



The best insulation choice for tapered roofing systems. The strongest support for design and installation.

Owens Corning's Taper Control Center

For the Specifier

- All-inclusive design service provides everything needed for a submittal package.
- Upfront layout and budgeting assistance.
- Value-engineering available to help choose the best design to fit your need.
- Single-source responsibility means no third-party involvement.

For the Contractor

- Complete, easy-to-read installation plans.
- FOAMULAR insulation panels clearly printed to show type, location and direction of installation.
- Optional custom packaging, by roof area, for easy layout and storage of tapered material.
- Submittal packages consisting of multiple roof plans, samples and data sheets.
- Large inventory of tapered FOAMULAR insulation for prompt product delivery.
- Single-source responsibility.

Total Assistance at Every Stage of Your Tapered Roofing Project

You know how much time and effort it takes to accurately specify a tapered roofing system. Now Owens Corning makes it easy, just call your specifications into the Taper Control Center and we'll help you correctly specify a tapered roofing system at no charge.

To contact the Taper Control Center, call 1-800-875-1594.

All we need to get your project off to a fast start is a plan of the roof design and notification if the plan was filmed by Dodge Scan Services. If so, we can directly access the microfilm.

The support doesn't stop there: Owens Corning will stay with you from job design and costing all the way through to project completion. We'll even ship your order with markings that tell the installers where every single piece fits on the roof.

Design Assistance

We supply preliminary design assistance, aid in the preparation of submittal packages in both new and retrofit applications, and offer a value-engineering option that lets you choose the most effective and efficient tapered roof from among alternate designs. We even help budget the project to keep costs in line. And there's the added benefit of single-source responsibility, which means no third-party involvement.

Installation Support

We offer competitive product pricing and easy-to-read, computer-generated shop drawings. We also furnish all the product information required for use with submittal packages and provide direct contact with specifiers for technical support. And we clearly identify each FOAMULAR insulation tapered panel for fast, accurate installation.

Our large inventory of standard tapered product assures timely job site deliveries. Packaging can easily be tailored to meet your specific job site requirements.

FOAMULAR THERMAPINK® 25 Insulation

Tapered Insulation Made for the Job

As an industry exclusive, FOAMULAR THERMAPINK 25 insulation, with a 25 psi minimum compressive strength, is extruded to a tapered configuration, not cut after the extrusion process. This technique gives FOAMULAR tapered insulation a waterproof skin on both sides. The benefit: greater performance characteristics, including increased dimensional stability that avoids the costly problem of bowed boards. No other polystyrene insulation offers this unique benefit.

FOAMULAR extruded polystyrene insulation is produced with Owens Corning patented HYDROVAC® process technology. This technology results in a tight, closed-cell structure with extremely high resistance to moisture. This property is vital when selecting roof insulation because moisture penetration can severely degrade the thermal efficiency of insulation materials. FOAMULAR insulation is virtually unaffected by moisture and will never rot or decay.

FOAMULAR insulation is lightweight, yet tough, for ease of handling. And each panel is clearly marked for accurate installation. While FOAMULAR THERMAPINK insulation with a 25 psi minimum compressive strength is the most frequently used tapered product, higher compressive strength products are also available as required.



Tapered Roofing Systems

FOAMULAR® Extruded Polystyrene Insulation

Direct to Steel Deck Applications

In addition to the other long-term benefits of extruded polystyrene, FOAMULAR THERMAPINK insulation can be applied directly over a steel deck without the need for a thermal barrier. This application is listed by Underwriters Laboratories, Inc.® as Roof Deck Construction #457.

Single-Source Partnerships

To streamline the process even further, Owens Corning has established single-source systems warranties through the following quality roof membrane manufacturers:

- Allied Signal Inc.
- Carlisle SynTec Systems
- Versico Inc.
- Sarnafil Inc.
- Genflex Roofing Systems
- Mirafi Moisture Protection Products

Contact your Owens Corning sales representative for more information concerning single-source warranties with FOAMULAR insulation.

Typical Physical Properties⁽¹⁾

Property (units)	ASTM Method ⁽²⁾	Product/Values FOAMULAR THERMAPINK 25 Insulation
Thermal conductivity – “k” (BTU x in/ft ² x hr x °F max) ⁽³⁾		
@ 75°F mean temperature	C 518	0.20
@ 40°F mean temperature		0.18
Compressive strength		
minimum value (lb/in ²) ⁽⁴⁾	D 1621	25.0
Flexural strength (lb/in ² min) ⁽⁵⁾	C 203	75
Water absorption (% by volume max) ⁽⁶⁾	C 272	0.10
Water vapor permeance (perm. max) ⁽⁷⁾	E 96	1.1
Water affinity	–	hydrophobic
Water capillarity	–	–
Dimensional stability (% linear change max) ⁽⁸⁾	D 2126	2.0
Linear coefficient of thermal expansion (in/in/°F max)	–	2.7 x 10 ⁻⁵
Flame spread ⁽⁹⁾⁽¹⁰⁾	E 84	5
Smoke developed ⁽⁹⁾⁽¹⁰⁾⁽¹¹⁾	E 84	45-175
Oxygen index min. ⁽⁹⁾	D 2863	24

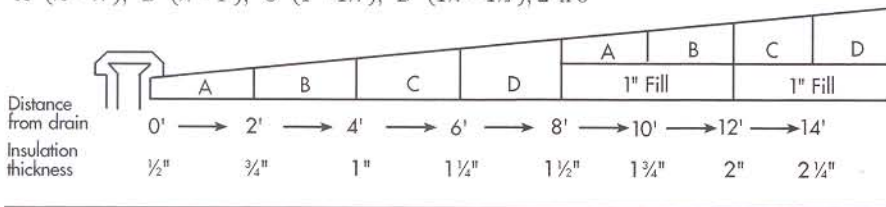
(1) Properties shown are representative values for 1" thick material based upon most recent product quality audit data. (2) Modified as required to meet ASTM C 578. (3) Thermal resistance (R) – (hr x ft² x °F/BTU) – of a 1" thickness of 5.0 (at 75°F mean temperature), 5.4 (at 40°F mean temperature). (4) Value at yield or 10%, whichever occurs first. (5) Value at yield or 5%, whichever occurs first. (6) Data ranges from 0.00 to value shown, due to the level of precision of the test method. (7) Actual water vapor permeance data decreases as thickness increases. (8) Data ranges from 0.00 to value shown. (9) These laboratory tests are not intended to describe the hazard presented by this material under actual fire conditions. (10) Data from Underwriters Laboratories, Inc.® Classified. See Classification Certificate U-197-91. (11) ASTM E 84 is thickness-dependent, therefore a range of values is given.

Tapered Slope Systems

Contact our Taper Control Center for information on special slopes or panel sizes.
Call 1-800-875-1594.

1/8"/ft Tapered Slope System – Utilizes Four Tapered Panel Sizes (A, B, C & D)

"A" (1/2" - 3/4"), "B" (3/4" - 1"), "C" (1" - 1 1/4"), "D" (1 1/4" - 1 1/2"), 2' x 8'



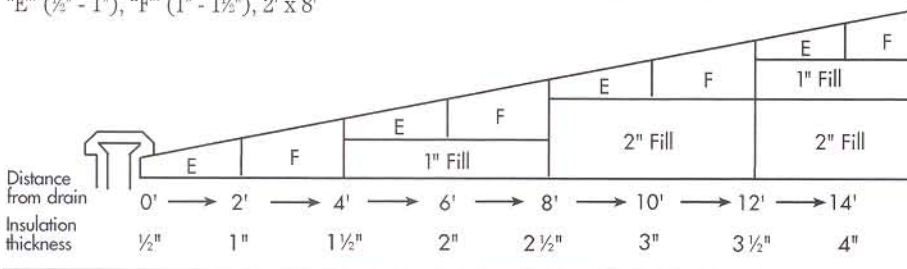
System Average R-value

Distance from Drain	0' - 4'	0' - 8'	0' - 12'	0' - 16'	0' - 20'	0' - 24'
R-value (average)*	3.75	5.00	6.25	11.50	8.75	10.00
C-value (average)*	0.26	0.20	0.16	0.13	0.11	0.10

* @ 75°F mean temperature

1/4"/ft Tapered Slope System – Utilizes Two Tapered Panel Sizes (E & F)

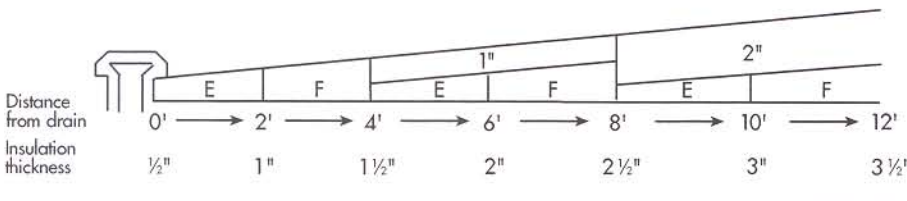
"E" (1/2" - 1"), "F" (1" - 1 1/2"), 2' x 8'



System Average R-value

Distance from Drain	0' - 4'	0' - 8'	0' - 12'	0' - 16'	0' - 20'	0' - 24'
R-value (average)*	5.00	7.50	10.00	12.50	15.00	17.50
C-value (average)*	0.20	0.13	0.10	0.08	0.066	0.057

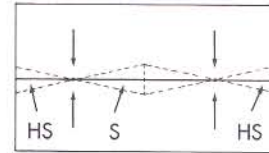
* @ 75°F mean temperature



Typical Tapered Layouts

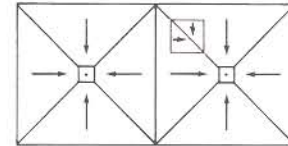
1. Two-Directional Taper System

Utilizes tapered panels installed in two directions, accompanied with saddles ("S") between the drains, and half saddles ("HS") between drains and outside walls. The saddles assist in directing the water flow to the drains.



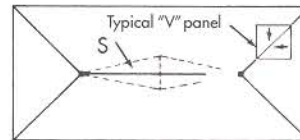
2. Four-Directional Taper System

This system utilizes tapered panels installed in four different directions. Mitered valleys lead to drains.

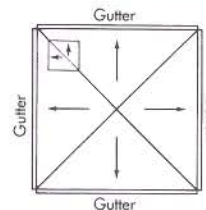


3. Modified Two-Directional Taper System

Utilizes tapered panels installed primarily in two directions with a saddle ("S") placed between the drains; however, two of the four sides utilize mitered valleys. This system is desirable when a constant thickness of insulation is required at the outside perimeter of the roof.



4. Four-Directional Taper System - Perimeter Drainage



Utilizes a four-way taper system directing the water flow to the outside perimeter. This system may be selected when

gutters are employed rather than roof drains. Desired drainage is obtained with the creation of hip miters.

Tapered Roofing Systems

FOAMULAR® Extruded Polystyrene Insulation

Architectural Notes

- FOAMULAR insulation shall be stored off the ground, protected from direct sunlight with a light-colored polyethylene film and ventilated to prevent excessive temperature build-up.
- Roofs exposed to chemical discharge need special consideration. Contact Owens Corning for information.
- Assemblies should be evaluated for effectiveness and location of vapor retarders to avoid condensation and subsequent damage to the structure (see current ASHRAE Handbook of Fundamentals).
- FOAMULAR insulation should not be used in direct contact with chimneys, heater vents, steam pipes or other surfaces where temperatures exceed 150°F. When a dark-colored membrane is used without ballast, consult Owens Corning for overlay recommendations.
- See Owens Corning Roofing and Waterproofing Manual for fastening recommendations.
- Thermal barriers are not required over concrete roof decks, wood decks or when the original roof is left in place.

For specific details about using FOAMULAR THERMAPINK insulation over steel decks without a thermal barrier, consult UL Roof Deck Construction #457 or call your local Owens Corning representative. Note that thermal barrier boards or cover boards may still be needed when designing hourly fire resistance or class A, B- or C-rated roofing systems. Please consult applicable systems directories from Underwriters Laboratories or the Factory Mutual System.

- Some roof membranes, such as PVC, require a slip sheet, such as a glass fiber mat or barrier board, over the insulation.
- A mechanically attached or fully adhered overlayment of wood fiber or perlite board is required over FOAMULAR roof insulation for BUR and torch-applied modified bitumen.
- **Important** – Apply only as much FOAMULAR roof insulation as can be covered by roofing materials (roof membrane and ballast) in the same day of installation to prevent its discoloration and damage from heat build-up by excessive exposure to sunlight. Owens Corning requires that the roofing membrane and the FOAMULAR tapered insulation be ballasted immediately after placement of the membrane to prevent unnecessary movement of the insulation and the membrane. For more details, please contact your local sales representative.

Thermal Performance Warranty

A 15-year R-value warranty is available at no extra charge for all roofing applications. Contact Owens Corning for warranty details.

Note

All products in every size described here may not be available in all geographic markets. For information about non-standard products, consult a local sales representative.

Caution

Combustible. FOAMULAR Insulation will ignite if exposed to fire of sufficient heat and intensity, although it does contain a flame-retardant additive to inhibit ignition from small fire sources. During shipping, storage, installation and use, this product should not be exposed to open flame or other ignition sources.



SYSTEM THINKING
Makes the Difference™

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