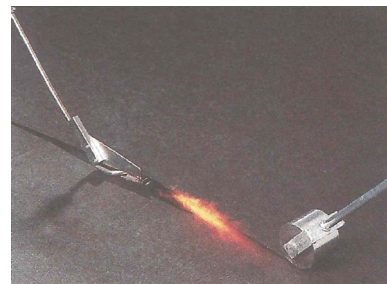
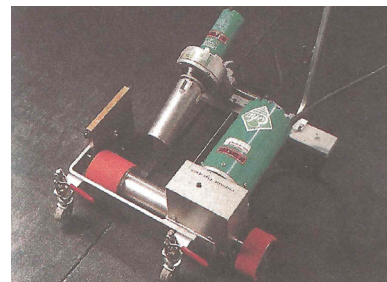
- As torchable membrane, with solvent based super elastomeric primer **ESHAROOFCOAT No10** at a minimum consumption of 0,4 Kg/m² for torching applications.
- In cases where naked flame can not be used with **ESHACOLL** cold adhesive, consumption of 0.4-0.6 Kg/m² depending on substrate absorbency.
- Especially for bridge waterproofing applications, where Pour and Roll method is used, with hot adhesive, type **ESHA ELASTOMERIC BITUMEN 07** or **Oxidised Bitumen 85/25** with consumption of 2.5 Kg/m², on a already bituminous primed substrate.

b) Partial bonded to the substrate - Mechanical Fixing.

- Application with special fasteners in the membrane overlap, every 250 mm, or in accordance with local conditions - regulations.

- Thermally weld overlaps with hot air welding machine, or torch.
- Overlapping joints are treated with a metallic lap-joint cylinder in order to apply the optimal pressure in these demanding areas. All lap joints must be checked for adequate adhesion as work proceeds.

For a more detailed description of bituminous waterproofing membranes' 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. During cold weather it is recommended that the rolls should be kept at a minimum temperature > 5°C for at least 10 hours before installation.





TECHNICAL CHARACTERISTICS

Characteristics	Standard	T		Unit
Binder	--	--	Polyolefin Copolymer Bitumen (POCB)	--
Length	EN 1849-1	± 0.1	15	m
Width	EN 1849-1	± 0.02	1.0	m
Upper surface covering	--		polypropylene geotextile	---
Bottom surface covering	--		polypropylene geotextile	---
Thickness	EN 1849-1	±0.2	3.1	mm
Weight	EN 1849-1	--	--	kg/m ²
Softening Point	EN 1427	≥	150	°C
Penetration at 25 °C	EN 1426	± 5	28	dmm
Type of Reinforcement	--	--	Spun Bond Polyester (SP) - weight: 250 g/m ²	
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%	550/550	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	± 5	-25	°C
Water tightness (60 KPa, 24 h)	UEAtc/EN 1928 method - 1		Passed	
Flow Resistance at Elevated Temperature	EN 1110	≥	130	°C
Reaction to fire	EN 13501-1		F	--
Resistance on laying and compacting warm asphalt layer at 160°C	EN14695:2010 EN14692:2005 METHOD-2	--	passed	--
Dimensional stability L/T	EN 1107-1	≤	-0.4/+0.3	%
Thermal conductivity			0.2	W/mK

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.

Alfa-Alfa Energy S.A.
ATHENS/CENTRAL OFFICES-FACTORY: Aspropyrgos Beach, 193 00 Aspropyrgos, Attica
T +30 2105518700, F +30 2105572974 | THESSALONIKI/OFFICES-WAREHOUSE: 18 Epirou
Street, 570 09 Kalochoi, T +30 2310783725, F +30 2310783326 |
www.eshagr.com • sales@eshagr.com

