

# ShaliHDPE® SA

High Polymer Self Adhesive Waterproofing Membrane



STP Limited

## Description

**ShaliHDPE® SA** is a multilayer composite of High Density Polyethylene (HDPE) film, high polymer adhesive layer, and unique process reaction-type inorganic polymer particle. It is manufactured with High quality raw material like high density polyethylene resin mixing inhibitor, antioxidant, UV resistant stabilizer, other functional materials and adopting international advanced injection moulding and rubber mixing technology. Available with sand finish and PE film on top.

High polymer self-adhesive film waterproof membrane is specially designed for underground waterproofing. Thus, it is applicable for underground structures of tunnels, rather than exposed walls or roofs of ground structures.

## Characteristics

Thickness of bare HDPE, mm	In-house	0.90
Tensile Strength, Mpa	ASTM D 412	
• Longitudinal		26
• Transverse		25
Elongation, %	ASTM D 412	850
Low Temperature Flexibility, °C	ASTM D 1790	-23
Resistance to Hydrostatic Head, m	ASTM D 5385	71
Peel strength with post pour concrete, N/m	ASTM D 903	900
Puncture resistance, N	ASTM E 154	1025 ± 40
Tear Strength	ASTM D 4073	
• Longitudinal		77.1
• Transverse		71.6
Lap Peel Adhesion, N/m	ASTM D 1000	1500
Dimensional Stability, %	ASTM D 1204	< 0.1
Water absorption, %	ASTM D 570	0.29
Lateral Water Migration Resistance, m	ASTM WK 67354	71

## Application

- Basement, tunnel, subway and other underground structures.

## Advantages

- Directly bonds with pouring concrete.
- Organically combine with concrete to prevent water infiltration clearance.
- Don't need protection layer.
- Saves construction time.
- High peeling strength over a long period.

## Application Methodology

### ➤ Surface Preparation

- Remove all loose gravel, dirt, foreign particles by jet of dry air make it smooth before application.

### ➤ Waterproofing Application

- **ShaliHDPE® SA** can be applied at temperature of -4 °C or above. During cold or damp condition, the sedge and tape adhesive can be gently warmed using a hot air gun or similar to remove moisture or condensation and improve initial adhesion.

- For Horizontal Substrate,
  - Place **ShaliHDPE® SA** film side to the substrate with adhesive / coated side up facing towards the concrete pour.
  - End laps should be staggered to avoid a build-up of layers. Leave plastic release liner in position until overlap procedure is completed.
  - Accurately position succeeding sheets to overlap the previous sheet 75 / 80 mm along the marked selvedge.
  - Ensure the underside of the succeeding sheet is clean, dry and free from contamination before attempting to overlap.
  - Peel back the plastic release liner from between the overlaps as the two layers are bonded together.
  - Ensure a continuous bond is achieved without creases and roll firmly with a heavy roller.
  - Completely remove the plastic liner to expose the protective coating before subsequent works start.
  - For Transverse overlap joints both side self-adhesive tape of 80mm width is used.
- For Vertical Substrate,
  - Where no work space is available - mechanically fasten **ShaliHDPE® SA** using fasteners appropriate to the existing substrate or mould with the adhesive / coated side facing towards the concrete pour.
  - Install **ShaliHDPE® SA** in any convenient length.
  - Secure the top of the membrane using a metal flat of 25mm x 1mm such as a termination bar fixing 50 mm below the top edge.
  - Fix through the selvedge so that the membrane lays flat and allows firmly rolled overlaps.
  - Immediately remove the plastic release liner.
  - Cover any additional fixing with a patch of tape.
  - Ensure the underside of the succeeding sheet is clean, dry and free from contamination before attempting to overlap.
  - Roll firmly to sure a water-tight seal.
  - Ensure all overlap at roll ends and cut edges has a minimum 75 mm width.
  - Also ensure that the area is clean and free from contamination. If necessary wipe with a damp cloth before overlapping.

## Health & Safety

- Avoid contact with skin / eyes, and avoid swallowing.
- Ensure adequate ventilation and avoid inhalation of vapour.
- Wear suitable protective clothing, gloves and eye protection.
- In case of skin contact, rinse with plenty of clean water, then cleanse with soap and water. Do not use solvent to clean the contacted area.
- In case of eye contact, wash with plenty of clean water and seek medical advice.
- If swallowed, seek medical attention immediately. Do not induce vomiting.

## Packing

Available in 1.2 and 1.5 mm thickness in 1 m x 20 m roll.

## Storage

Keep in cool and dry place, under shed, away from heat.



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