

# ThermaDrain®

DATA  
SHEET

\*Patent # 5860259

## THE INSULATED DRAINAGE BOARD

### PRODUCT:

*ThermaDrain*® insulated drainage board manufactured by:

*ThermaDrain*® Incorporated  
1030 Atlantic Drive  
West Chicago, Illinois, 60185  
(800) 837-4065

*ThermaDrain*® eliminates the need for a clean airspace in drainage walls. *ThermaDrain*® is ideal for use in cavity wall and masonry veneer wall construction. (Fig. 1)

**Sizes:** *ThermaDrain*® is manufactured in the following standard sizes and shapes

Insulation Thickness: 3/4", 1", 1-1/2", 2",  
2-1/2" and 3"  
Length: 96"  
Width (Height): 48", 16"  
Edges: Squares and beveled (cavity-cut)

### DESCRIPTION:

*ThermaDrain*® combines a high quality closed cell, rigid board, DOW®'s extruded polystyrene insulation with an adhered high impact styrene drainage panel that is incorporated onto its exterior face. When installed within a masonry wall, *ThermaDrain*® provides the wall with the required "R" value and forms a continuous unobstructed drainage path within the masonry wall.

*ThermaDrain*'s actual thickness is the insulation thickness listed above plus 3/8" for the drainage mat. Special sizes and shapes might be available by request.

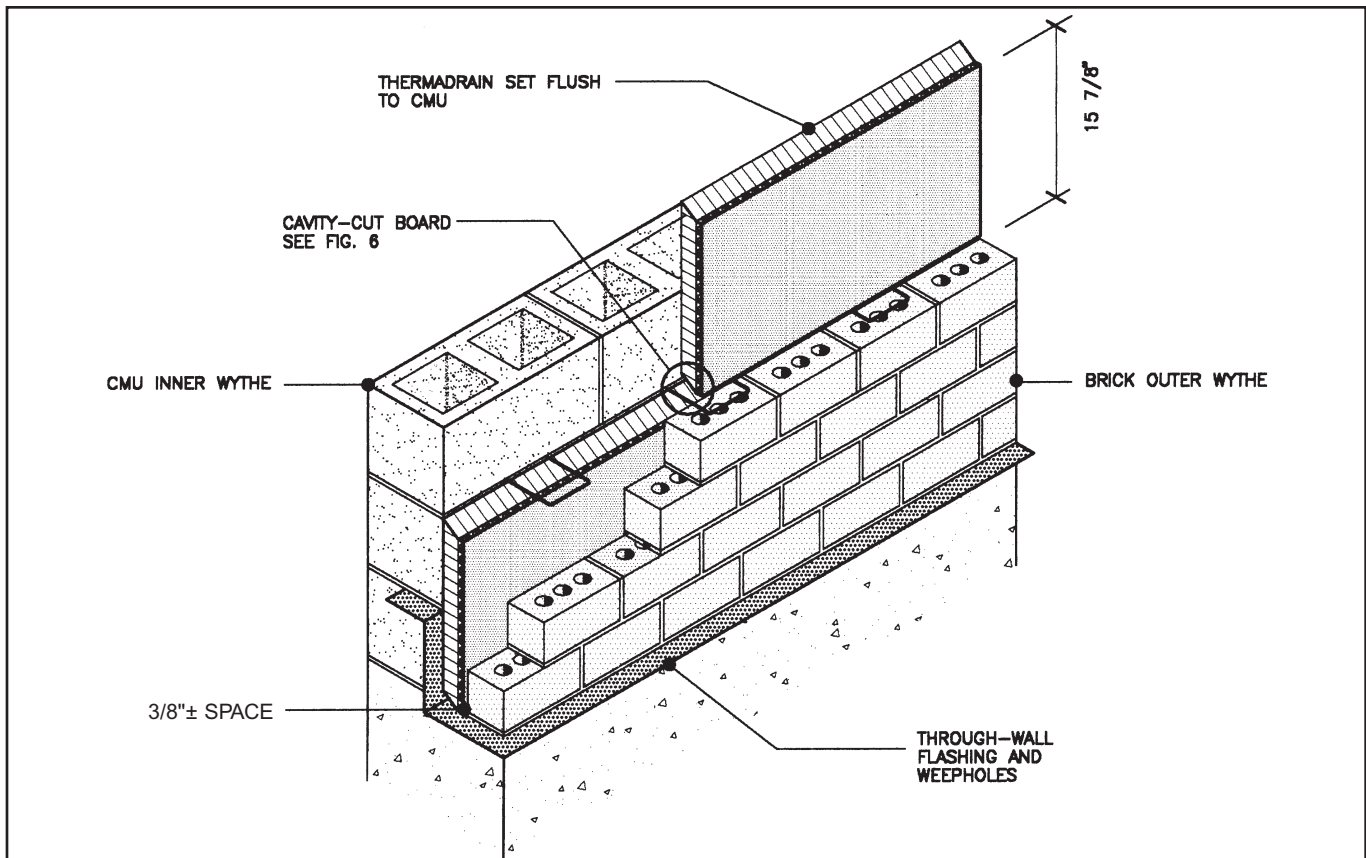


Figure 1. Typical Drainage Wall With ThermaDrain®

**Advantages:** *ThermaDrain*<sup>®</sup> increases the quality control of masonry wall construction by:

- Eliminating water related problems caused by mortar bridging and providing a continuous drainage path to the flashing and weepholes (fig. 2)
- Eliminating the need for a mortar free airspace (fig. 3)
- Providing the mason with an easy and conventional one step means of installation (fig. 4).

*ThermaDrain*<sup>®</sup> offers thermal efficiency by providing a high “R”<sup>1</sup> value per inch of thickness for masonry wall construction.

ThermaDrain <sup>®</sup> Designation	Insulation product	Insulation R-value <sup>1</sup>	Actual thickness
3/4" ThermaDrain <sup>®</sup>	DOW <sup>®</sup>	3.8	1-1/8"
1" ThermaDrain <sup>®</sup>	DOW <sup>®</sup>	5.0	1-3/8"
1-1/2" ThermaDrain <sup>®</sup>	DOW <sup>®</sup>	7.5	1-7/8"
2" ThermaDrain <sup>®</sup>	DOW <sup>®</sup>	10.0	2-3/8"
2-1/2" ThermaDrain <sup>®</sup>	DOW <sup>®</sup>	12.5	2-7/8"
3" ThermaDrain <sup>®</sup>	DOW <sup>®</sup>	15.0	3-3/8"

<sup>1</sup> Thermal Resistance R-values are based on ASTM C578 and the requirements of FTC R-value rule (16CFR part 460)

*ThermaDrain*<sup>®</sup> generates savings by:

- Increasing masons productivity by removing the requirement and concern for keeping the airspace clean of mortar.
- Reducing wall and foundation thickness up to 2" (through the reduction of the cavity size, and elimination of the oversized airspace).
- Substantially reducing shelf angle size (subsequently reducing the eccentricity and tension caused by loading.)

**Limitations:** *ThermaDrain*<sup>®</sup>'s<sup>®</sup> intended use is in masonry wall construction. Install *ThermaDrain*<sup>®</sup> in strict accordance with recommended installation procedure. Any deviations from recommended installation might produce undesired results.

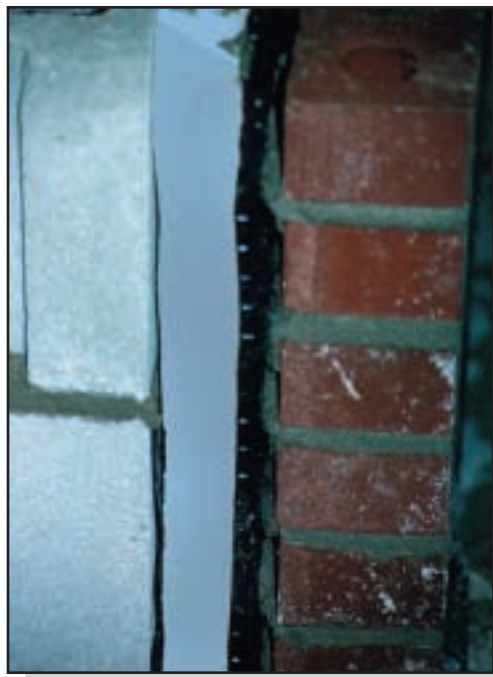


Figure 2 *ThermaDrain*<sup>®</sup> provides continuous vertical drainage.



Figure 3 *ThermaDrain*<sup>®</sup> stops mortar blockage.



Figure 4 *ThermaDrain*<sup>®</sup> is installed in easily handled board sections.

State-of-the-art details must be incorporated into the design of the masonry wall for *ThermaDrain*® and the masonry wall systems to function successfully. Flashing and weepholes must be properly installed at all recommended locations or moisture-related problems might result subsequent to the intended performance of *ThermaDrain*®.

## TECHNICAL DATA

**Testing:** A testing program was developed to determine the effectiveness of a *ThermaDrain*® wall system in comparison to a standard cavity wall system. Walls for this study were tested in accordance to ASTM E514, “Test Method for Water Permeance of Masonry.” Walls were constructed unsupervised to simulate field conditions and to allow normal amounts of mortar droppings and extrusions to accumulate in the wall. Flashings were properly installed at the base of each wall to facilitate the collection of water.

**Conclusions:** Results of the study indicated that the *ThermaDrain*® wall system substantially out performed the standard cavity wall system and exhibited nearly 400% more drainage capability than the cavity wall system. (See Table 1). For a copy of the Test results contact *ThermaDrain*® at (800) 837-4065.

Test Wall	A	B
Drainage System	<i>ThermaDrain</i> ®	3” Cavity with Pea Gravel
First Visible Water on Cavity Side of Brick	6 minutes	7 minutes
Appearance of flowing water on cavity side of brick	14 minutes	16 minutes
Water Passing Through Weephole At the Brick Wythe Face		
3 hours	3.4 gal/hr.	.51 gal/hr
72 hours	4.1 gal/hr	1.06 gal/hr

Table 1 Test

## INSTALLATION RECOMMENDATIONS

The method of installation for *ThermaDrain*® is similar to the installation of standard rigid insulation board used in cavity wall construction. However the following procedures and precautionary measures must be carefully followed during construction to achieve the desired results and successful performance of the *ThermaDrain*® wall system.

1. Erect the concrete masonry backup 3 to 4 courses above the exterior wythe. Install the joint reinforcing as usual. Install the *ThermaDrain*® (16” x 96”) board size in between the joint reinforcing. Erect exterior wythe of masonry.
2. Set the board tightly against the concrete masonry back-up with the top of the board sloped down towards the outer wythe of masonry (see fig. 6). The drainage mat must face the wall exterior. All mortar droppings must be removed from the face of the concrete masonry to ensure direct and flush contact between *ThermaDrain*® and the backup wythe. Provide a 3/8" space between the outerface of *ThermaDrain*® and the inner face of the exterior wythe of masonry for tolerances and space for adjustable eyes, if used. (fig. 5).
3. Install adjacent sections of *ThermaDrain*® board by tightly butting both vertical and horizontal ends together. At vertical joint locations the boards must be positioned properly (as previously indicated) with the top of the board sloped down toward the exterior wythe of masonry (fig. 6).

4. For exterior corner conditions tape or use sealant on the end joint continuously.

5. Use *ThermaDrain*® only in walls that contain properly specified and correctly installed flashing. The interior end of the flashing must always be properly terminated behind the *ThermaDrain*® board.

6. All field adjustments required for the alteration of size or shape of *ThermaDrain*® board must be performed with a power table saw. (Do not remove the top slope of the board.)

For installation recommendation in brick veneer construction contact *ThermaDrain*® for technical assistance.

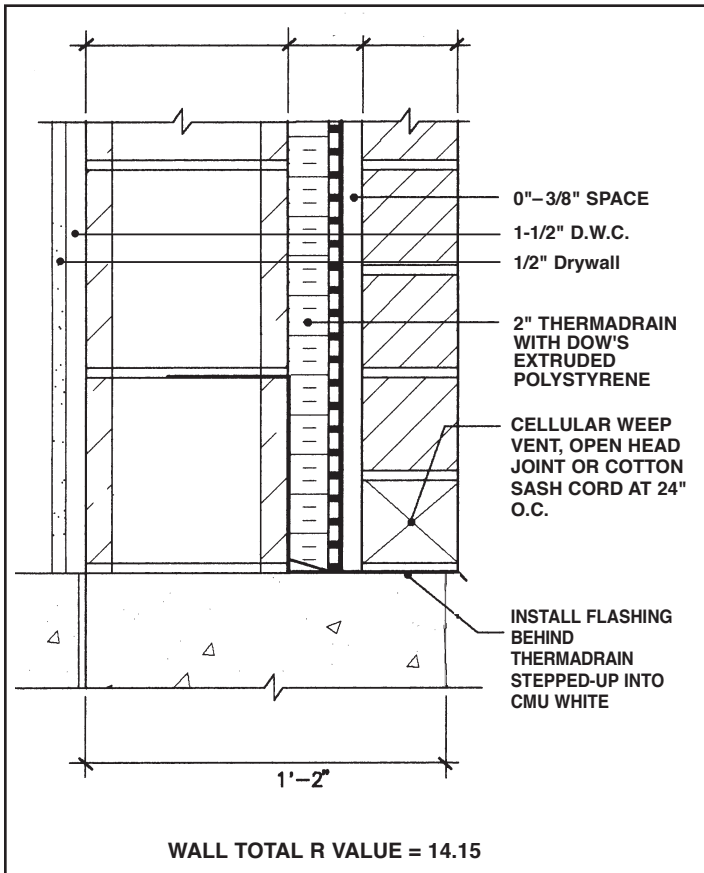


Figure 5 Typical *ThermaDrain*<sup>®</sup> wall section

## COST AND AVAILABILITY

Costs will vary due to quantity of purchase and location of the project. Quotations for specific projects can be obtained from a *ThermaDrain*<sup>®</sup> representative.

## WARRANTY

*ThermaDrain*<sup>®</sup> warrants for a period of 12 months from date of sale that all *ThermaDrain*<sup>®</sup> boards shall be free of defects in material and workmanship.

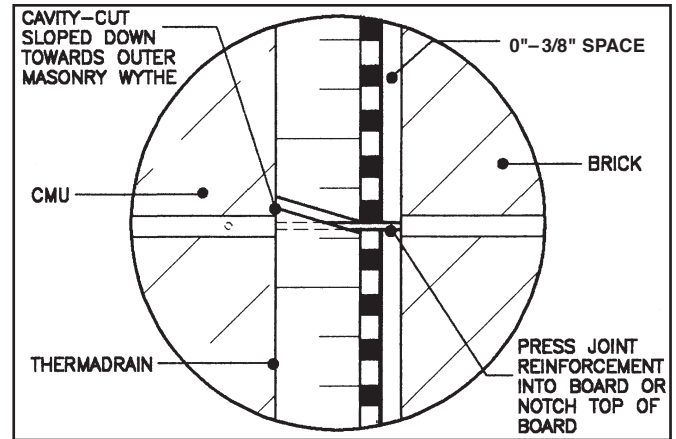


Figure 6 *ThermaDrain*'s<sup>®</sup> cavity-cut ends form sloped joints

## MAINTENANCE

No special care is required after installation.

## TECHNICAL SERVICES

Complete Technical Support is available at:  
*ThermaDrain*<sup>®</sup>, Inc.  
(800) 837-4065 - National

## FOR MORE INFO CONTACT

***ThermaDrain Inc.*<sup>®</sup>**  
1030 Atlantic Drive  
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1-800-837-4065

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