

ThermaDRY®

Insulating Drainage Panels

Durability. Sustainability. Energy Efficiency.

- ✓ Provides high drainage rates
- ✓ Protect from freeze-thaw cycling
- ✓ Protect waterproofing during backfill
- ✓ Extend life-cycle of masonry structures
- ✓ Easy to install directly over waterproofing
- ✓ Protects against soil-water hydrostatic pressures

**Drains, Insulates and Protects Foundations,
Below-Grade Structures & Plaza Decks**



Concrete Building Envelope Products
800.544.7398 www.tclear.com



Contributes to LEED Points!

ThermaDRY®

Insulating Drainage Panels



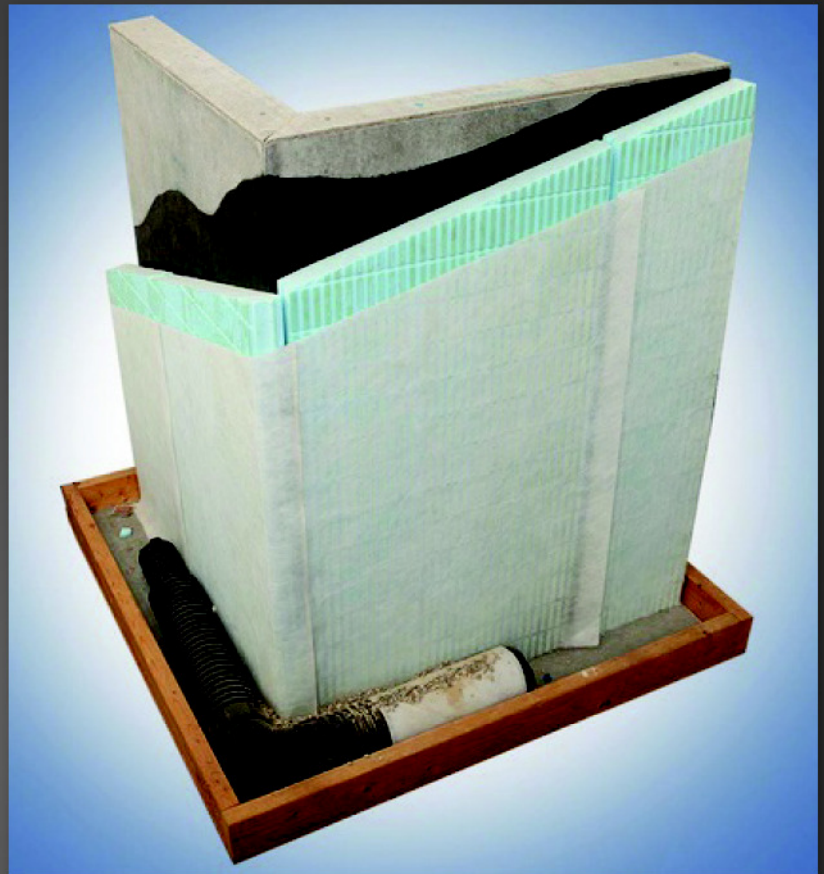
ThermaDRY® Insulating Drainage Panels are manufactured using 2'x8'x2" panels of Dow Styrofoam® brand extruded polystyrene or expanded polystyrene. Closely spaced vertical and horizontal channels cut into one side of the ThermaDRY® panels provide rapid drainage of foundation walls. Adhered to the channel surface is a spunbonded geotextile filtration fabric which helps prevent soil from entering and clogging the channels. This fabric also overlaps the sides and end of the panels to help prevent soil from clogging the edge channels at the panel joints.

ThermaDRY® provides time and labor savings by featuring drainage, insulation and protection in one easy step. The high compressive strength polystyrene withstands installation abuse and geopressure while reducing long-term energy consumption by insulating below grade foundation walls. The potentially damaging effects of soil water, hydrostatic pressures and freeze-thaw cycling are greatly reduced by ThermaDRY® panels.

ThermaDRY® is easy to install without the need for special tools or equipment. The panels are 2'x8' and are erected vertically, typically over the waterproofing providing for protection of the waterproofing during backfill.

There are three types of ThermaDRY® Insulating Drainage Panels—Type 750 (25psi), Type 1250 (40psi) and Type 1750 (60psi). Each can be used to full advantage in varied structures other than basement or foundation walls. They will, for example, insulate and protect bridge abutments, retaining walls, earth-sheltered structures, culverts, lagging or forms. Types 1250 and 1750 can also be used for horizontal applications such as plaza decks.

The type of ThermaDRY® panels selected for use on any given foundation or structure will depend on the amount of pressure exerted by the soil. Refer to Table 1 on page 3 and select the panel type which meets the strength requirements of the job.



Panel Property	ASTM Method	Type 750		Type 1250		Type 1750	
		Styrofoam XPS	EPS	Styrofoam XPS	EPS	Styrofoam XPS	EPS
Thickness: Inches		2	2	2	2	2	2
Edge Treatment		Square	Square	Square	Square	Square	Square
R-Value	C518	9.4	8	9.4	8	9.4	8
Compressive Strength		25psi/3600 psf		40psi/5760 psf		60psi/8640 psf	
Design Compress Strength* (x.60%)	D1621	2160 psf		3460 psf		5180 psf	
Flow Rate** gpm/ft	D4716	9.5		12		12	
Recommended Load*** (Plaza Decks)							
Static Load		N/A		1250 psf		1750 psf	
Dynamic Load		N/A		700 psf		1000 psf	

* An appropriate design factor, such as 3 to 1 for static loads should be applied to minimize compressive creep.
 ** Flow rate at 500 lbs per square foot load
 *** Includes drainage channels

ThermaDRY® Insulating Drainage Panels are supplied with square edges for ease of installation. Each panel has an overlap of geofilter fabric to keep joints from being pushed apart by water, silt and pressure.

The foundation surface should be smooth, monolithic and free of coarse aggregates. All debris should be cleaned off of footings. Waterproofing should be cured and free of solvent. Adhesives compatible with polystyrene and the waterproofing should be used on the non-fabric side of the panels to adhere them to the cured waterproofing temporarily until the backfill is in place. Be sure the fabric flap on the long edge of the panels overlap the butt joints between panels and at corners. Adhesive or staples can be used to hold the flap in place as shown in Figure 1 and 2.



Figure 1 – Corner Detail

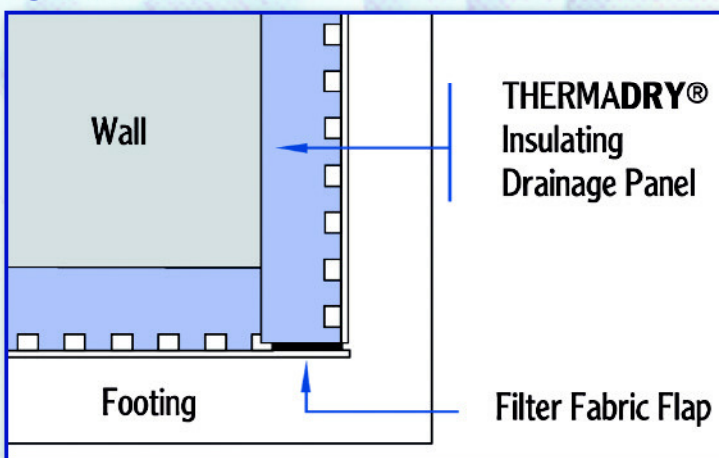
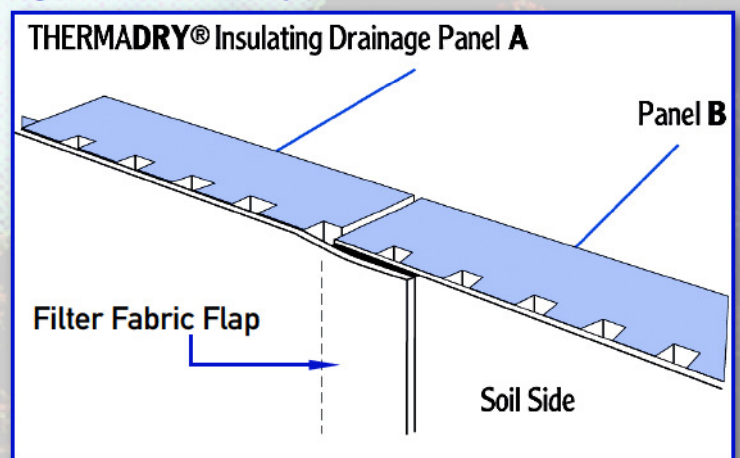


Figure 2 – Fabric Overlap at Panel Joint



ThermaDRY® panels also offer an alternative method for constructing plaza decks that is simpler to design, easier to install and less costly for the client.

For many years now the preferred way of designing plaza decks has been to use the Protected Membrane Roofing (PMR) method. In this method, the insulation product is placed on top of the membrane, where it provides insulation value for the building, and protects the waterproof membrane from physical abuse, UV radiation, and thermal stress.

In current plaza designs, the most common wearing surfaces used over the extruded polystyrene foam insulation have been either precast concrete pavers supported on a pedestal system, or poured concrete installed over layers of filter fabric, pea gravel, and filter fabric (See Figure 3).

New Plaza Design using ThermaDRY® Insulating Drainage Panels

The current systems have worked very well for many years, but they can be difficult to detail and expensive to install. ThermaDRY® offers a simpler, more economical method of approach. This method allows the paver or poured concrete wearing surfaces to be installed directly on the surface of the ThermaDRY® Insulating Drainage Panels. These panels inherently provide the drainage and ventilation pathways which are necessary below the plaza wearing surface and both the high strength and long term thermal efficiency of Styrofoam® insulation in the current design are maintained in this new design. More importantly, by using ThermaDRY® panels, the costly pedestal system needed in conventional pedestal-paver construction is eliminated and in poured concrete construction, the use of ThermaDRY® panels mean the costly and cumbersome installation of pea gravel and two layers of filter fabric is eliminated (See Figure 4).

ThermaDRY® Insulating Drainage Panels are the key to this simpler construction. The transition from foundation walls to plaza decks has been a natural evolution for ThermaDRY® since the design needs are the same in both areas—insulation, drainage, and protection.

Additional Concrete Building Envelope Products from T. Clear Corporation

LightGUARD® & HeavyGUARD® Protected Membrane Roofing Insulation Panels
ProGUARD® Concrete Insulated Sheathing
WallGUARD® Insulating Drainage Panels

For more information on any T. Clear Products or for a list of nationwide manufacturer's representatives, call T. Clear at **800-544-7398** or email sales@tclear.com.

Figure 3 – Typical, conventional plaza deck assemblage

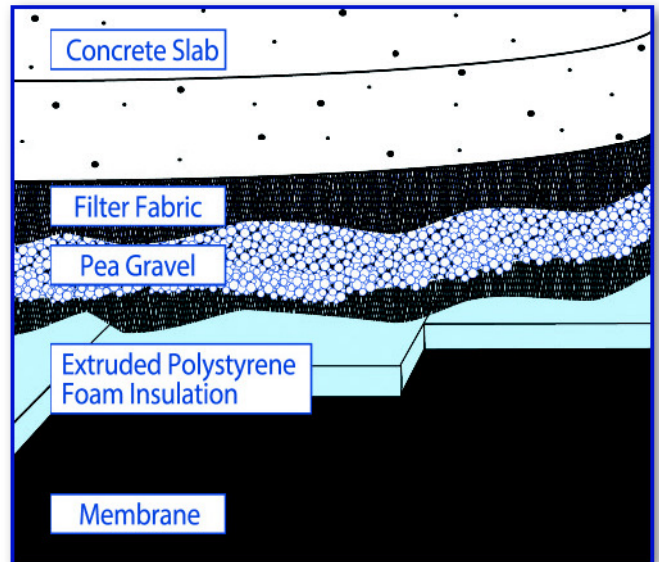
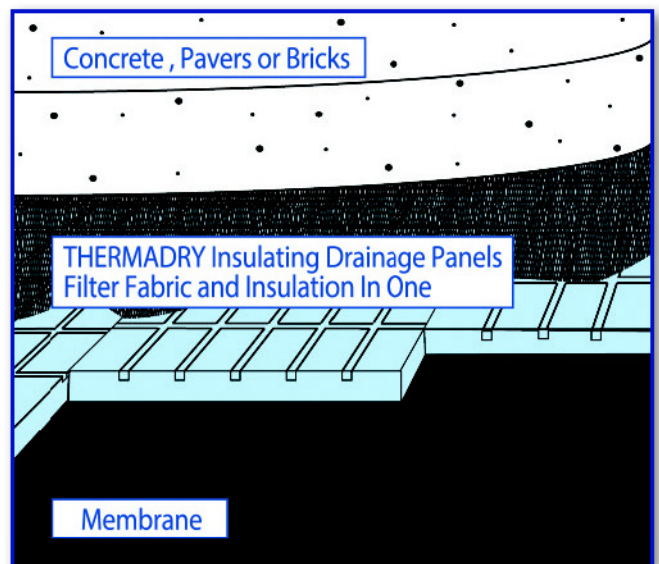


Figure 4 – Simplified ThermaDRY® plaza deck assemblage



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