

ECOFELT

Fibre Reinforced Polymer Bituminous Waterproofing Membrane

Ecofelt is a polymer modified bituminous waterproofing membrane, manufactured from a mixture of bitumen and selected polymers, which are blended together to obtain good waterproofing properties. The bitumen compound also exhibits high heat and UV resistance properties. The polymerized bitumen is coated on to a dimensionally stable reinforcement core of non woven glass fibre carrier.

CHARACTERISTICS

- Resistant to water borne chemicals.
- Good dimensional stability under tension.
- Excellent resistance to positive water and vapor pressure.
- Good flexibility. Can accommodate structural movements.

AREA OF APPLICATION

Ecofelt is used as waterproofing membrane on the following structures:

- Inverted roofs and parapets
- Terraces, balconies and patios
- Sunken slabs
- Bridges and tunnels
- Airport aprons and ramp areas

Ecofelt membranes in tropical regions can also be used for waterproofing of below ground concrete structure like:

- Concrete foundation and footings
- Basements
- Pile heads
- Swimming pools and water retaining structures (externally)

METHOD OF APPLICATION

The application temperature should be between 5°C to 55°C. Application procedures may vary depending on site conditions. The general recommended guidelines for the application of the waterproofing system is as follows:

A. Surface Preparation

The surface shall be cleaned throughly of all contaminants like dust, traces of curing compound, oil and grease. All surface imperfections, protrusions, structurally unsound and friable concrete must be removed and repaired with a suitable concrete repair mortar.

B. Priming

Apply **Ecoprime SB** (solvent based primer) at 4-6 m²/l to a clean smooth and dry surface by brush, roller or spray. Allow the primer to dry prior to the application of the mebrane. As the viscosity of the primer is low, it easily penetrates into the concrete pores which promotes adhesion between the membrane and the concrete surface. In addition to that the primer also acts as a binder for the dust particles which gets accumulated on the concrete surface even after cleaning.

C. Alignment

Start the installation of all membrane plies from the low point or drains, so the flow of water is over or parallel to the plies, but never against the laps. All overlaps at the membrane seams shall be installed so as to have "up" slope laps over "down" slope laps. Begin membrane applicaton by unrolling the roll of **Ecofelt** membrane and aligning the side laps. Re-roll halfway and stand on the unrolled portion to prevent shifting. Side overlaps should be minimum of 100mm and the end overlaps 150mm.

C. Torching

Ecofelt membranes are installed by using a cylinder fed propane gas troch. Use of hand-heldroofing torch is recommended as it affords a good control. If multiple burner torching machines are utilized, care must be taken to ensure the application of uniform heat and avoid overheating the membrane. Begin torching the embossed polyethylene side of the rolled portion of the membrane. Proper torching procedure involves passing the torch flame in "L" pattern applying about 75 percent of the heat across the coiled portion of the roll and 25 percent across the substrate, including the lap area of the previously installed membrane. As the membrane is heated the embossing starts to melt away exposing a shiny bitumen surface. Roll forward the membrane and press firmly with the boot or orller against the substrate to bond well. The propane flame should be moved from side to side and up the lap edge while the membrane is slowly unrolled and adhered to the underlying surface. Subsequent shift of the roll shall be avoided after heating has begun. When complete, the remaining un-torched membrane shall be re-rolled and installed in the same manner. When one end is complete, re-roll the opposite end not yet torched and install in the same manner. As subsequent rolls are installed, heat is applied to

both the roll and the exposed laps of the membrane being overlapped onto. Be sure to heat the entire roll evenly, not just the lap areas, with extra concentration at the laps.

D. Sealing

Heat both the overlaps and use round tipped trowel to seal the overlap. Adequate heat is confirmed when a uniform flow of melted bitumen compound flows evenly like a bead that oozes from the applied membrane's edges. Excess compound should be smoothed and pressed into the seam using a heated trowel. Any unbonded areas must be lifted and re-torched. Do not attempt to reseal by torching the top surface of the membrane.

HEALTH & SAFETY

Ecofelt membranes contain a tacky bitumen compound which when applied can stick to human skin. Such stains can be removed by using a cloth dipped in a suitable cleaner.

STORAGE & SHELF LIFE

Ecofelt rolls must be stored in a shaded area on wooden pallets neatly covered by a thick fabric and tied securely in a manner that will minimize exposure to sunlight and UV. The membrane shall be protected from all sources of heat. Do not stack pallets on top of each other.

The shelf life is 12 months if stored as per recommendations. Excessive exposure to sunlight, UV and other sources of heat will result in considerable deterioration of the product and reduce its shelf life.

PACKAGING

Ecofelt is available in:
 3mm - 1m x 10m, 30 kg wt.
 4mm - 1m x 10m, 40 kg wt.

TECHNICAL SPECIFICATION

Properties	Values		Test Standard
Thickness, mm	3.0	4.0	DIN EN 1840 - 1
Mass per unit area, kg/m ²	3.0 - 3.3	4.0 - 4.3	DIN EN 1849 - 1
Reinforcement (fiber glass), g/m ²	50		EN 29073-1
Coating asphalt	Polymer Modified Asphalt		-
Softening point (R & B), °C	>125		ASTM D 36
Penetration @ 25°C, 0.1mm	12-22		ASTM D 5
Tensile strength (l/t), N/5cm	300/200		DIN EN 12311-1
Elongation @ break, %	1.5/1.5		DIN EN 12311-1
Shear resistance @ joints (l/t), N/5cm	300/200		DIN EN 12317-1
Tear resistance (l/t), N	50/70		DIN EN 12310-1
Hydrostatic pressure @ 3 bar, 30m	no leakage		BS EN 12390 (part 8)
Water absorption, %, BSP	<0.50		ASTM D 5147
Heat resistance @ 100°C	no flow		DIN EN 52-123
VOC, g/l	<50		ASTM D3960 / D2369

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