

### DESCRIPTION

**TURBAL** is a waterproofing membrane, produced in highly controlled process conditions, out of a robust reinforcement of spun bound, non-woven polyester and straight run bitumen, modified with selected A.P.P polymers and stabilizers.

### FEATURES

- APP modified asphalt.
- Options for thickness as per requirement.
- Polyester reinforced.
- Options for surface finishes in exposed and covered applications.

### ADVANTAGES

- Stability at high temperatures.
- Excellent puncture and tear resistance.
- Excellent resistance to U-V rays, aging and weathering.
- Superior waterproof barrier to the roof structure.
- Superior bonding to the substrates at seams.
- Easy for application and repair works.
- Rot proof.
- Resistant to chloride, sulfates and soil chemicals.

### STANDARDS/ APPLICABLE TEST METHODS

**TURBAL** is tested as per UEAtc MOAT 27-1983 & MOAT 30-1984 , CGSB, ASTM and DIN.

### FIELD OF APPLICATION

**TURBAL** is ideal to use for new and re-roofing applications on any concrete and cement surface that needs water proofing. It can be used in almost every waterproofing applications which includes roofs, balconies, basements, reservoirs, bridges, tunnels, lining for sewage canals, sub grade structures etc.

### GENERAL DATA

Roll length : 10 m  
Roll width : 1 m  
Thickness : 3, 4 & 5mm

**Reinforcement** : Non-woven polyester fabric, standard weight 200 gram per square meter. Other weights available on request.

**Finish:** Both side polymer film or with mineral surface finish on one side.

### DIRECTIONS FOR USE

**TURBAL** is installed by torch welding method, either loose laid or fully bonded to the substrate.

#### Surface cleaning:

The surface to be waterproofed must be thoroughly cleaned and should be made free from dust, debris, oil, protruding elements etc.

#### Priming:

Coat the prepared surface with a suitable primer. (recommended **AHLIA'S CAPSOLVENT**).

#### Tools for application:

- Gas torch
- Trowel with rounded tip
- Marking aids
- Knife / Cutter
- Measuring tape
- Safety accessories

#### Fixing instruction:

Roughly calculate the area of the surface that the **TURBAL** has to be installed / fixed. Arrange the material nearby as per the calculated area.

The installation should be started from one edge / end of the surface that the membrane to be installed. Unroll one piece of **TURBAL** over the surface with minimum 10 cm side lap alignment, so as to get a clear profile. Fixing should be either loose laid or fully bonded as explained below.

#### Loose Laid:

Re-roll the unrolled membrane approximately to half its total length or to a length suitable for application without changing the orientation. Melt the sides of the membrane, minimum 15 cm from the edges, by using the gas torch without damaging the polyester reinforcement. Fix the melt portion firmly to the pre-primed surface before solidification. Position the subsequent rolls, so as to give a length edge overlapping of minimum 10 cm and width edge overlapping of

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## WATER PROOFING MEMBRANE

minimum 15 cm. Continue the procedure until the desired area is fully fixed with TURBAL. Each finished overlap should be passed by the torch along the joint and the melted compound should be spread with a trowel or roller to ensure a smooth tight seal.

### Fully bonded:

Re-roll the membrane fully without changing the desired orientation. Melt the lower surface of the membrane with a gas torch by moving the flame across the entire width of the roll. Fix the melt portion firmly to the pre-primed surface before solidification. Positioning of subsequent rolls

should be done in the same manner as of loose laid membrane. As the surface of the roll is heated, it will develop a sheen. The generation of smoke is an indication that the material is being overheated.

### STORAGE

The rolls of TURBAL, whether loose or packed on pallets, must always be kept upright on a smooth flat support. A second layer may be stored on top of the first, provided that the first layer of rolls is suitably covered with a rigid covering to distribute the load. Material should be stored under shade.

### SHELF LIFE:

Minimum 24 months under recommended storage conditions

### HEALTH AND SAFETY

Handling of TURBAL requires no special health and safety precautions

### TYPICAL PHYSICAL PROPERTIES

The details given in the Technical Data is based on the average values of the tests conducted on several samples. The tests conducted on the material complies with the criteria stipulated in the standards, viz. UEAtc, CGSB, ASTM and DIN.

Description	Unit	Average of test result	Test Method
Thickness	mm	≥ 4	DIN 52123
Polyester reinforcement	gram/m <sup>2</sup>	200	-----
Weight per square meter - Membrane	Kg/ m <sup>2</sup>	>4	ASTM D-146, ASTM D 5147
Softening point of coating compound	°C	≥ 150	ASTM D-36
Water absorption	%	< 0.2	ASTM D-570
Dimensional Stability	%	± 1	UEAtc, CGSB
Heat resistance	100 ± 2°C; 2 hrs	No deformation	DIN 52123
Water vapor transmission	gram/m <sup>2</sup> /24 hrs	< 1	ASTM E96, 25°C, 50% R. H
Low temperature flexibility	°C	0	ASTM D 5147, DIN 52123, UEAtc
Tensile strength; N/5 cm	Longitudinal	N/5 cm	Min. 950
	Transverse		Min. 700
Elongation %	Longitudinal	%	> 45
	Transverse		> 45
Tear resistance	Longitudinal	N	> 400
	Transverse		> 300
Water tightness	Kpa	>75	
Static indentation resistance	On rigid support	L4	UEAtc
	On non rigid support	L4	
Dynamic indentation resistance	On rigid support	14	UEAtc
	On non rigid support	14	

- Above figures may have a variance of +10 %

#### TECHNICAL SERVICE:

Our Technical Service Department is available at any time to advise you in the correct use of this product or any other Ahlia products.

**Note :** The information presented herein is based on the best of our knowledge and expertise for which every effort is made to ensure its reliability. Although all the products are subjected to rigid quality tests and are guaranteed against defective materials and manufacture, no specific guarantee can be extended because results depend not only on quality but also on other factors beyond our control.

**As all Ahlia Technical Data Sheets are updated on a regular basis, it is the user responsibility to collect most recent issue.**