

# TURBAL

## WATER PROOFING MEMBRANE

### 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

**TURBAL** complies with the specifications of 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 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 10 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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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. Material should be stored under shade.

### TYPICAL PHYSICAL PROPERTIES

The details given in the Technical Data is based on the average values of the tests conducted on several samples. The test 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 | <sup>0</sup> C                               | ≥ 150                          | ASTM D-36                             |
| Water absorption                    | %                                            | < 0.2                          | ASTM D-570                            |
| Dimensional Stability               | %                                            | ± 1                            | UEAtc, CGSB                           |
| Heat resistance                     | 100 ± 2 <sup>0</sup> C; 2 hrs                | No deformation                 | DIN 52123                             |
| Water vapor transmission            | gram/m <sup>2</sup> /24 hrs                  | < 1                            | ASTM E96, 25 <sup>0</sup> C, 50% R. H |
| Low temperature flexibility         | <sup>0</sup> C                               | 0                              | DIN 52123, UEAtc                      |
| Tensile strength; N/5 cm            | Longitudinal<br>Transverse                   | N/5 cm<br>Min. 900<br>Min. 700 | ASTM D-146<br>ASTM D-5147             |
| Elongation %                        | Longitudinal<br>Transverse                   | %<br>> 45<br>> 45              | ASTM D-146,<br>ASTM D-5147            |
| Tear resistance                     | Longitudinal<br>Transverse                   | N<br>> 400<br>> 300            | ASTM D4073,                           |
| Water tightness                     |                                              | Kpa                            | >75                                   |
| Static indentation resistance       | : On rigid support<br>: On non rigid support | L4<br>L4                       | UEAtc                                 |
| Dynamic indentation resistance      | : On rigid support<br>: On non rigid support | 14<br>14                       | UEAtc                                 |

### 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.

### HEALTH AND SAFETY

Handling of **TURBAL** requires no special health and safety precautions.