

# Submittal Sheet



# Insul-Drain® FOAMULAR® Extruded Polystyrene

## Insulation

### Description

*Insul-Drain* is a *FOAMULAR* extruded polystyrene product that incorporates the features of insulation, drainage and protection board in a single product. It's easy to install, without the need for special tools or equipment, and the product's superior compressive strength and long-term moisture resistance properties mean years of reliable performance on below grade foundation walls even under extremely harsh conditions.

### Features and Benefits

- Precision-cut channels drain water from vertical foundation walls while completing total insulation envelope.
- Durable filtration fabric prevents soil from clogging channels.
- 48" x 84" and 48" x 96" sizes cover more square footage faster and minimizes joints between boards.
- Acts as protection course for waterproofing membrane.
- Tongue & groove edges provide proper board alignment and helps seal joints.
- Top-edge horizontal channel permits unobstructed water flow between vertical courses of boards.
- High R-value (see table at right), exceptional moisture resistance and high compressive strength of *FOAMULAR* extruded polystyrene insulation.
- UL Classified foam core meets ASTM C578 Type IV specifications.

### Availability

#### Material

Extruded polystyrene closed-cell foam panel with fabricated drainage channels and a non-woven filtration fabric overlapping the board on three sides.

#### Sizes

1", 1½", and 2¼" thick, 4' wide, 7' and 8' long.

### Edges

Tongue & Groove

### Weights

165 (1"), 240 (1½"), and 350 (2¼") approx. lb./1000 ft<sup>2</sup>.

### Compliance with Standards

Compliant with the following building code sections: BOCA 2603, ICBO 1713, SBCCI 717. Foam core meets ASTM C578 specifications and is UL Classified.

### Packaging

Shipped in units with two stretch-wrap bands per bundle. See below.

### Product Installation

1. *Insul-Drain* is installed against exterior below grade foundation walls. *Insul-Drain* can be installed directly over waterproofing or dampproofing membranes provided that the membrane is properly cured.
2. *Insul-Drain* boards should be installed vertically with the fabric side away from the horizontal wall. Align

### Packaging

<i>Insul-Drain</i>	1"	1½"	2¼"
Pieces Per Bundle	12	8	6
Bundles Per Unit	8	8	7
Sq. Ft. Per Bundle	384	256	192
Pieces Per Unit	96	64	42
Sq. Ft. Per Unit	3,072	2,048	1,344

### FOAMULAR Physical Property Data

Property	<i>Insul-Drain</i>		
	1"	1½"	2¼"
R-Value, min. °F x ft. <sup>2</sup> x h/Btu*	4.4	6.9	10.6
Compressive Strength, min. (lb/in. <sup>2</sup> )**	25	25	25
Flow Rate, min. (gal./min./ln. ft.)***	12.0	12.0	12.0

\* At 75°F.

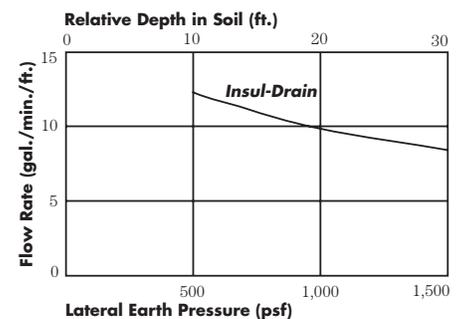
\*\* Minimum foam core value. The bearing surface of the product should be considered when designing for specific applications.

\*\*\* 12 gpm per ln. ft. of width (tested at a uniform load of 500 psf for 300-hour duration according to ASTM D4716).

the 4 ft. dimension along the horizontal wall and place the edge flush along a corner of the wall. *Insul-Drain* should be installed so as to extend vertically from the top of the footing to several inches below finished grade. Properly sized gravel fill should be installed at least one foot above the bottom edge of the board. The fabric overhang along the bottom of the board should be tucked underneath to the backside of the board. Should the project require less than a full size 7 or 8 ft. long board, excess should be trimmed from the bottom of the board leaving a 3-inch fabric tab to tuck underneath.

3. A bead of compatible adhesive should be applied along the entire top edge of *Insul-Drain* to secure top fabric overhang and prevent soil penetration into the drainage channels.

### *Insul-Drain* Flow Rate Testing\*



\* Testing performed by Westinghouse Environmental and Geotechnical Services, Inc. according to ASTM Test Method D-4716 Standard Test Method for Constant Head Hydraulic Transmissivity (In-Plane Flow) of Geotextiles and Geotextile Related Products. The time duration of the test was 300-hours.

## Insulation

# Insul-Drain®

4. Adjacent *Insul-Drain* boards are installed by engaging the tongue and groove edge to ensure a solid fit between boards. It is suggested that a bead of waterproof sealant be applied in the edge groove area in order to retard water penetration to the foundation wall. Additional *Insul-Drain* boards should be installed in a similar fashion. The remaining fabric overhang on the tongue side should be overlapped onto the adjacent board and secured with a bead of compatible adhesive.

5. *Insul-Drain* boards can be trimmed to fit project dimensions or protrusions by scoring with a utility knife or cut with a handsaw. It is recommended that all length cutting take place on the bottom of the board.

6. At wall corners where two *Insul-Drain* boards intersect, one board should be trimmed flush with the wall and the second board trimmed to overhang the wall, by the thickness of the product, to produce a continuous thermal envelope. A bead of waterproof sealant should be applied vertically where the boards join each other. The fabric overhang should then be attached to the surface of the adjacent board with compatible adhesive.

7. Additional tiers of *Insul-Drain* boards should be installed the same as the first tier. Be certain to secure all fabric overhangs to adjacent boards with compatible adhesive.

8. Owens Corning recommends that *Insul-Drain* boards be at least partially backfilled the same day as installation to stabilize and secure the boards in place. The balance of the backfill should be added as soon as practical to fully

secure the boards and protect them from jobsite damage and UV exposure. Care should be exercised during the backfill operation as to not allow soil penetration between *Insul-Drain* and the foundation wall. As an alternative, in conjunction with partial backfilling, compatible construction adhesives can be used to temporarily secure *Insul-Drain* boards. Beads or spots of compatible adhesive can be dabbed to the backside of *Insul-Drain* and then pressed firmly in place against the wall.

9. *Insul-Drain* should not be installed unprotected above grade. In order to achieve a continuous thermal envelope, standard *FOAMULAR* insulation panels should be installed against the foundation wall from the top of the *Insul-Drain* to the sill plate. The exposed *FOAMULAR* insulation should be covered with an appropriate protective coating.

### Architectural Notes

#### Waterproofing/Dampproofing

*Insul-Drain* should be considered as a drainage enhancement mechanism. Owens Corning recommends the application of a waterproofing/dampproofing membrane at the foundation wall in addition to *Insul-Drain*. The installation of a properly designed footing drainage system is also recommended.

#### Application Temperature Range

*Insul-Drain* is not recommended where sustained temperatures exceed 165°F. Do not use in contact with chimneys, heater vents, steam pipes or surfaces with temperatures of over 150°F.

#### Jobsite Handling

To protect *Insul-Drain* and prevent discoloration caused by excessive exposure to direct sunlight, installation should commence as soon as practical.

#### Certified System Performance

Owens Corning will provide test certification for published fire and structural data covering systems designed and constructed according

to its published specifications. Tests are conducted on specific products assembled to meet performance requirements of established test procedures specified by various agencies. System performance following any substitution of materials or compromise in assembly design cannot be certified and may result in failure under critical conditions.

#### Compatibility

Contact membrane manufacturers for specific information regarding compatibility with *Insul-Drain*. *Insul-Drain* should not be used in conjunction with coal-tar based membranes. Contact Owens Corning for recommendations.

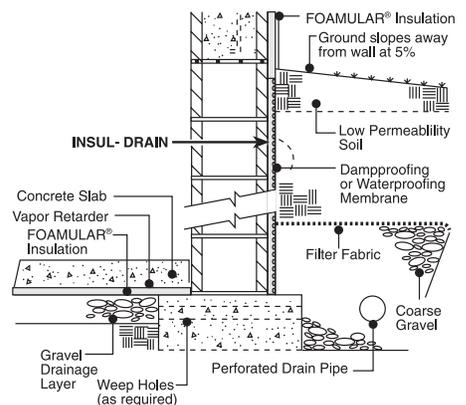
#### Caution

Combustible. *Insul-Drain* contains a flame retardant additive to inhibit ignition from small fire sources, but will ignite if exposed to fire of sufficient heat and intensity. During shipping, storage, installation and use, this product should not be exposed to open flame or other ignition sources.

#### Product Usage

*Insul-Drain* should not be exposed to the building interior. Most building codes recognize minimum 1" thick masonry or concrete as adequate thermal barrier protection.

### Insul-Drain System Installed on Concrete Masonry Wall



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