

Pre-Applied Sand Coated HDPE Membrane with Heat Weldable Selvage

DESCRIPTION

TIKI HYDROSEAL-SW is pre-applied fully bonded HDPE waterproofing membrane composed of multi-layer composite with heat weldable selvage (at side laps) that effectively forms a complete and permanent bond & seal with freshly poured concrete against it for unparalleled performance.

TIKI HYDROSEAL-SW multi-layer composite comprises of a tough, resilient and high strength HDPE waterproofing membrane layer, pressure sensitive adhesive, and a unique novel particulate layer (sand).

TIKI HYDROSEAL-SW is specially designed to bond fully and permanently with poured concrete against it.

TIKI HYDROSEAL-SW membrane can be installed on uniform concrete blinding surface or on well compacted earth surface or on sandstone cushion surface for waterproofing of below ground surfaces.

USES

- For waterproofing and protection of basement rafts, underground metro stations, tunnels and underpass, blindside walls, podium deck slab, concrete roads and bridges, subways and canals.

ADVANTAGES

- Heat weldable selvage area
- Quick, easy to install - suitable for installation on wet/damp surfaces requiring no torching/ primer.
- High resistance to soil chemicals and corrosive salts—protects structure from aggressive ground conditions preserving structural integrity.
- Exceptional resistance to root penetration, heat, UV, Ozone, and bacteria.
- Robust and strong enough to withstand pressure from concrete pour.

- Waterproofing performance unaffected by differential movement and settlement beneath the concrete slab.
- Advanced adhesive technology—forms continuous and permanent integral bond with concrete poured against it, ensuring waterproofing performance for the life of the structure.
- Prevents lateral migration of water between waterproofing layer and concrete.
- Physically isolates the structure from the surrounding ground and forms complete barrier to water, moisture and gas.
- Does not require protection screed - installation of reinforcement bars can start immediately after membrane installation.
- Inert to below ground conditions and all types of soil and water - does not undergo swelling or phase change in contact with ground water or wet concrete pour.
- Zero maintenance and high durability ensures lower life cycle costs.
- Value engineered pre-applied fully bonded waterproofing system for underground structures.

PROPERTIES

Property	Values		Standards
Total Thickness	1.2mm	1.5mm	ASTM D3767
Tensile Strength	≥25 MPa		ASTM D412
Elongation at Break	≥ 500%		ASTM D412
Peel Adhesion to Concrete	≥ 1500 N/m		ASTM D903
Puncture Resistance	≥ 1000 N		ASTM E 154
Water Pressure Resistance	71m @ 1Hour (No Leakage)		ASTM D5385
Low Temperature Flexibility	(-)29°C @ 2 Hour (No Cracks)		ASTM D1970
Joint Strength	≥ 15000 N/m		ASTM D6392
Lateral Water Migration Resistance	71m @ 1Hour (No Leakage)		ASTM D5385
U.V. Exposure	No Change (28 Days)		ASTM G155

APPLICATION INSTRUCTIONS

All surfaces should be sound and solid for installation of **TIKI HYDROSEAL-SW** to prevent movement during the concrete pour. Substrates must be uniform and smooth and there shall be no gaps or voids in surface greater than 12mm.

All penetrations such as utility conduits, penetrations etc., should be properly grouted for stability.

HORIZONTAL CONCRETE BLINDING OR PCC

The substrate must be sound, smooth and uniform free of all unsound/loose aggregate, sharp objects, protrusions etc. Avoid curved or rounded substrates.

For installation of **TIKI HYDROSEAL-SW** membrane, the surface can be dry / wet, but there should not be standing water on surface.

VERTICAL SHEET PILING

TIKI HYDROSEAL-SW can be used for blind side wall waterproofing applications.

Prior to installation of **TIKI HYDROSEAL-SW** on blindside, gunite/ shotcrete concrete or plywood or insulation or any other suitable material should be installed and use as approved facing to sheet piling to provide uniform support for membrane installation.

Board systems such as timber lagging, if used as support must be close butted with not more than 12 mm out of alignment.

MEMBRANE INSTALLATION

During installation in cold weather or high humid conditions, it is recommended to pre-heat / gently warm the selvedge area of membrane using hot air gun to remove surface moisture/ condensed moisture and improve hot welding of selvage area.

TIKI HYDROSEAL-SW should be installed at 5°C and above.

TIKI HYDROSEAL-SW should be overlapped at side and end laps with subsequent sheets and sealed using hot air welding machine and seams pressed with suitable roller to ensure complete bonding & continuity.

After installation of **TIKI HYDROSEAL-SW** care should be taken to avoid damage to membrane.

Before the concrete pour, it is recommended not to work / travel on top of laid waterproofing membrane.

On vertical surface, prior to back-filling, laid membrane should be protected with approved protection course.

INSTALLATION ON HORIZONTAL SUBSTRATES

During installation, **TIKI HYDROSEAL-SW** is placed on the approved substrate with sand coated side (novel particulate layer) facing the installer / concrete pour.

The **TIKI HYDROSEAL-SW** waterproofing sheets are placed starting at lowest point of slope and with the laps always in favour of water flow.

While laying the waterproofing sheets, no other works shall be carried out in the vicinity to prevent waterproofing sheets from possible damage.

TIKI HYDROSEAL-SW membrane sheets are provided with selvedge on longitudinal side for providing enhanced hot weld sealing at overlap.

The succeeding sheets shall be accurately positioned and aligned along the selvedge of previous sheets.

The transversal overlap should be placed staggered relative to each other, at least by 30cm.

Care should be taken to ensure that, once the sheets are aligned, it should be prevented from displacement from its aligned position.

Maintaining membrane previous alignment, install the membrane by simultaneously rolling the membrane sheet in to place and overlapping with successive sheet.

At end laps, before sealing the overlaps, unique novel particulate layer should be scrapped-off by ≥ 75 mm width to allow for overlapping with subsequent sheet.

Ensure the side and end laps are dry and clean, free from foreign particles, dust deposits, and contamination before attempting to weld the overlap areas by electric hot air welding machine.

Seams at overlaps shall be sealed by hot welding using electric hot air welding machine. The width of the finished welded seam shall be between 40mm to 50mm. Immediately after seam welding, press the overlapped area firmly against the support using a pressure from suitable roller ensuring a homogeneous adhesion

Continue installing until entire area is covered.

INSTALLATION ON VERTICAL SUBSTRATES

Mechanically fasten the membrane vertically using fixings (i.e. fasteners) appropriate to the substrate with sand coated side (novel particulate layer) facing installer / concrete pour.

The membrane may be installed in any convenient length.

Secure top of membrane using a batten such as a termination bar or fixing 50 mm below top edge.

Fixings can be made through the selvedge so that the membrane lays flat and allows firmly rolled overlaps.

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NOTE ON HEAT WELDING of OVERLAPS

Welding parameters including temperature, machine speed, air flow, pressure and machine settings must be evaluated, adapted and checked on site according to type of equipment & climatic conditions prior to welding.

The weld joint is made with standard heat welding machine with a temperature range 295 to 370°C and speed of 0.8 to 2 metre/minute. Temperature and speed to be optimized as per site conditions considering environmental factors. Undulation below welded area can affect weld joint.

Electric hot air welding equipment, such as hand held manual hot air welding equipment and pressure rollers or automatic hot air welding machines with controlled hot air temperature capability are suitable.

Typical recommended type of equipment:

- Manual: Leister Triac PID
- Automatic : Leister Twinny S
- Semi-automatic: Leister Triac Drive

Or other suitable equivalent electric hot air welding equipment.

Note: It is recommended that the concrete be poured, placed carefully and consolidated properly within 28 days of application of the membrane.

SUPPLY

TIKI HYDROSEAL-SW is supplied in standard roll sizes of 1.2m x 20m of 1.2mm and 1.5mm thickness. The membrane can be made available in other widths/lengths on demand and subject to availability.

STORAGE

TIKI HYDROSEAL-SW membranes must be stored above 5°C. Store under the shed & protect from extremes of temperature.

Rolls must be stored in upright vertical position. Avoid stacking of rolls horizontally on their sides or in double stack position.

SAFETY PRECAUTIONS

As with all synthetic products, care should be taken during use and storage of **TIKI HYDROSEAL-SW**.

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