

ShaliHDPE[®] SA

HDPE Self Adhesive Waterproofing Membrane



STP Limited

Description

ShaliHDPE[®] SA is a multi-layer compound waterproofing membrane, composed of a layer of high-density polyethylene (HDPE) film, polymer press-sensitive adhesive layer and unique technology reactive inorganic fine granule or silicon-oiled release film layer, specially designed for underground basement structure waterproofing, and suit for pre-applied construction method. This waterproofing membrane with cast-in-place concrete by chemical cross-linking to achieve high strength bonding can completely prevent moisture penetration and leaking, without basal displacement effects.

Product Information

Colour	White
Handling & Storage	ShaliHDPE[®] SA must be stored in a shaded area on wooden pallets, neatly covered by thick fabric and tied securely in a manner that will ensure there is no excessive exposure to sunlight. Do not stack pallets one above the other.
Packaging	Available in 1.2 mm and 1.5 mm thickness in 1.2 m x 20 m Roll and 2 m x 20 m Roll. (Tolerance: $\pm 1\%$)
Shelf Life	12 months when stored as per recommendations.
Handling Precautions	The membrane is non-hazardous, non-flammable and therefore can be disposed of in any regular disposal areas. The membranes can be unloaded by hand or any other convenient means but ensure that there are no sharp or protruding edges within close proximity to avoid puncturing the membrane.

Technical Characteristics at 27°C, 55% RH

Property	Standard	Result
Thickness, mm	In-house	1.2 - 1.5
Tensile Strength, MPa	ASTM D 412	25 - 29
Elongation, %	ASTM D 412	700 - 900
Low Temperature Flexibility, °C	ASTM D 1970	- 23
Resistance to Hydrostatic Head, m	ASTM D 5385	60 - 73
Peel Strength with post cure concrete, N / m	ASTM D 903	>900
Puncture Resistance, N	ASTM E 154	>1215
Lap Peel Adhesion, N / m	ASTM D 1000	1500 - 1600
Dimensional Stability, %	ASTM D 1204	< 0.1
Water Absorption, %	ASTM D 570	< 0.30

Application

- Used to sub-structure, basements, retaining walls and tunnels.
- Special circumstances that require planted green roof; underground gas, methane and other gases leak-proof.

Advantages

- Directly bonds with pouring concrete.
- Self adhesive - allows installation without the use of heating torches while providing a fully bonded membrane system.
- Uniform thickness - eliminates any likelihood of thin application commonly found with liquid applied membranes.
- Cross laminated High-Density Polyethylene (HDPE) carrier film ensures dimensional stability whilst allowing adequate flexibility during installation and service.
- Superior barrier: acts as a barrier against aggressive ground salts, toxic contaminants, and chemicals including methane gas, which may attempt to enter the structure through cracks in the concrete.
- It is a weather-resistant and trafficable membrane.

Application Information

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|--------------------------------|----------------------|
| ✓ Substrate Temperature | +5°C Min / +45°C Max |
| ✓ Ambient Temperature | +5°C Min / +45°C Max |
| ✓ Relative air humidity | 75% Max |

Application Methodology

➤ Surface Preparation

- Remove all loose gravel, dirt, foreign particles by jet of dry air make it smooth before application.
- Unevenness and surface defects (such as blowholes, voids, honeycombing, cracks, protrusions, etc.) in the surface must be pretreated and filled prior to the application, in order to prevent any subsequent damage to the membrane sheets.

➤ Waterproofing Application

- **ShaliHDPE® SA** can be applied at temperature of - 4°C or above. During cold or damp condition, the selvedge 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 80 mm 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 25 mm x 1 mm 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 adamp cloth before overlapping.

Precautions

- The sheets must be protected immediately after completion to prevent mechanical damage. In any case don't let the membrane unprotected for more than 7 days.
- Do not apply **ShaliHDPE® SA** to uncured "green" concrete or to concrete with high moisture content levels. In such applications blistering of the membrane may occur due to vapour pressure building up at the interface of the membrane and the substrate.

Value base of product data

All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control and different test methods.

Health and Safety information

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent **Material Safety Data Sheet**.

- 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.



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