**TECHNONICOL India Private Limited**
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# TECHNONICOL ENVIRO AIR

## Description:

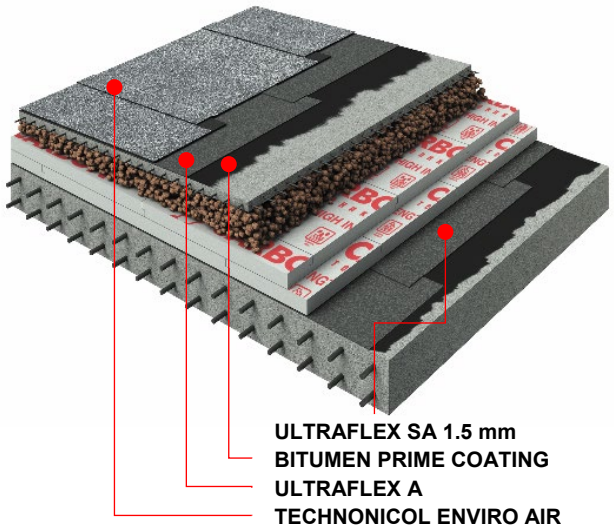
TECHNONICOL ENVIRO AIR is a roofing and waterproofing SBS-modified bitumen membrane with a special feature of air purification from harmful nitrogen oxides ($NO_x$). Hydrophobized slate is used as the top protective layer for ultraviolet exposure protection of polymer-bitumen binder. The slate is covered with titanium dioxide ($TiO_2$) and special additives. PE film is used as an underside protection.

## Advantages:

- Actively influences the reduction of toxic $NO_x$ gas in the air.
- The coating protects the material against the penetration of UV radiation and destruction of bitumen compound.
- Contributes to the destruction of organic contaminants on the surface (bird droppings, fungus spores, bacteria).

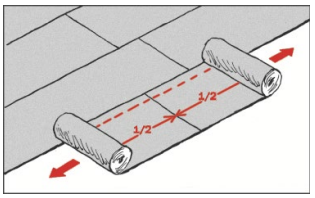
## General requirements:

- Rolls of the material should be stored indoors in a dry place in their original packaging and taken to the construction site ready to use.
- Keep the rolls upright and do not stack pallets.
- Falls or other mechanical impacts should be avoided during transportation and storage.
- The application surface must be cleaned of dust, debris, grease, leaves, oil and should not have gaps and cracks or other irregularities to ensure proper adhesion of the membrane.

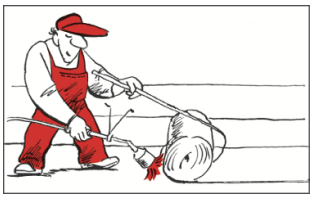



## Installation:

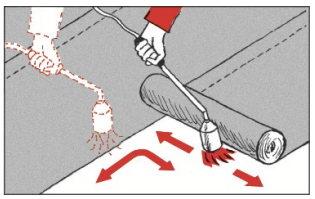
- **FLAT ROOF**



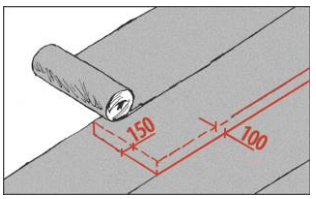

Roll out and align the membranes, then re-roll them tightly from both sides towards the centre.



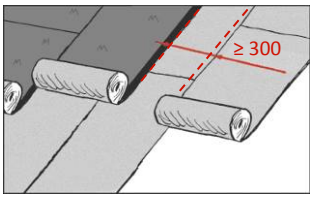
Heat the base and the bottom side of material at the same time to get a small bitumen flow.



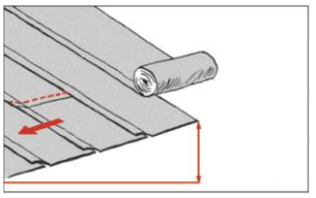
Heat the material and the base on all width of the roll, overlaps must be heated additionally.



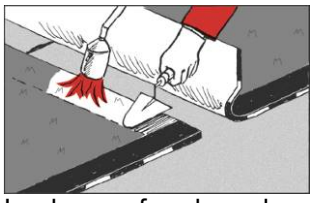

Longitudinal overlaps should be 100 mm; end overlaps should be not less than 150 mm.



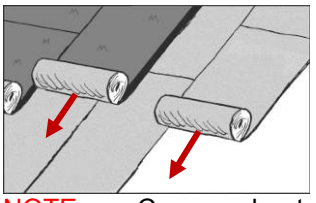

Cap sheet membrane should be positioned at a distance of min. 300 mm from overlaps of underlay membrane.



On roofs with a slope <15% membranes are rolled out perpendicularly to the water flow, ≥15% - along the water flow.



In places of end overlaps of the cap sheet membrane the top side of the material (with slate) must be additionally heated by torch. Then the slate is pressed into bitumen by spatula to increase the adhesion of the following roll.



NOTE: Cap sheet membrane is installed in the same way as underlay membrane. It is forbidden to install roll materials in a crossway.

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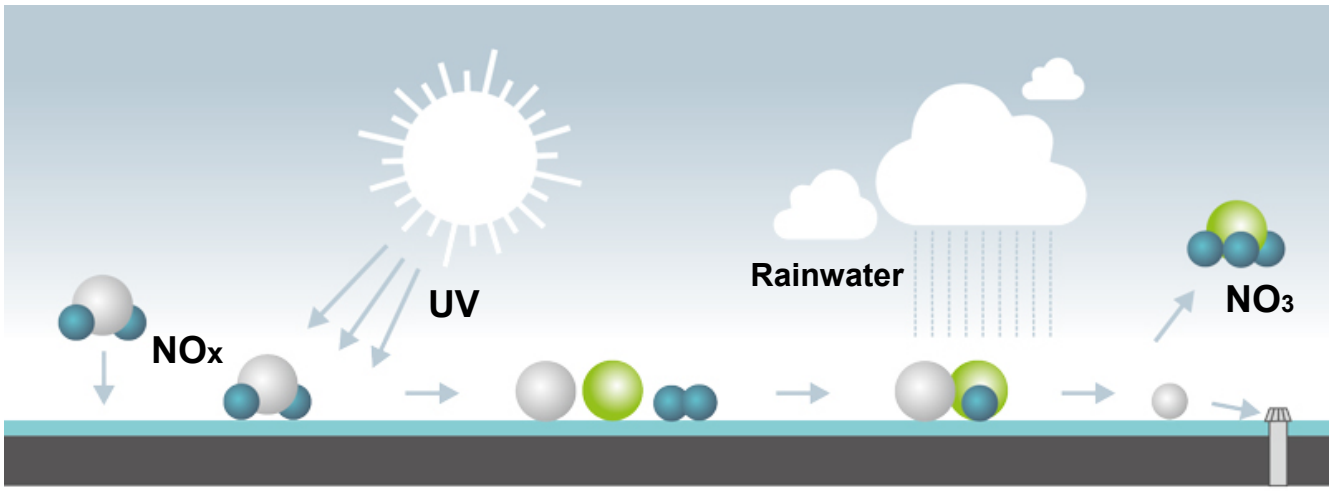
## Operating principle:




Pollution is kept on the roof surface

Pollutants and $NO_x$ are decomposed under UV rays

Harmless particles are washed away by the rainwater

The surface slate of the TECHNONICOL ENVIRO AIR membrane is coated with titanium dioxide and special additives, which functions as a catalyst in the process of changing the $NO_x$ into harmless levels of nitrates. The process is activated when ultraviolet radiation from the sun hits the titanium dioxide particles, releasing energy for breaking down the $NO_x$ particles. Polluted air passes over the TECHNONICOL ENVIRO AIR membrane where the $NO_x$ is converted into harmless levels of water, carbon dioxide and nitrates, which are washed away by the rainwater.

## Declared performance:

| Essential characteristics | Test method | Performance | Essential characteristics | Test method | Performance |
|---|---|---|---|---|---|
| Protection of the top side | - | **slate with special additives** | Softening point, °C | ASTM D36 | **≥+110** |
| Protection of the bottom side | - | **polymer film** | Flexibility at low temperature, °C | EN 1109-1 | **≤-25** |
| Length, m | EN 1848-1 | **≥8.0** | Flow resistance at elevated temperature, °C | EN 1110 | **≥+100** |
| Width, m | EN 1848-1 | **≥1.0** | Watertightness at 0.3 MPa for 24 hours | EN 1928 | **Pass** |
| Straightness | EN 1848-1 | **≤10 mm / 5 m** | External fire performance | EN 13501-5 | **Broof (t2)** |
| Mass per unit area, kg/m² | EN 1849-1 | **5.0±0.25** | Reaction to fire | EN 13501-1 | **Euroclass E** |
| Thickness, mm | EN 1849-1 | **4.0±0.10** | Dimensional stability, % | ASTM D5147 | **1.0** |
| Type of carrier | - | **polyester** | Adhesion of granules, % | EN 12039 | **≤30** |
| Tensile properties: maximum tensile force L / T, N/50mm | ASTM D5147 | **700±100 / 500±100** | Visible defects | EN 1850-1 | **Pass** |
| Tensile properties: elongation L / T, % | ASTM D5147 | **50±25 / 50±25** | Water vapor transmission properties | EN 1931 | **μ=20000** |
| Tear resistance L / T, N | ASTM D4073 | **180±30 / 180±30** | Dangerous substances | Does not contain dangerous substances | |

Footnotes: L / T – Longitudinal / Transverse; NPD – No Performance Determined.

Shelf life if all storage requirements are met: 12 months from the date of production.