



Novatak Ionic Bonding Waterproofing System

Blindside & Underslab Pre-Applied Waterproofing - 20% Recycled Content - Cold, Heat & UV Resistant

Description

Novatak Sheet is a highly durable non-vulcanized 20+% reclaimed butyl rubber membrane comprised of a chemistry that creates a tenacious ionic chemical bond to cast in place concrete. Novatak is specially developed to withstand prolonged environmental exposure and follow on trades prior to the application of concrete.

Novatak, unlike conventional membranes that utilize a pressure sensitive adhesive or non-woven fleece, creates an ionic chemical bond that is many times stronger than traditional pre-applied sheet membranes.

Positively charged metal oxide ions in cement react with a negatively charged active carboxyl group (-COOH) in Novatak to create an exceptionally strong ionic bond.

Lateral water migration and water ingress around the building envelope is prevented through the continuously adhered Novatak membrane.

Features	Benefits
Blindside, pre-applied waterproofing	Reduce excavation costs and help achieve LEED credits by eliminating over excavation.
Fully adhered, ionic bond to concrete	Eliminates lateral water migration behind the waterproofing membrane. Ionic chemical bonding does not rely on a pressure sensitive adhesive or geo-textile mechanical bond.
No bentonite or environmentally reactive materials	Membrane does not require compaction or hydration, works in salt water conditions and will not wash out. Rain and environmental conditions during construction will not compromise the installed in place membrane.
Fully adhered seams	Laps are watertight, preventing water ingress at the membrane seams.
Superior construction site durability allows greater assurance for a properly installed membrane.	UV resistant, water resistant, heat and cold resistant. Thick butyl membrane is puncture resistant and can be trafficked immediately after application on horizontal slabs.
Durable and chemically resistant structure protection	Non-vulcanized butyl rubber membrane has excellent chemical resistance from most types of soil contaminants and exhibits outstanding resistance to vapors, alkalis and acids while resisting abrasion and tearing.
Fast and easy installation.	No priming, heat welding or challenging detailing.

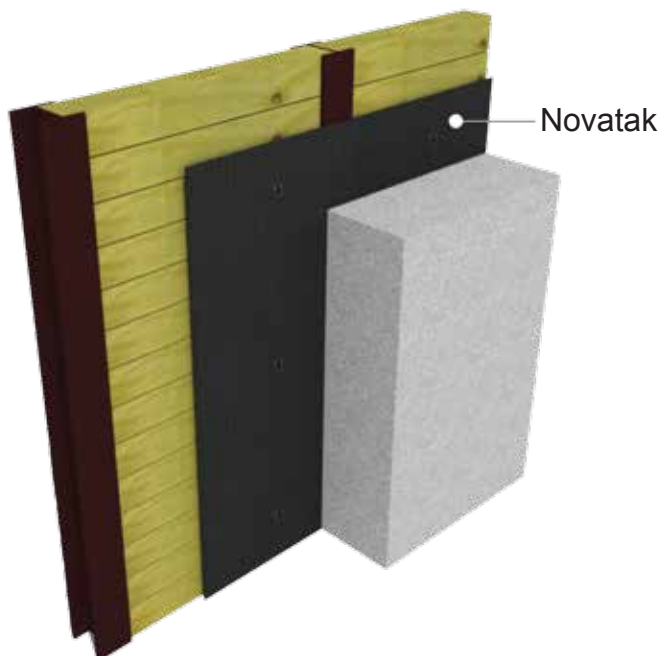
Applications

Vertical Structural Wall

Novatak is applied vertically in blindside applications where the waterproofing membrane is pre-applied. This application method is typical for zero lot line and cut and covers applications without over excavation of the box structure. Novatak is applied against the support of excavation, i.e. sheet pile, soldier pile & lagging, secant/DSM wall. Concrete is then cast directly against the applied Novatak membrane. The ionic bond activates to continuously and integrally bond the Novatak waterproofing membrane to the cast in place concrete. The vertical Novatak waterproofing membrane can transition to the horizontal slab waterproofing membrane to create a continuous, fully adhered system.

Horizontal Base Slab

Novatak is applied as an underslab waterproofing membrane in horizontal applications on top of compacted earth and crushed stone substrates or on top of a concrete raft/mud slab. A structural concrete base slab is cast directly on top of the applied Novatak membrane. The ionic bond activates to continuously and integrally bond the Novatak waterproofing membrane to the cast in place concrete. The horizontal Novatak waterproofing membrane can transition to the vertical wall waterproofing membrane to create a continuous, fully adhered waterproofing membrane.



Substrate Preparation and Installation

The following are general installation guidelines. For the most up to date installation guidelines and details, please access the technical resources section of the Kingfield website (kingfieldcp.com). Additional technical information can be requested from a technical representative by calling 612-225-5167.

Horizontal Base Slab Substrate Preparation

Ensure that the substrate is relatively smooth and flat with no protrusions, discontinuity or irregularities that would inhibit the placement of the membrane. All surface debris that would impede placement must be removed, such as large rocks, concrete fragments, sticks, roots, etc. Avoid sloped or curved substrates. The substrate may be wet but standing water must be removed. When applied over earth or gravel sub-bases, ensure proper compaction prior to membrane placement to avoid displacement.

Vertical Wall Substrate Preparation

The substrate must have the proper structural integrity to support the mechanical fastening and placement of the membrane. Ensure that the substrate is relatively smooth and flat with no protrusions, discontinuity or irregularities that would inhibit the placement of the membrane. For application against secant, DSM or slurry wall earth retention systems, purge all rock pockets that would create negative displacement of the membrane during concrete pour. Enquire with Kingfield technical support for a listing of approved substrates for application. Ensure that the support of excavation system does not allow the rupture of the installed waterproofing membrane during concrete pour due to the negative side displacement of the concrete against the positive face of the support of excavation.

Membrane Installation

There are no environmental limitations for the installation of the membrane. However, ensure that proper adhesion of the QMQ DUAL BOND seaming tape can be achieved. Excessive cold, rain or snow may prevent proper adhesion. Please consult the QMQ DUAL BOND data sheet for additional information.

Horizontal Base Slab Installation

Roll the membrane out onto the substrate with the white release film side facing up towards the installer. Stagger end laps to prevent a continuous end seam throughout adjacent sheets. Position adjacent sheets to overlap the previously positioned sheet by 4" (100mm). To achieve proper adhesion of the QMQ Dual Bond seaming tape, ensure that the selvedge is dry, clean and free from defect. Remove release liner from one side of QMQ Dual Bond seaming tape while adhering to in place sheet, ensuring white release film is peeled back 4" to expose membrane selvedge. Accurately position lapped sheet before pulling release film from the exposed side of the QMQ Dual Bond seaming tape. Remove release liner from QMQ Dual Bond seaming tape while adhering to the adjacent lap sheet. Roll seam firmly with a heavy lead roller to ensure sheets are fully and continuously adhered together without creases or fish mouths. Repeat the same seaming process for the end laps.

Vertical Wall Installation

Membrane should be installed vertically on to substrate with the plastic white release film facing towards the installer. Remove the plastic white release film from the Novatak sheet. Mechanically fasten the membrane using fasteners suitable for the substrate. Fasten through the Nail Stopper patches; ensure release film is removed from both sides of Nail Stopper patch and from Novatak membrane. Stagger end laps to prevent a continuous end seam throughout adjacent sheets. Position adjacent sheets to overlap the previously positioned sheet by 4"

(100mm). To achieve proper adhesion of the QMQ Dual Bond seaming tape, ensure that the lap edge is dry, clean and free from defect. Remove release liner from one side of QMQ Dual Bond seaming tape while adhering to in place sheet. Accurately position lapped sheet before pulling release film from the exposed side of the QMQ Dual Bond seaming tape. Remove release liner from QMQ Dual Bond seaming tape while adhering to the adjacent lap sheet. Roll seam firmly with a heavy lead roller to ensure sheets are fully and continuously adhered together without creases or fish mouths. Repeat the same seaming process for the end laps.

Rebar Placement; Vertical and Horizontal Applications

Ensure that the support for the steel reinforcement utilizes appropriate rebar chairs, beam bolsters or dobies that do not puncture the membrane and ensure that they are sufficiently spaced to distribute the load of the installed reinforcement to reduce the risk of the support puncturing the membrane when fully loaded. Do not point load the membrane with reinforcement support.

Details and Penetrations

Ensure that all detailed areas and penetrations are treated properly. For the most up to date standard details please visit the Kingfield website at Kingfieldcp.com. Detail application procedures are also available in the Kingfield Contractor Reference Guide. Basic reference detail drawings are included in this data sheet.

Concrete Placement

Protect membrane prior to concrete placement from follow on trade activities including welding and reinforcement placement. Place protective sheeting on top of membrane for heavily trafficked areas or areas where damage is likely to occur. A 3" non-reinforced protection screed is recommended for superior protection. Verify that all plastic release liner has been removed from the membrane. Inspect membrane for any damage, tears or punctures. Follow Novatak repair guidelines for all damaged areas prior to placement of concrete.

Place concrete according to current ACI standards taking care not to damage the membrane during the consolidation process.

Quality Assurance Program

Kingfield offers a comprehensive quality assurance program for Novatak systems installed by manufacturer approved applicators including third party inspection services. Comprehensive system warranties and performance guarantees are provided by Kingfield to meet the specific requirements of specified applications. For more information consult with a Kingfield representative or review the website at Kingfieldcp.com.

Detail Drawings

For the most recent catalog of standard detail drawings, please visit the Kingfield website at Kingfieldcp.com.

Health and Safety

Refer to MSDS for complete health and safety information. Take care when lifting heavy items.

	Novatak Sheet	QMQ Dual Bond Roll	Nail Stopper	Novatak Tape
Description	Non-vulcanized butyl rubber waterproofing membrane	Dual sided butyl rubber seaming tape	Butyl rubber coated adhesive nail washer	Non-vulcanized butyl rubber single sided butyl tape
Thickness	0.060 in. (1.5 mm)	0.040 in. (1.0 mm)	0.24 in. (6 mm)	0.060 in. (1.5 mm)
Dimensions / Volume	3.6 ft. x 32.8 ft. (1.1 m x 10 m)	3.93 in. x 19.69 ft. (0.1 m x 6 m)	2.36 in. x 1.97 in. (60 mm x 50 mm)	3.93 in. x 32.8 ft
Coverage area	118 sq. ft. (11 sq. m.)	N/A		
Weight	57.3 lb. (26 kg)	30.9 lb. (14 kg)	57.3 lb. (26 kg)	6.4 lb. (2.9 kg)
Packaging	Carton	Carton	Carton	Carton
Units/Carton	1 unit/carton	9 units/carton	200 units/carton	4 units/carton
Units/Pallet	30 units/pallet	405 units/pallet	45 cartons/pallet	160 units/pallet
Shelf Life	Indefinite	Indefinite	Indefinite	Indefinite
Accessory Waterstops:				
Bentotak DS or Sepa Seal SH-100 for non-moving construction joints, penetrations and H-beam penetrations				
- See Bentotak DS or Sepa Seal SH-100 Waterstop data sheets for information.				

Physical Performance Data	Results	Test Method
Thickness	0.060 inches	ASTM D3767
Lateral Water Migration Resistance	Pass at 231 ft (71 m) of hydrostatic pressure	ASTM D5385 ¹
Low Temperature Flexibility	Unaffected at -20 F (-29 C)	ASTM D1970
Resistance to Hydrostatic Head	100 psi, 231 ft of water (71 m)	ASTM D5385 ²
Maximum Load MD	49.3 lbf/in (0.83 inches)	ASTM D1970
Maximum Load XMD	94.8 lbf/in (0.67 inches)	ASTM D1970
Tensile Strength, Film	1538 psi (10.60 MPa)	ASTM D412
Crack Cycling at -9.4 F, 100 cycles	No cracking, Pass	ASTM C836 ³
Puncture Resistance	151 lbs	ASTM E154
Peel Adhesion to Concrete	7.2 lbf/in (1,260 N/m)	ASTM D903 ³
Lap Peel Adhesion (Novatak Tape)	7.1 lbf/in (1,243 N/m)	ASTM D1876
Lap Peel Adhesion (QMQ Dual Bond Tape)	9.3 lbf/in (1,628 N/m)	ASTM D1876
Permeance to Water Vapor Transmission	0.05 perms (2.81 ng/(Pa x s x m ²))	ASTM E96

¹ Lateral water migration resistance is tested by casting concrete against membrane with a hole and subjecting the Novatak membrane to hydrostatic head pressure. This test measures the resistance of lateral water migration between the concrete and the Novatak membrane.

² The Resistance to Hydrostatic Head test is performed by casting concrete against the membrane with a lap. Before the concrete cures, a 0.125 in. (3 mm) spacer is inserted perpendicular to the membrane to create a gap. The cured block is placed in a chamber where water is introduced to the membrane surface up to the head indicated.

³ Concrete is cast against the surface of the Novatak membrane and allowed to cure (7 days minimum).

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Printed in U.S.A.

NOVATAK PRODUCT DATA SHEET – v2.12.01.16

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