



PRE-TAK & PRE-TAK HD

NEXT GENERATION PRE-APPLIED HDPE WATERPROOFING MEMBRANE

PRE-TAK PRE-APPLIED WATERPROOFING SYSTEM

Integral PSA bond to poured-in-place concrete for use on slab & blindside applications

KEY FEATURES

- Forms a continuous adhesive bond to poured-in-place concrete
- Easy to apply, fully-adhered, watertight adhesive seams
- Provides a barrier to water, moisture, gas, and vapor
- Prevents lateral water migration
- Chemical resistant - effective in most types of soils, including brownfields and hydrocarbon-laden soils
- Weather resistant – Rain and ponding water will not prematurely activate the membrane

ADVANTAGES

- Release liner free - reduces construction site waste
- Tinted solar reflective coating - reduces solar heat reflection and prevents UV & thermal warping of the membrane
- Can be applied to blindside/permanent formwork - allows maximum use of confined and zero-lot-line sites
- Self protecting - can be trafficked immediately after application for follow-on trade work
- Unaffected by wet/dry cycling

Product Description

Kingfield's PRE-TAK membranes are the latest generation of pre-applied waterproofing membranes. PRE-TAK membranes consist of triple-layered composite sheets comprised of a thick HDPE film – 1.2mm (PRE-TAK) or 1.8mm (PRE-TAK HD) – strong pressure sensitive adhesive, and a tinted weather resistant, UV-reflective, and glare diffusing protective coating.

Kingfield PRE-TAK membranes form a unique, integral bond to poured-in-place concrete, preventing both the ingress and lateral migration of water while providing a robust barrier to vapor, water, gas, and chemically laden soils. Concrete is cast directly against the adhesive side of the PRE-TAK membrane, activating Kingfield's next generation coating and pressure sensitive adhesive to form a continuous and integral watertight seal to the structure.

PRE-TAK is designed to be environment and landfill friendly by eliminating the need for a release liner. Installation is efficient and reliable with a manufacturer marked adhesive selvedge allowing for an HDPE-adhesive-HDPE bond at seam overlaps. PRE-TAK delivers superior performance in harsh conditions without the need for specialized equipment, heat, or power. For situations where more seam protection is required (patching, cut edges, roll ends, etc.), Kingfield's positive side lap seam tape, PRE-TAK TAPE, is used to keep the integral bond intact.

PRE-TAK membranes are applied horizontally over smooth prepared concrete, carton forms, compacted earth & crushed stone substrates, or mud slabs. PRE-TAK can also be vertically applied blindside to permanent formwork, single sided forms, or adjoining structures.

While PRE-TAK can be turned up the inside face of slab formwork, is not recommended for use within conventional twin-sided formwork. Kingfield recommends completing the waterproofing system with Hydrogel self-healing polymer rubber gel fluid-applied membrane or Primetak peel-and-stick membrane to the positive face of the walls after removal of formwork.

DIMENSIONS (NOMINAL)	PRE-TAK MEMBRANE (XL)	PRE-TAK HD MEMBRANE (XL)	PRE-TAK TAPE
Thickness	46 mil (0.046 in.) (1.2 mm)	70 mil (0.070 in.) (1.8 mm)	12 mil (0.046 in.) (1.2 mm)
Roll Width	3 ft. 11 in. (1.2 m)	3 ft. 11 in. (1.2 m)	4.75 in. (120 mm)
XL Roll Width	7 ft. 10 in. (2.2 m)	7 ft. 10 in. (2.2 m)	-
Roll Length	65 ft. 6 in. (20 m)	43 ft. 3 in. (13.18 m)	164 ft. (50 m)
Roll Area	258 ft ² (24 m ²)	170 ft ² (15.79 m ²)	-
Roll Weight	70.4 lbs. (32 kg) [XL = 2x]	70.4 lbs. (70.4 kg) [XL = 2x]	5.72 lbs. (2.6 kg)
Minimum Side/End Laps	3 in. (75 mm)	3 in. (75 mm)	-

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KINGFIELD CONSTRUCTION PRODUCTS – 20 NORTH 4TH STREET, SUITE 300, MINNEAPOLIS, MINNESOTA 55401

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PROPERTY	KINGFIELD PRE-TAK & PRE-TAK HD	TEST METHOD
Color	White HDPE W/ Tinted Surface Coating	
Width	3'11" – 7'10" (1.2 – 2.4 m)	
Membrane Thickness (not including PSA)	47 – 70 mils (1.2-1.8 mm)	ASTM D3767
Lateral Water Migration Resistance	Pass at 231 ft (71 m) of hydrostatic head pressure (HH)	ASTM D5385, modified1
Low Temperature Flexibility	Unaffected at -20°F (-29°C)	ASTM D1970
Resistance to Hydrostatic Head	231 ft (71 m)	ASTM D5385, modified2
Elongation	1000% (Horizontal); 608% (Vertical)	ASTM D412, modified3
Tensile Strength, Film	31.44 MPa (Direction A); 35.75 MPa (Direction B)	ASTM D412
Crack Cycling at -9.4°F (100 Cycles)	Unaffected, Pass	ASTM C836 note 4
Puncture Resistance	180 – 225 lbs (800 – 1000 N)	ASTM E154
Peel Adhesion to Concrete	11.4 lbf/in (2000 N/m)	ASTM D903, modified5
Permeance to Water Vapor Transmission	0.01 perms (0.6 ng/(Pa x s x m ²))	ASTM E96, method B
PRODUCT	PART NUMBER	UNIT SIZE
PRE-TAK MEMBRANE	Pre-M	3'11" x 65'6" roll
PRE-TAK MEMBRANE XL	Pre-M-XL	7'10" x 65'6" roll
PRE-TAK HD MEMBRANE	Pre-HD	3'11" x 43'3" roll
PRE-TAK HD MEMBRANE XL	Pre-HD-XL	7'10" x 43'3" roll

INSTALLATION INSTRUCTIONS

Detail drawings are available at kingfieldcp.com

DO NOT USE CITRUS OR SOLVENT-BASED CLEANERS ON PRE-TAK MEMBRANES

The most current application instructions, detail drawings, and SDS files can be viewed at kingfieldcp.com. For additional technical information contact your local Kingfield representative.

PRE-TAK membranes have a marked 3-inch (75 mm) release liner strip covered selvedge along the length of the roll. The release liner covers an aggressive adhesive that once exposed, a strong HDPE-adhesive-HDPE bond is formed in the seam overlap area.

To reinforce the overlap seam in harsh conditions, apply to the positive side of the seam with PRE-TAK TAPE. This creates a strong and robust seam without specialized equipment, heat, or power. PRE-TAK TAPE should be applied to clean, dry surfaces and the release liner must be removed immediately after application. PRE-TAK membranes can be applied at temperatures of 25°F (-4°C) or above. When installing PRE-TAK products in cold or marginal weather conditions <40°F (<4°C) the use of PRE-TAK TAPE is recommended for all detailing and seams.

SURFACE PREPARATION

All Surfaces – It is essential to create a sound and solid substrate to eliminate movement during the concrete pour. Substrates must be regular and smooth with no gaps or voids greater than 0.5-inches (12 mm). Grout around all penetrations such as utility conduits, etc. for stability.

Horizontal Substrates – The substrate must be free of loose aggregate and sharp protrusions. Avoid curved or rounded substrates. When installing over earth or crushed stone, ensure substrate is well compacted to avoid displacement of substrate due to traffic or concrete pour. The surface does not need to be dry, but standing water must be removed.

Vertical Substrates – Use concrete, insulation, 0.75-inch (19 mm) plywood, or other approved facing to sheet piling to provide support to the membrane. Board systems such as timber lagging must be close butted to provide support and not more than 0.5-inches (12 mm) out of alignment.

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MEMBRANE INSTALLATION

Horizontal Substrates – Kick out or roll out PRE-TAK with the HDPE film side to the substrate and with the tinted surface towards the concrete pour. End laps should be staggered to avoid a buildup of tape layers. Leave the selvedge release liner on the membrane until overlap procedure is completed.

Accurately position succeeding sheets to overlap the previous sheet 3-inches (75 mm) along the marked selvedge with the successive sheet over the release liner covered selvedge. Ensure the underside of the succeeding sheet is clean, dry, and free from contamination before attempting to overlap. Peel back the top sheet and remove the selvedge release liner in the overlap area to achieve the HDPE-adhesive-HDPE bond at the overlap. Ensure a continuous bond is achieved without creases or fishmouths and roll firmly with a heavy metal roller.

Vertical Substrates – Mechanically fasten the membrane vertically using wide head fasteners appropriate for the substrate with the tinted side facing towards the concrete pour. The membrane may be installed in any convenient length. Temporary fastening can be made through the selvedge using a small, low profile head fastener so that the membrane lays flat and allows firmly rolled overlaps. Accurately position succeeding sheets to overlap the previous sheet 3-inches (75 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 and remove the selvedge release liner in the overlap area to achieve an HDPE-adhesive-HDPE bond at the overlap. Roll firmly to ensure a watertight seal.

*For vertical areas requiring extra seam reinforcement, fastening along the adhered seam with wide head fasteners and covering with PRE-TAK TAPE is recommended.

Roll Ends & Cut Edges – Overlap all roll ends and cut edges by a minimum 3-inches (75 mm) and ensure the area is clean and free from contamination, wipe with a damp cloth if necessary and allow to dry. Center and apply PRE-TAK TAPE over the lap edges and roll firmly. Immediately remove plastic release liner from the tape.

MEMBRANE REPAIR

Inspect the membrane before installation of reinforcement steel, formwork, and final placement of concrete. The membrane can be easily cleaned by power washing if required. Repair damage by wiping the area with a damp cloth to ensure the area is clean and free from dust, and allow to dry. Repair small punctures (0.5-inches (12 mm) or less) and slices by applying PRE-TAK TAPE centered over the damaged area. Repair holes and large punctures by applying a PRE-TAK membrane patch that extends 6-inches (150 mm) beyond the damaged area. Seal all edges of the patch with PRE-TAK TAPE. Any areas of damaged adhesive should be covered with PRE-TAK TAPE. Where exposed selvedge has lost adhesion or laps have not been sealed, ensure the area is clean and dry and cover with fresh PRE-TAK TAPE. All PRE-TAK TAPE must be rolled firmly and the release liner removed. Alternatively, a hot air gun (or similar) may be used to activate the adhesive. Use caution when heating the adhesive to prevent damage to the membrane and firmly roll seam to achieve complete adhesion.

COMPATIBLE REBAR CHAIRS

Compatible rebar chairs for use on Kingfield's PRE-TAK membranes will sufficiently distribute the load of the steel reinforcement, and other common auxiliary loads, such that there is no risk of the chair puncturing the waterproofing membrane.

Concrete or Brick Dobbies are Kingfield's preferred rebar chair for all PRE-TAK membranes, but there are several commercially available rebar chairs that are compatible with the PRE-TAK PRE-APPLIED WATERPROOFING SYSTEM based on substrate:

- Compacted Earth or Stone Substrate — Concrete or brick (blocks, pavers, or dobies) rebar supports are recommended.
- Mud Slab Substrate — Concrete or brick (blocks, pavers or dobies) rebar supports are most preferred, but individual **plastic capped or dipped** steel chairs or beam bolsters are also acceptable.
- Underslab Drainage Composite — Concrete or brick (blocks, pavers, or dobies) rebar supports are required when PRE-TAK is installed over Kingfield approved underslab drainage composite (e.g. K-Drain), rigid insulation, or carton/void forms.

INCOMPATIBLE REBAR CHAIRS

REBAR CHAIRS THAT DO NOT HAVE PLASTIC CAPS OR ARE NOT PLASTIC DIPPED ARE NOT COMPATIBLE WITH PRE-TAK WATERPROOFING MEMBRANES AND WILL VOID WARRANTY.

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POURING OF CONCRETE

Ensure the plastic release liner is removed from all areas of PRE-TAK TAPE and the surface of the applied PRE-TAK membrane is free of debris.

Concrete must be poured within 56 days (42 days in hot climates) of application of the PRE-TAK membrane. **If concrete is not poured within 56 days (42 days in hot climates), the membrane must be re-inspected by an approved Kingfield representative at the contractor/owner's expense.** Following proper ACI guidelines, concrete must be placed carefully and consolidated properly to avoid damage to the membrane. Never use a sharp object to consolidate the concrete. Provide temporary protection from concrete over splash for areas of the PRE-TAK membrane that are adjacent to a concrete pour.

REMOVAL OF FORMWORK

PRE-TAK membranes can be applied to removable formwork, such as slab perimeters, elevator and lift pits, etc. Initial adhesion of Kingfield's PRE-TAK membrane is limited by the compressive strength of the concrete. Once the concrete is poured the formwork must remain in place until the concrete has gained sufficient compressive strength (3000 lbf/in²) to develop the surface bond. PRE-TAK membranes are not recommended for twin-sided wall forming systems.

A minimum concrete compressive strength of 3000 lbf/in² (20 MN/m²) is highly recommended prior to stripping the formwork placed adjacent to PRE-TAK membranes. **Stripping formwork prematurely may result in permanent loss of bond between the membrane and concrete, resulting in potential water ingress and spalling of the concrete as the membrane failed to get full adhesion due to operator error, resulting in a potential void of warranty. Contact Kingfield immediately if the above situation occurs.**

As a guideline, a structural concrete mix with an ultimate strength of 6000 lbf/in² (40 MN/m²) typically will require a cure time of approximately 14 days at an average ambient temperature of 40°F (5°C), or 3 days at an average ambient temperature of 70°F (21°C) to achieve a compressive strength of 3000 lbf/in² (20 MN/m²). This guideline does not take into account the use of cure/set accelerating admixtures. If cure/set accelerating admixtures are used, it is recommended that the concrete is tested prior to stripping formwork.

In some underslab applications, PRE-TAK membranes are utilized to tie into conventional waterproofing membranes to complete the waterproofing envelope. In these applications, PRE-TAK membrane is installed and secured to the inside panel of the vertical formwork prior to placing the reinforcing steel, supplementary formwork, and concrete. PRE-TAK can be mechanically fastened to the vertical formwork through an excess flap of material. This flap extends past the highest elevation of the poured concrete slab, minimizing the number of penetrations through the waterproofing membrane. Once the concrete is poured against the PRE-TAK membrane, the formwork must remain in place until the concrete has gained sufficient compressive strength (3000 lbf/in²).

After the concrete is poured and allowed to cure, the formwork is removed following the guidelines above. This procedure will expose the HDPE surface of the membrane. It is important to remove any excess, un-adhered PRE-TAK membrane at the time that the formwork is removed. Excess material may exert a force on the membrane and cause the membrane to slowly peel away from the concrete. This phenomenon may be enhanced by heat on warm days, ponding water on the slab, or if the HDPE surface of the membrane is exposed to sunlight.

Areas of PRE-TAK membrane that are damaged or have de-bonded from the concrete should be removed and overlapped a minimum of 6-inches (150 mm) with Kingfield's Primetak peel-and-stick membrane.

ANY EXPOSED PRE-TAK NEEDS TO BE PROTECTED WITH AN APPROVED PROTECTION COURSE PRIOR TO BACKFILLING.

SPECIFICATION CLAUSES

PRE-TAK membranes shall be applied with their tinted protective coating presented to receive fresh concrete to which it will integrally bond. Only Kingfield Construction Products approved membranes shall be bonded to PRE-TAK products. All PRE-TAK PRE-APPLIED WATERPROOFING SYSTEM materials shall be supplied by Kingfield Construction Products, or approved distributors, and applied strictly in accordance with their instructions by Kingfield Approved Applicators.

NOTE: Use PRE-TAK TAPE to tie-in Kingfield's Hydrogel self-healing polymer rubber gel fluid-applied membrane with installed PRE-TAK membranes.

HEALTH AND SAFETY

Refer to relevant Kingfield SDS (Safety Data Sheet), available at kingfieldcp.com

COMPLETE ROLLS OF PRE-TAK MEMBRANE SHOULD BE LIFTED/CARRIED BY A MINIMUM OF TWO PERSONS

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