

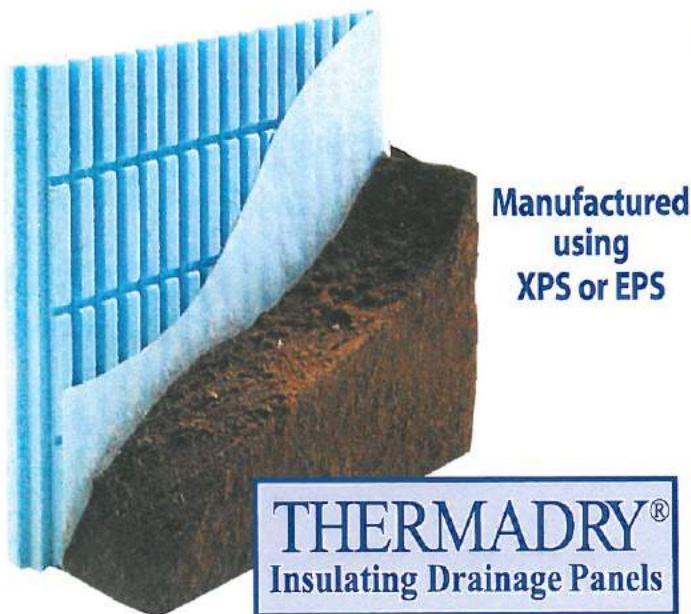
THERMADRY[®]

Insulating Drainage Panels

**Available in Extruded PolyStyrene (XPS)
or Expanded PolyStyrene (EPS)**

**Drains, Insulates and Protects
Foundations**

THERMADRY® INSULATING DRAINAGE PANELS



Drains, Insulates and Protects. All in One Product.

Product Description

THERMADRY® Insulating Drainage Panels are manufactured from 2' X 8' panels of Dow Styrofoam® brand extruded polystyrene insulation. Closely spaced vertical and horizontal channels cut into one side of the THERMADRY panels provide rapid drainage. Adhered to this channeled surface is a spunbonded geotextile, filtration fabric which helps prevent soil from entering and clogging the channels. This fabric also overlaps the sides and ends of the panels. This prevents the edge channels from being clogged at the panel joints.

Features

The closed-cell structure of Dow Styrofoam enables THERMADRY panels to repel all forms of moisture. In addition, its rigid structure assures high compressive strength that withstands installation abuse and geopressure.

Benefits

This unique time- and labor-saving product provides drainage, reduces long-term energy consumption and protects a building's foundation. THERMADRY's high drainage rates and high compressive strength protect below-grade structures against the potentially damaging effects of soil water, hydrostatic pressures and freeze-thaw cycling.

The ability of THERMADRY to withstand compressive loads also limits compressive creep deformation to less than 1.5% over a 20 year time frame. As a result, high drainage rates are maintained.

The thermal performance of extruded polystyrene foam insulation provides predictable, long-term insulation value.

Sizes & Applications

There are three types of THERMADRY Insulating Drainage Panels — Type 750, Type 1250 and Type 1750. Each can be used to full advantage in varied structures other than basements or foundation walls. They will, for example, drain, insulate and protect bridge abutments, retaining walls, earth-sheltered structures, culverts, lagging or forms. And Types 1250 and 1750 can be also be used for horizontal installations such as plaza decks.

Limitations

THERMADRY Insulating Drainage Panels should not be exposed to petroleum solvents or fuels, and should be protected from prolonged sunlight exposure to prevent ultraviolet degradation.

Typical Physical Properties of
THERMADRY Insulating Drainage Panels

| Panel Property | ASTM Method | Type 750 | Type 1250 | Type 1750 |
|------------------------------------|-------------|-------------------|-------------------|-------------------|
| ASTM Type | C578-95 | Type IV | Type VI | Type VII |
| Thickness, Inches | | 2 | 2 | 2 |
| R-Value, F•sq. ft. •h/Btu | C518 | 9.4 | 9.4 | 9.4 |
| Compress. Strength, psi / psf | | 25 psi / 3600 psf | 40 psi / 5760 psf | 60 psi / 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 long-term compressive creep.

Flow rate at 500 lbs./sq.ft. load * Includes drainage channels.

THERMADRY® ON FOUNDATIONS



The type and thickness of THERMADRY Insulating Drainage Panel selected for use on any given foundation will depend on the amount of pressure exerted by the soil and by the thermal resistance desired.

Refer to the table on page 2 and select the panel type which meets the strength and insulation requirements of the job.

Application

THERMADRY Insulating Drainage Panels are supplied with butt ends for ease of installation. Each panel has an overlap of geo-filter fabric to keep joints from being pushed apart by water, silt and pressure.

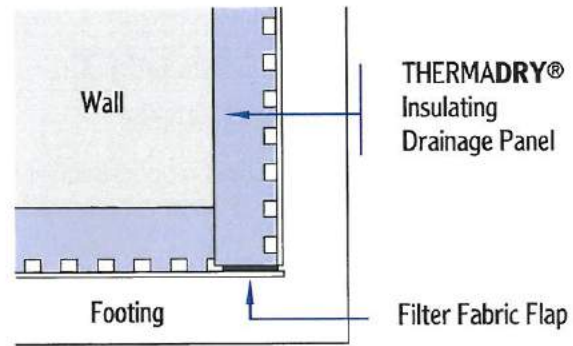
Begin by installing the first panel vertically, with the drainage grooves on the dirt side and long edge flush with a corner and the fabric flap on the right. The fabric flap on the horizontal edge must be at the bottom of the panel and positioned to prevent backfill from entering the channels. Firmly position the second panel butted up to the first panel. Be sure the fabric on the long edge of the panel overlaps the previous panel. Continue until a corner is reached. Cut and install the corner panels as shown in Fig. 1.

Multiple Tier Installation

When additional tiers are required, proceed in a manner similar to that used to install the lower tier. Use of an approved adhesive applied to the wall side will aid in holding the board until back fill. Take care that the fabric flap of the upper panels overlaps the lower panels.

Completing the Drainage System

The panels must be connected to a conventional subsurface tile and gravel bed drainage system capable of carrying away water drained through the channels of the panel. One method is shown in Fig. 3, where the drainpipe and gravel are wrapped in filter fabric. Note how the gravel extends above the bottom edge of the panel. This insures the connection between the panels and the subsurface drainage system. Backfill as soon as possible, sloping the grade line away from the wall to minimize the possibility of surface water overloading the drain system.



Note: Not drawn to scale. Not to be construed as complete.

Fig. 1 - Corner Detail

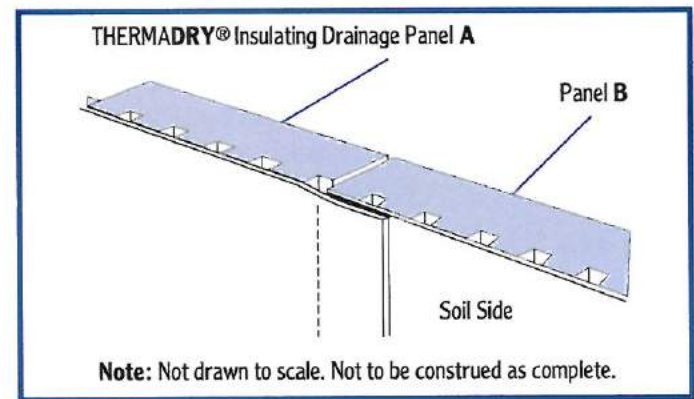


Fig. 2 - Fabric Overlap at Panel Joint

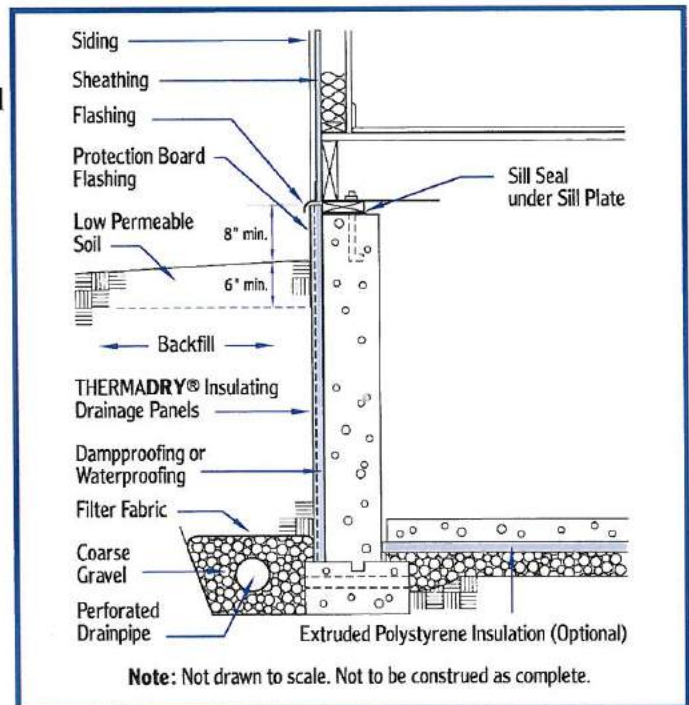


Fig. 3 - Typical Panel Installation and Connection at Footing Drain Line

THERMADRY® ON PLAZA DECKS

Simple, Efficient, Insulated Plaza Decks Using THERMADRY Insulating Drainage Panels

THERMADRY is 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 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 separate layers of filter fabric, pea gravel, and filter fabric (See Fig.4)

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. Now, a simpler, more economical approach is available. This method allows the paver or poured concrete wearing surface 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 the new design. But, 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 means the costly and cumbersome installation of pea gravel and two layers of filter fabric is eliminated (See Fig 5).

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

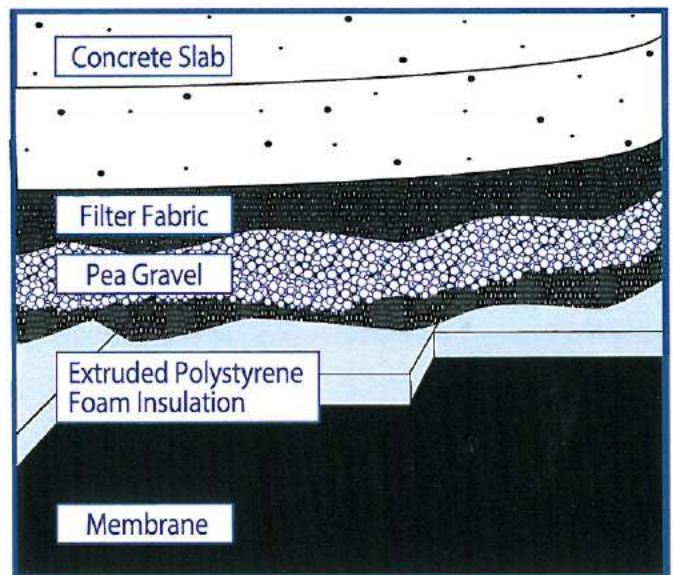


Fig. 4 - Typical, conventional plaza deck assemblage

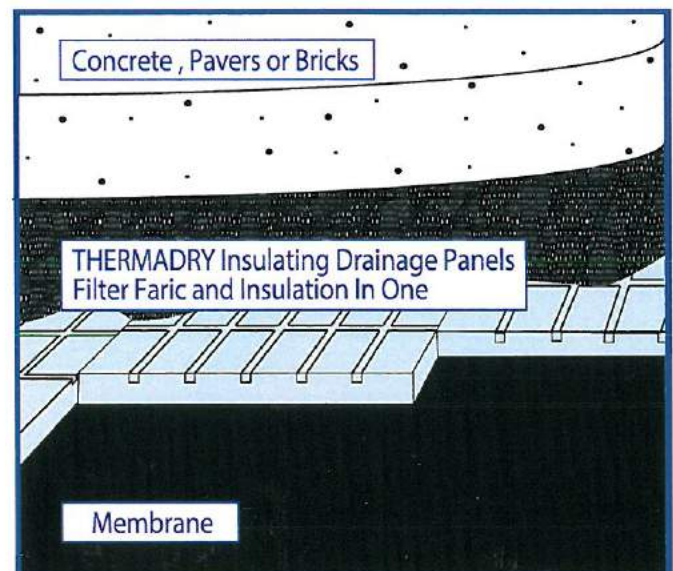


Fig. 4 - Simplified THERMADRY plaza deck assemblage



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For more information on any of the family of T. Clear building products, contact T. Clear at:

3255 Symmes Road • Hamilton, OH 45015

800-544-7398 • Fax 513-870-9606

Email: sales@tclear.com • technical@tclear.com

Or visit our website at www.tclear.com