ThermalTight™ Product Information

PRODUCT DESCRIPTION

ThermalTight combines two essential building envelope materials into one, easy-to-install panel: Neopor® GPS (graphite polystyrene) semi-vapor permeable rigid insulation by BASF, and a self-gasketing, vapor-permeable, non-woven, non-perforated polypropylene laminated WRB onto the outside of the panel, that acts as both a water and air barrier.

The WRB features a patent-pending flap system to eliminate the "reverse shingle" common with panel systems that require taping on top of seams. Combined with its placement to the exterior of the wall assembly, ThermalTight creates one of the most effective air barrier and drainage systems for the building envelope.

The ThermalTight panel is the key component of the complete **ThermalTight™ System**: ThermalTight, ThermalBuck, BRINC Flashing Tape, BRINC Flexible Flashing Tape, BRINC Double Sided Tape, DAP® Dynaflex 800 sealant and DAP® DRAFTSTOP 812 spray foam.

PRODUCT USE

Water management is the primary role of the WRB. Insulation plays an essential role in improving the energy-efficiency and comfort of any building. Continuous insulation, (insulation on the exterior of the wall) is becoming a standard building code because it prevents thermal bridging (loss of energy through the studs) that occurs when only the wall cavity is insulated.

When adding insulation to the exterior of the sheathing, the best placement for the WRB is to the *exterior* of the insulation, where it can manage bulk water and stop air infiltration at the outer surface, providing better protection for the entire wall assembly. It's good building science.

ThermalTight makes it easier to build better because the WRB is laminated to the exterior of the Neopor® GPS exterior insulation panels, allowing for both optimum performance AND ease of installation in one panel.

The self-gasketing, vapor-permeable WRB features a patent-pending flap system used to seal the panels together, resulting in both a water barrier, and a continuous air barrier. Flaps are sealed on the underside with BRINC double-sided tape. Rough openings, penetrations and outside corners are sealed with BRINC flashing tape, and BRINC Flexible Flashing Tape.

ThermalTight is designed to meet and exceed the International Energy Code performance requirements for water barriers, air barriers, and thermal insulation. It integrates with ThermalBuck to create a complete thermal break in the building envelope. Approved for Type V Construction.

thermalbuildingsupply.com
(617) 331-4647

ThermalTight Panel Properties

CLASS A or 1 Fire Rating	ASTM E84	FS<25, SD<450
Water Penetration @6.24 psf	ASTM E331	PASS
Air Leakage @6.27 psf	ASTM E283	PASS
UV Resistance		365 days

ThermalTight WRB Properties

Color		White with teal blue ink
Composition		Non-woven, non-perforated polypropylene
Water Vapor Permeance of 1" thickness, max perm	ASTM E96	Method A: 42 Method B: 49
Basis Weight		105.4 gsm
MD Grab Tensile	ASTM D5034	58.6 lbf
CD Grab Tensile	ASTM D5034	50.6 lbf
MD Trapezodal Tear	ASTM D5733	20.5 lbf
CD Trapezoidal Tear	ASTM D5733	22.8 lbf

PRODUCT COMPONENTS

WRB

The self-gasketing WRB is a non-woven, non-perforated polypropylene material. Vapor permeable, it allows moisture to move in both directions. It's important to control the speed this moisture is moving through the walls, known as **"vapor drive"**. While not as important as bulk water management, the high-performance homes we build today are tighter than they've even been before, making vapor drive an important consideration.

Not only a water resistant barrier, once the ThermalTight panel flaps are sealed with BRINC Double Sided Tape, it becomes a continuous water & air barrier (weather resistant barrier).

Neopor® GPS Semi-Permeable Rigid Insulation

The Neopor® GPS (Graphite Polystyrene) rigid foam has an R-value of 4.7 per inch, which increases in R-value as temperatures drop. Neopor® consistently delivers the highest true R-value performance over time *(neopor.basf.us).* GPS is made up of small pockets of air enhanced with graphite, rather than the harmful blowing agents found in both XPS and polyiso (which can off-gas and lower the long-term R-value). The graphite reflects radiant heat energy, increasing the material's resistance to the flow of heat (R-value).

ThermalTight is manufactured with the higher VP layer (WRB) to the outside of the structure, and the semi-vapor permeable layer (insulation) to the interior. This slows moisture from moving into your wall assembly from the outdoors, while promoting the movement of moisture from the interior.

The components of the **ThermalTight™ System** effectively manage **water - air - vapor + thermal** building requirements in one panel, simplifying good building science.

PRODUCT DIMENSIONS & SIZES

ThermalTight panels are available in 3 depths:

- 1-1/16″ R-5 (4.7 per inch)
- 1-1/2″ R-7 (4.7 per inch)
- 2-1/8″ R-10 (4.7 per inch)

The Neopor® rigid foam insulation measures:

- 4′ x 8′
- 4′ x 9′
- 4′ x 10′

The WRB overlay extends 2″ beyond the insulation on all 4 sides, creating the patent-pending flap system.

SUSTAINABILITY

Multiple characteristics of Neopor® contribute to its sustainability. One of the reasons it maintains its R-value over the long term is that it contains no blowing agents, making it one of the greenest types of rigid exterior insulation materials.

BASF Neopor Plus® GPS Properties

Color		Grey
Composition		Graphite polystyrene
Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation	ASTM C578	Type II
Compressive Resistance min psi		15.0
Flexural Strength min psi		35.0
Water Vapor Permeance of 1″ thickness, max perm		3.5
Water Absorption by total immersion		3.0
Dimensional Stability max %		2.0
Density Min lb/ft$_3$		1.35
Thermal Resistance @75° @40° @25°	R-Value	4.7 5.0 5.2

SUSTAINABILITY (continued)

The manufacturing process of Neopor® uses up to 30% less material than other rigid insulation types, reducing the consumption of natural resources (*neopor.basf.com*).

Neopor® GPS directly supports the intent of the EC3 tool – to help building professionals quantify, report and reduce the embodied carbon impact of their projects.

It is GREENGUARD Gold Certified for low chemical emissions, and has been referenced by both the Collaborative for High Performance Schools (CHPS) and the Leadership in Energy and Environmental Design (LEED®) Building Rating System.

PRODUCT INSTALLATION

ThermalTight allows for the installation of the WRB and continuous insulation in one trip around the building.

Install ThermalBuck according to basic instructions. Install Z-Strip & flash with BRINC Flashing Tape. Roll the tape to activate the pressure sensitive bond for good adhesion. Insert bead of DAP® Dynaflex 800 sealant into Z-Strip channel.

PRODUCT INSTALLATION (continued)

Cut ThermalTight panels to fit exterior walls. Tape flap on bottom row of panels with BRINC Flashing Tape, and insert into Z-strip at bottom of sheathing. Fasten through sheathing with corrosion proof ring shank cap nails.

Remove ThermalTight flaps not needed to overlap another panel in shingle fashion. Vertical seams on panels will need to be taped before horizontal seams. Apply BRINC double-sided tape to the underside of the flap, or the face of the trimmed panel. Pull the release liner, then fold the 2" panel flap over the adjacent panel, and carefully smooth to avoid wrinkles. If wrinkles occur, reposition the tape before before rolling the seam to ensure good adhesion.

Apply flashing tape to the sill piece of ThermalBuck, matching the outside width of ThermalBuck jamb legs, and extending down onto the ThermalTight panel. Shim if needed, and install window according to manufacturers' instructions, through ThermalBuck and into the structure min. 1-1/4".

Flash each jamb, starting at the top edge of ThermalBuck, ending at the bottom edge. Tape should cover the nail flange, ThermalBuck, and transition on to the ThermalTight panel. Flashing tape at the head should extend 2" past jamb tape on either side. Roll the tape for a good air & water seal.

For inside corners, the flap from one panel will adhere to the adjacent panel with BRINC Double Sided Tape. For outside corners, cut both flaps off, and cover the corner seam with BRINC Flashing Tape, ensuring a min. of 2" coverage on the face of each panel. Roll the tape to activate the pressure sensitive bond for a good air & water seal.

Seal circular penetrations with BRINC Flexible Flashing Tape. Electrical penetrations with BRINC Flashing Tape. Repair any major damage to ThermalTight panels with a piece of ThermalTight, and cover with BRINC Flashing Tape.

Consider the air barrier completion at the top of your wall assembly. Use good building practices to ensure the continuance of the barrier to the ceiling or roof membrane.

Detailed installation guides with photo steps available at **thermaltight.com**.

STORAGE & HANDLING

Precautions taken when storing insulation products on the job site can help minimize the potential for damage.

Store ThermalTight on pallet supplied by BRINC Building Products, or off the ground supported by 3 runners. If storing outdoors, cover ThermalBuck & ThermalTight with a waterproof, opaque cover. Foam insulation materials need to be protected from reflective sunlight or prolonged sun/heat exposure.

WARRANTY

BRINC Flashing Tape is an integral part of the **ThermalTight™ System** that includes ThermalTight, ThermalBuck, BRINC Flashing Tape, BRINC Flexible Flashing Tape, BRINC Double Sided Tape, and DAP® Dynaflex 800 sealant and DAP® DRAFTSTOP 812 spray foam.

The **ThermalTight™ System** is covered by a 15 year limited warranty. Subject to published standard terms and conditions. Details available at **thermalbuildingsupply.com**

LIMITATIONS

Cover entire wall assembly system with ThermalTight, ThermalBuck, and recommended tapes within 120 days to prevent damage from UV exposure.

AVAILABILITY

ThermalTight is available for purchase in the U.S. and CANADA through BRINC Building Products Inc. Contact BRINC at 888.814.2825 for distribution opportunities.

TECHNICAL ASSISTANCE

Detailed specifications, test reports, and installation instructions are available at **thermalbuildingsupply.com**

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WATER - AIR - VAPOR + THERMAL
ThermalTight™
Made of Neopor®