



Building Science Into Every Insulation Solution

# Insulation Products

COMMERCIAL WALL, FOUNDATION AND ROOF APPLICATIONS

THE RIGHT SOURCE.

# The Right Solutions.

For more than 50 years, Dow has been the recognized leader in extruded polystyrene insulation. Since developing STYROFOAM® extruded polystyrene insulation, we've continued to build on our foam expertise and technical strength to provide our customers with the right thermal envelope product for any application.

Today, Dow offers an extensive line of science-based building envelope solutions, including:

- STYROFOAM extruded polystyrene insulation
- Dow polyisocyanurate insulation
- STYROFOAM WEATHERMATE® Plus building wrap

## Better Buildings. Better Business.

Dow helps you improve the comfort and energy efficiency of your structures. And better buildings mean better business.

- Satisfied buyers
- Fewer callbacks
- Excellent return on investment
- Improved reputation

## Better Chemistry. Better Environment.

The Dow Chemical Company is committed to improving the things that are essential to human progress. As a dedicated steward of the environment, Dow embraces the Montreal Protocol and is working diligently to meet regulations implemented by the Environmental Protection Agency based on the Protocol. To this end, Dow is replacing the blowing agent used in polyisocyanurate insulation, using hydrocarbons instead of HCFC-141b.

That's just one way Dow uses chemistry to help maintain a better environment.

## Based on Science. Backed by Dow.

Behind our building envelope solutions are more than 50 years of experience and the reputation of The Dow Chemical Company.

- Dow developed extruded polystyrene insulation – we know more about foam than anyone else
- Dow uses a unique free-rise polyisocyanurate technology
- Quality and availability are ensured – we manage the entire process from raw materials to finished product
- Dow is committed to ongoing research and development
- Dow offers the most extensive marketing support in the industry

Dow's highly skilled professionals are on hand to provide technical assistance from the planning stage through completion. For product availability or the name of your local sales representative, call 1-800-232-2436. For additional information, an architectural binder and technical data sheets, case studies or literature on any of the insulation systems listed in this brochure, call 1-866-583-BLUE (2583) or visit [www.dowstyrofoam.com](http://www.dowstyrofoam.com).



\*Trademark of The Dow Chemical Company

## Above Grade and Below Grade

Rigid foam insulation products from Dow offer superior insulation and moisture protection in foundation and slab applications. STYROFOAM extruded polystyrene insulation and Dow polyisocyanurate insulation offer a combination of benefits for every application.

- Long-term thermal performance
- High compressive strength
- Ease of use
- Superior moisture resistance

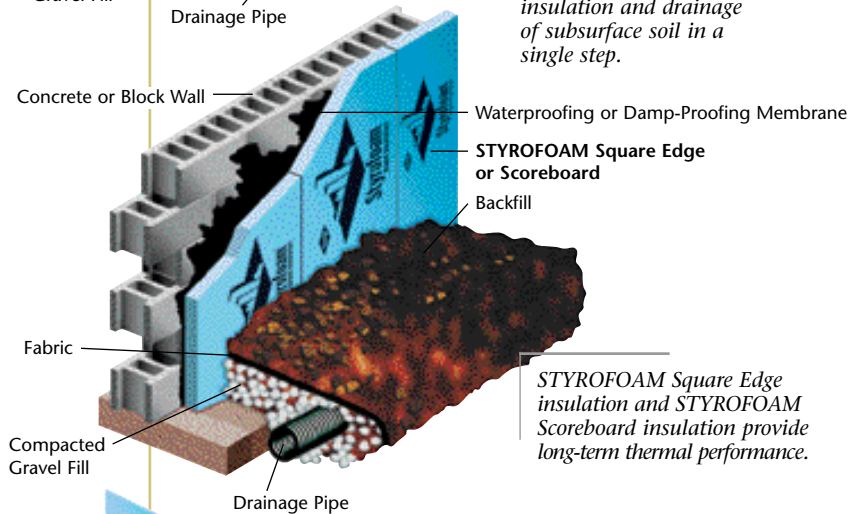
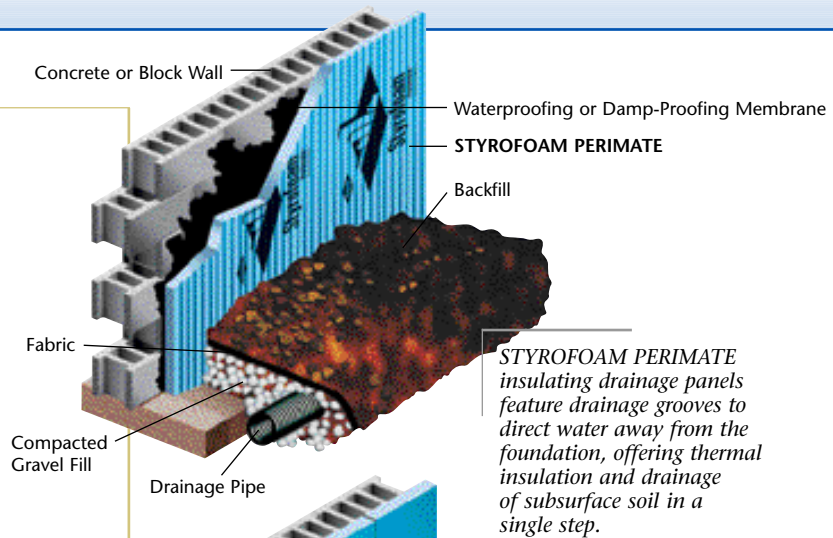
### Foundations

#### PRODUCTS:

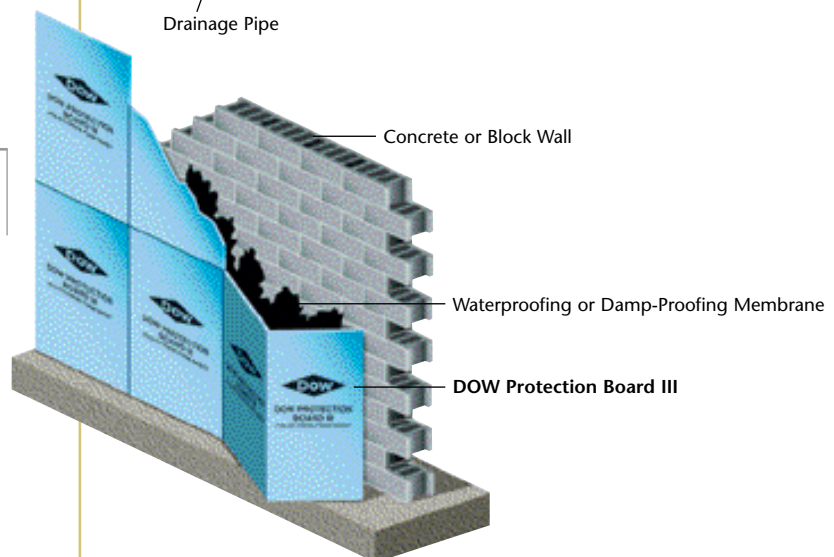
- STYROFOAM PERIMATE\*\* Extruded Polystyrene Insulating Drainage Panels
- STYROFOAM Square Edge Extruded Polystyrene Insulation
- STYROFOAM Scoreboard Extruded Polystyrene Insulation
- DOW Protection Board III Extruded Polystyrene Insulation

#### APPLICATION:

Install STYROFOAM extruded polystyrene insulation or DOW Protection Board III against the exterior foundation wall. These extruded polystyrene insulations resist moisture, so they offer stable long-term R-value\*\* in moist foundation applications.



*Fanfolded on 24" centers with plastic film on one side, DOW Protection Board III is durable yet easy to install and work with on the job site.*



\*Trademark of The Dow Chemical Company  
\*\*R means resistance to heat flow. The higher the R-value, the greater the insulating power.  
\*\*U.S. Patent 5,511,346

## Radiant Floor – Under Slab

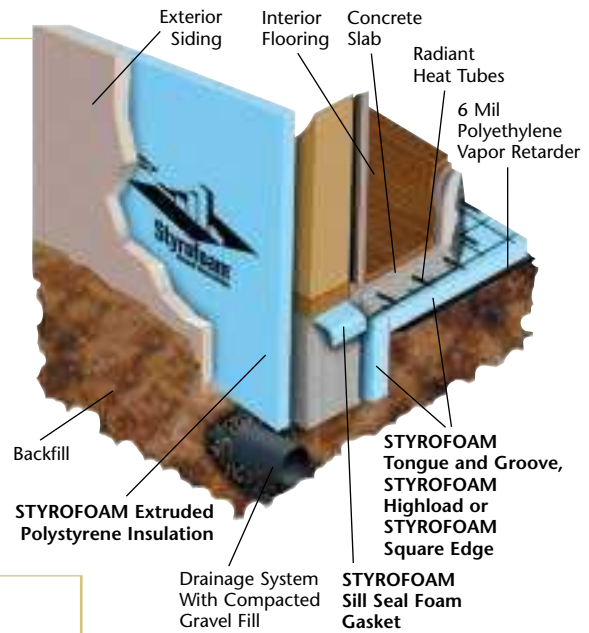
### PRODUCTS:

- STYROFOAM Tongue and Groove Extruded Polystyrene Insulation
- STYROFOAM Highload 40 Extruded Polystyrene Insulation
- STYROFOAM Highload 60 Extruded Polystyrene Insulation
- STYROFOAM Highload 100 Extruded Polystyrene Insulation
- STYROFOAM Square Edge Extruded Polystyrene Insulation

### APPLICATION:

Install STYROFOAM extruded polystyrene insulation under the slab to provide moisture protection and to prevent radiant floor heat from dissipating into the ground.

*STYROFOAM extruded polystyrene insulation offers superior moisture resistance and insulating power in slab-on-grade radiant floor applications.*



## Radiant Floor – Over Deck/Subfloor

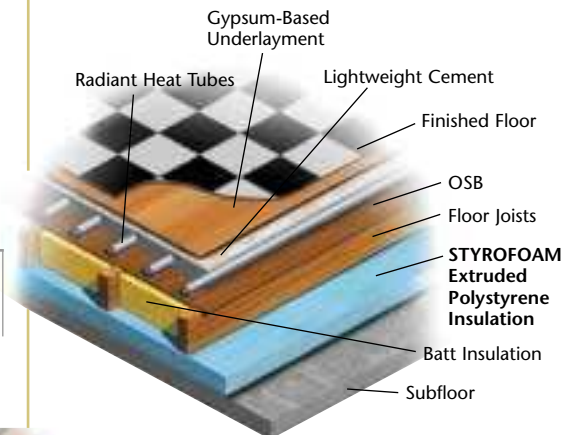
### PRODUCTS:

- STYROFOAM Scoreboard Extruded Polystyrene Insulation
- STYROFOAM Square Edge Extruded Polystyrene Insulation
- STYROFOAM WALLMATE\* Extruded Polystyrene Insulation

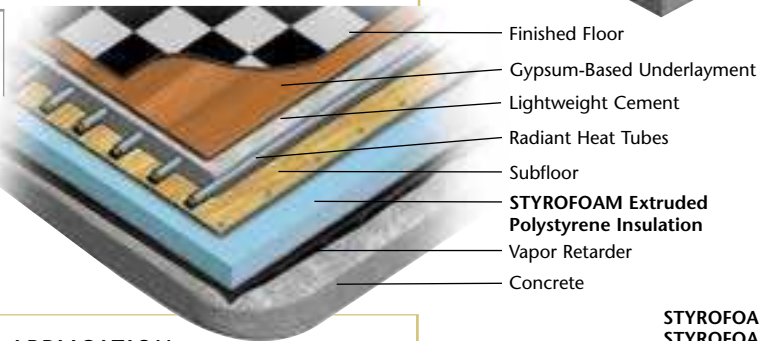
### APPLICATION:

Use in upper floors in new construction or over the slab in a retrofit situation. Extruded polystyrene insulation from Dow helps direct radiant floor heat upward, into the room.

*Consult your local building code official for construction specifics.*



*Assembly for new construction for an upper level floor or as a retrofit over existing slab. If no vapor retarder was installed under the existing slab, it is recommended to add one between the slab and the rigid foam insulation. A vapor retarder is not needed if the deck is a second-floor application.*



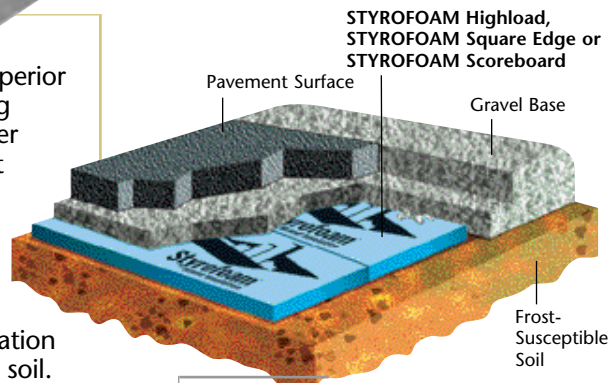
## Geotechnical

### PRODUCTS:

- STYROFOAM Highload 40 Extruded Polystyrene Insulation
- STYROFOAM Highload 60 Extruded Polystyrene Insulation
- STYROFOAM Highload 100 Extruded Polystyrene Insulation
- STYROFOAM Square Edge Extruded Polystyrene Insulation
- STYROFOAM Scoreboard Extruded Polystyrene Insulation

### APPLICATION:

Use wherever you need superior load-bearing and insulating capabilities, including under building floor slabs; airport runways, taxiways and aprons; railroads; culverts; retaining walls; storage tank slabs; and swimming pools. Lay STYROFOAM extruded polystyrene insulation products on top of leveled soil. Top with a gravel base and pavement or other surface.



*STYROFOAM Highload insulation products have been developed specifically for in-ground applications.*

## Plaza and Protected Membrane

STYROFOAM extruded polystyrene insulation offers exceptional performance in plaza and protected membrane roofing (PMR) applications.

- Excellent moisture resistance and stable long-term R-value
- Extends life of plaza or roof, providing protection from ultraviolet deterioration
- Protects membrane against weathering, physical abuse and damage
- Maintains membrane at a relatively constant temperature, minimizing effects of freeze-thaw cycling and excessive heat
- Reduces installation, material and repair expenditures
- Easy removal and re-installation of ballast and insulation

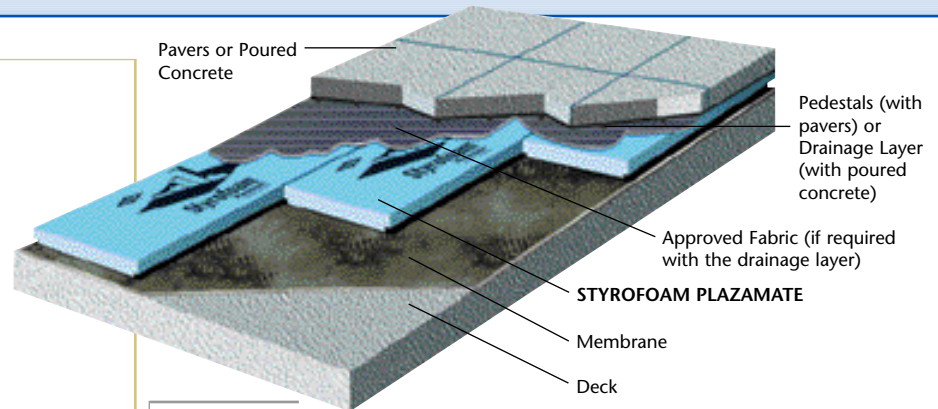
### PRODUCTS:

- STYROFOAM Highload 40, 60 or 100 Extruded Polystyrene Insulation
- STYROFOAM PLAZAMATE\* Extruded Polystyrene Insulation
- STYROFOAM ROOFMATE\* Extruded Polystyrene Insulation
- STYROFOAM Ribbed ROOFMATE Extruded Polystyrene Insulation

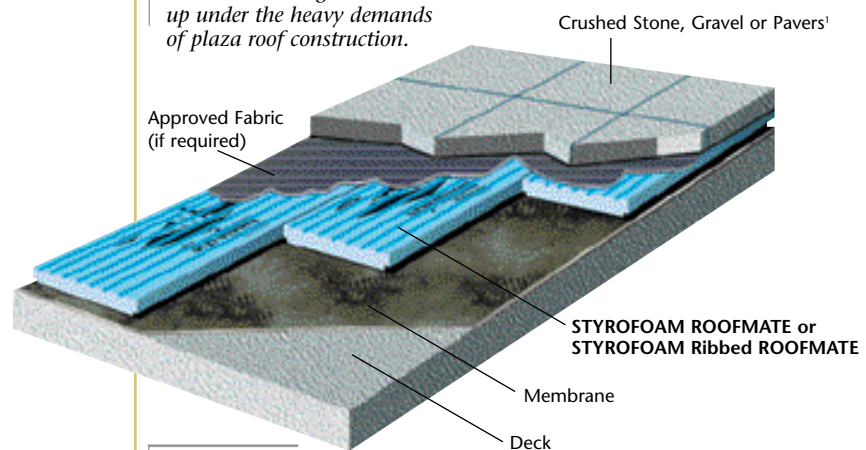
### APPLICATION:

Install on top of the waterproofing membrane. Follow with approved fabric. For PMR construction, finish with a layer of crushed stone, gravel or pavers. For plaza decks where pedestrian or vehicular traffic is anticipated, cover fabric with gravel or pedestals for drainage, then top with pavers, poured concrete or other exterior topping.

- Year-round construction – roof is waterproofed first, then insulated
- 30 years of proven performance
- Thermal warranties available from Dow; full system warranties available from membrane manufacturers

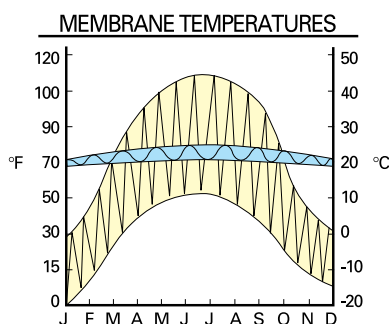


*STYROFOAM PLAZAMATE insulation is designed to hold up under the heavy demands of plaza roof construction.*



*STYROFOAM ROOFMATE and STYROFOAM Ribbed ROOFMATE insulation help minimize temperature fluctuations of the roofing membrane, contributing to long-lasting construction.*

<sup>1</sup>Pavers require pedestals unless STYROFOAM Ribbed ROOFMATE is used.



### MEMBRANE FIELD TEMPERATURE TEST

Membrane protection (PMR vs. conventional): Field studies have shown that a constant temperature can extend the life of the membrane. STYROFOAM ROOFMATE and STYROFOAM Ribbed ROOFMATE extruded polystyrene insulation offer superior temperature control.

- PMR roof (blue line) – the membrane temperature remains relatively constant
- Conventional roof (yellow line) – membrane temperature fluctuates widely

# Conventional

In conventional roofing applications, STYROFOAM extruded polystyrene insulation and polyisocyanurate insulation products from Dow offer:

- Long-term R-value
- Moisture resistance
- High compressive strength for excellent durability and damage resistance
- Ease of use

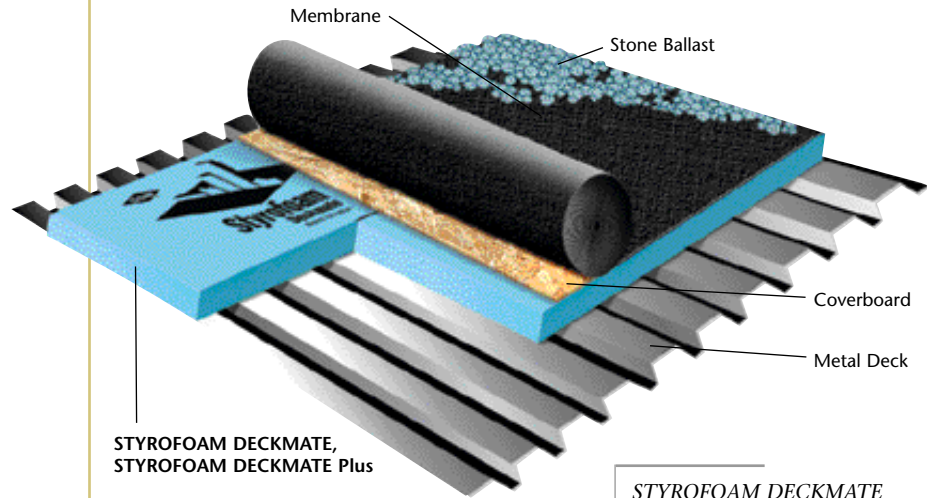
STYROFOAM extruded polystyrene insulation and Dow polyisocyanurate insulation may be installed directly on metal decks according to Underwriters Laboratory Construction 260 and 440 and Factory Mutual 4880. Consult Dow and/or your local building code for installation requirements.

**PRODUCTS:**

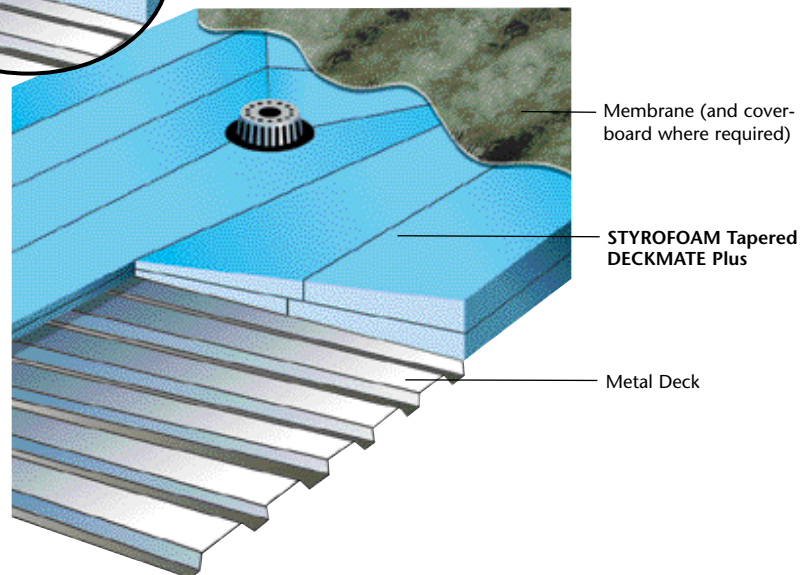
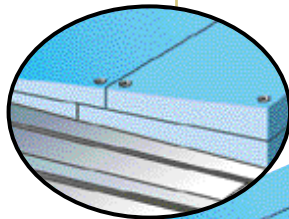
- STYROFOAM DECKMATE\*  
Extruded Polystyrene Insulation
- STYROFOAM DECKMATE Plus  
Extruded Polystyrene Insulation
- STYROFOAM Tapered DECKMATE Plus  
Extruded Polystyrene Insulation

**APPLICATION:**

Install directly on structural deck, including metal decking. Any roofing membrane may be used with rigid board insulation from Dow. In some cases a coverboard may be required between the insulation and the membrane for heat or chemical protection.



*STYROFOAM DECKMATE and STYROFOAM DECKMATE Plus insulation are covered by a 15-year limited thermal performance warranty. A 30-year reuse warranty is also available.*



*STYROFOAM Tapered DECKMATE Plus insulation provides a positive slope to improve roof drainage. Experienced custom fabricators provide exceptional job service. Consult Dow and/or your local building code for installation requirements.*

# Steep Slope

In steep slope roof construction, insulation products from Dow offer high R-value, high compressive strength, durability and ease of use.

- For use on metal or wood decks
- Accept a variety of roofing materials, including shingles, slate, tile and metal membranes
- CELO-VENT\* insulated shingle deck and HY-THERM\* NAIL-LINE\* roof insulation combine insulation with a nailable surface for roofing material
- STYROFOAM DECKMATE and STYROFOAM DECKMATE Plus extruded polystyrene insulation offer outstanding moisture resistance

## PRODUCTS:

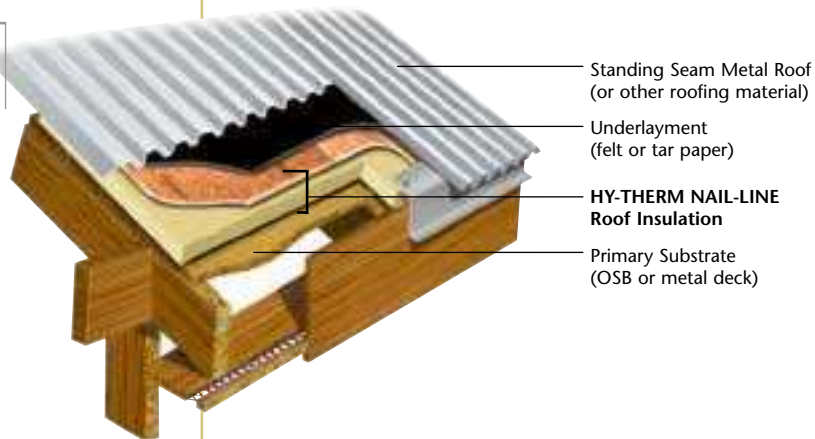
- STYROFOAM DECKMATE Extruded Polystyrene Insulation
- STYROFOAM DECKMATE Plus Extruded Polystyrene Insulation
- CELO-VENT Insulated Shingle Deck
- HY-THERM NAIL-LINE Roof Insulation

## APPLICATION:

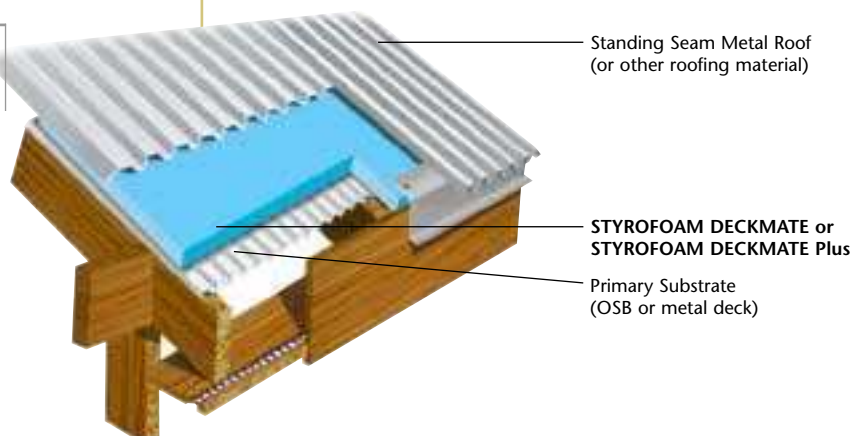
Install insulation on clean, dry roof deck. Cover with an underlayment, such as tar paper, and a nailable surface where required. Finish with shingles, tile, slate, metal or other roofing material.



*HY-THERM NAIL-LINE combines insulation and a nailable surface.*



*STYROFOAM DECKMATE and STYROFOAM DECKMATE Plus insulation provide superior moisture resistance and high R-value in a lightweight board.*



# Recovery

STYROFOAM RECOVERMATE\* CR extruded polystyrene insulation is designed especially for roof recovery applications:

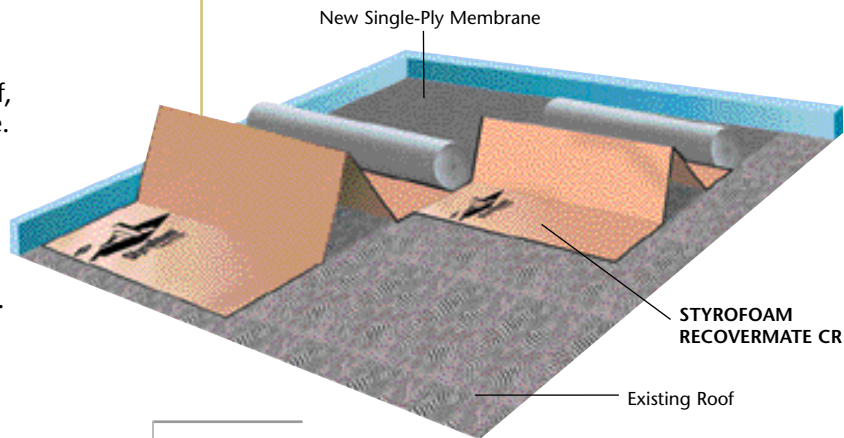
- Resistant to the effects of moisture
- High compressive strength
- Superior compressive retention
- Lightweight: easy to cut, handle, install and store
- Withstands temperatures to 165°F
- Chemical-resistant; useful for installation with plasticized membranes
- Fanfolded

## PRODUCT:

- STYROFOAM RECOVERMATE CR  
Extruded Polystyrene Insulation

## APPLICATION:

Install STYROFOAM RECOVERMATE CR insulation over entire surface of old roof, on top of existing membrane. Top with ballasted or mechanically attached sheet membrane. Plasticized membranes may be used with STYROFOAM RECOVERMATE CR insulation.



*STYROFOAM  
RECOVERMATE CR  
insulation withstands  
temperatures to 165°F.*

## Interior and Exterior

With rigid foam insulation from Dow on the walls, your building performs more efficiently over time. These products offer:

- Superior long-term thermal performance
- Ease of use
- Moisture resistance
- Reusability in some situations

Note: Applicable codes may require a 15-minute thermal barrier between insulation and occupied space.

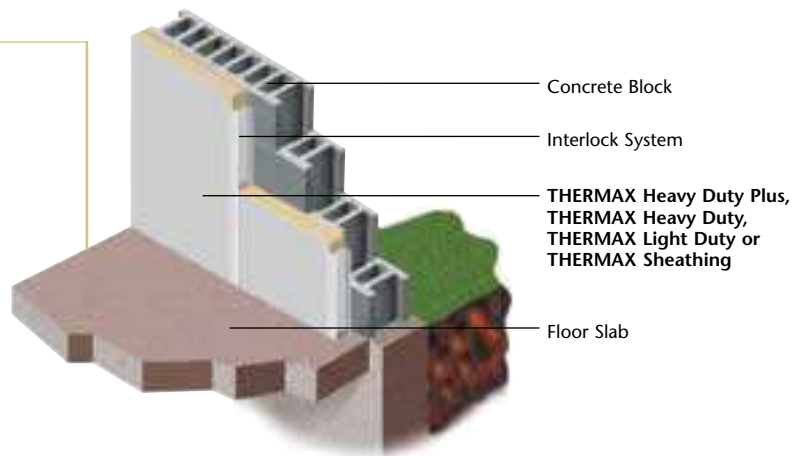
### Interior – Exposed Wall

**PRODUCTS:**

- THERMAX\* Heavy Duty Plus Polyisocyanurate Insulation
- THERMAX Heavy Duty Polyisocyanurate Insulation
- THERMAX Light Duty Polyisocyanurate Insulation
- THERMAX Sheathing Polyisocyanurate Insulation

**APPLICATION:**

For best results, install against interior of structural wall with THERMAX PVC Male/Female Interlock System. Ask your seller about other installation methods. With THERMAX insulation, there is no need for drywall or gypsum board.



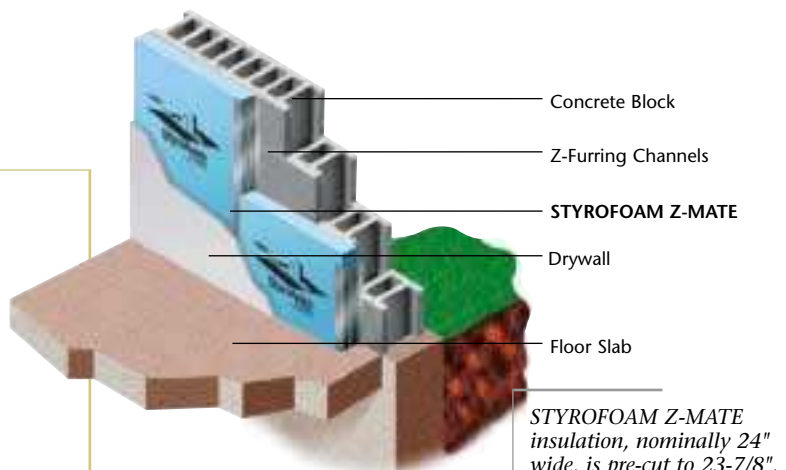
### Interior – Concealed Wall

**PRODUCTS:**

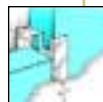
- STYROFOAM Square Edge Extruded Polystyrene Insulation
- STYROFOAM Z-MATE\* Extruded Polystyrene Insulation
- TUFF-R\* Polyisocyanurate Insulation
- Super TUFF-R Polyisocyanurate Insulation

**APPLICATION:**

Install between furring strips. Cover with a minimum of 1/2" gypsum board.



*STYROFOAM Z-MATE insulation, nominally 24" wide, is pre-cut to 23-7/8", so it can be installed between Z-furring channels placed on 24" centers.*



Z-Furring Channel



Insulok<sup>§</sup>



T-Strip



L-Angle

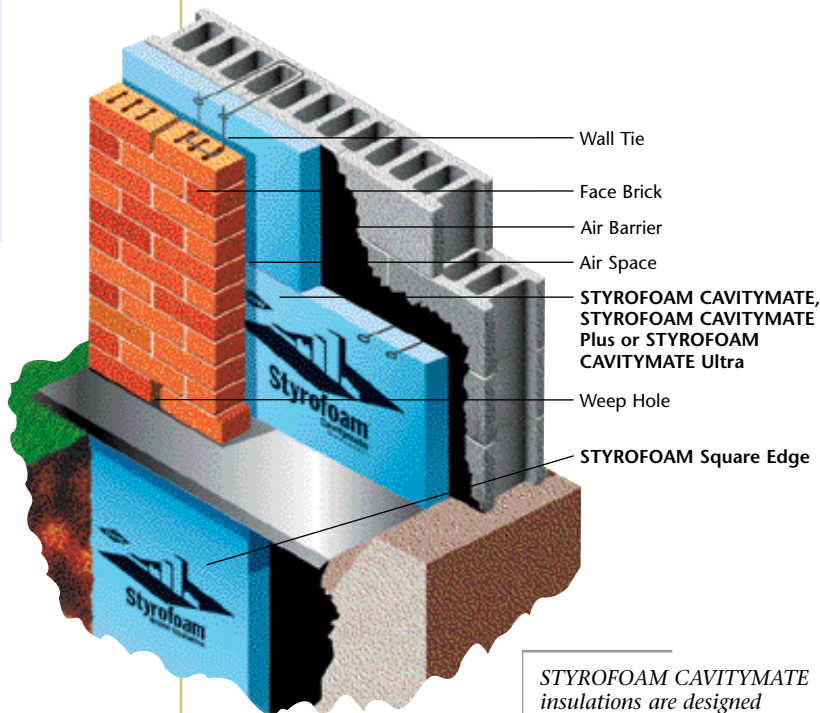
## Exterior Cavity Wall – Block Backed

### PRODUCTS:

- STYROFOAM CAVITYMATE\* Extruded Polystyrene Insulation
- STYROFOAM CAVITYMATE Plus Extruded Polystyrene Insulation
- STYROFOAM CAVITYMATE Ultra Extruded Polystyrene Insulation
- THERMAX Sheathing Polyisocyanurate Insulation
- STYROFOAM WEATHERMATE Plus Building Wrap

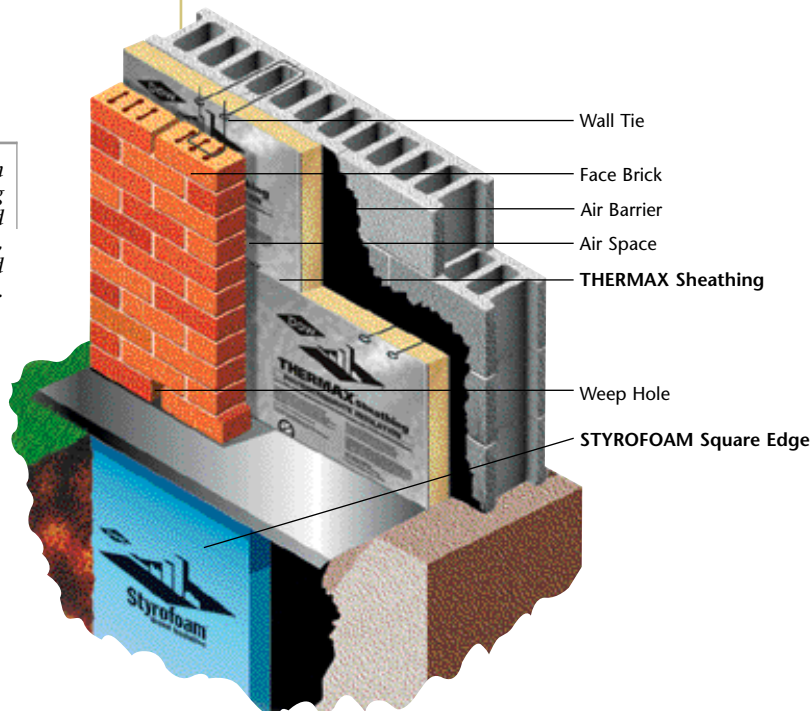
### APPLICATION:

Install on the exterior of block backed cavity walls. Rigid foam insulation from Dow helps moderate the cavity temperature, reducing the potential for condensation. Sized to fit snugly between wall ties, the rigid foam insulation saves time and money on the job site.



*STYROFOAM CAVITYMATE insulations are designed specifically for moist cavity wall environments.*

*The foil facer on THERMAX Sheathing contributes to improved moisture resistance, fire performance and insulating capability.*



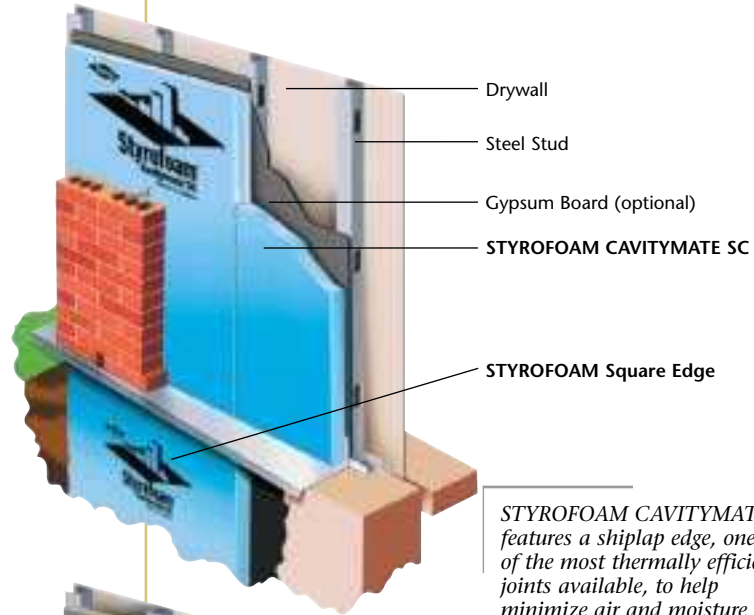
# Exterior Cavity Wall – Steel Stud

**PRODUCTS:**

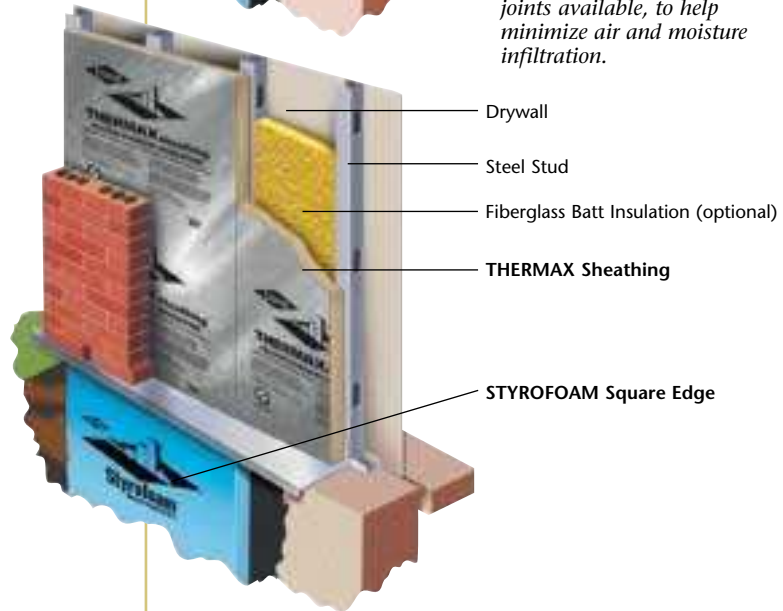
- STYROFOAM CAVITYMATE SC Extruded Polystyrene Insulation
- THERMAX Sheathing Polyisocyanurate Insulation
- STYROFOAM WEATHERMATE Plus Building Wrap

**APPLICATION:**

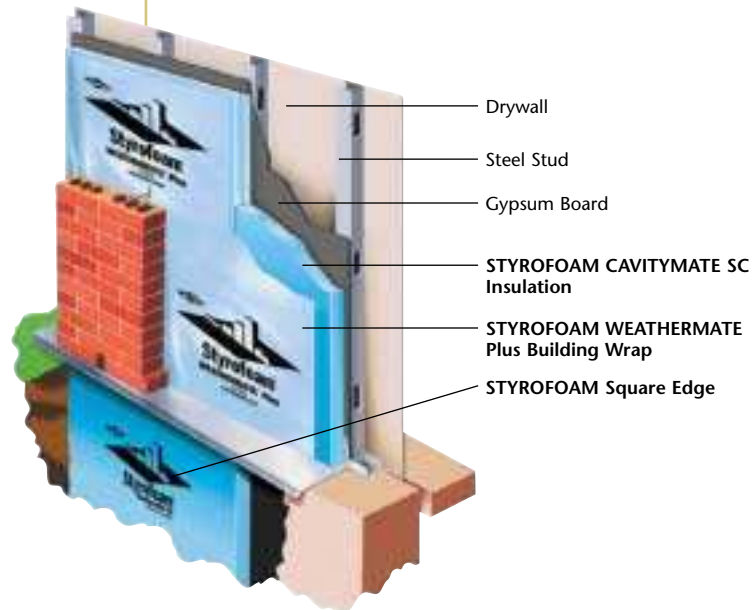
Install on the exterior of steel stud cavity walls and face with brick or other exterior cladding. Rigid foam insulation helps minimize thermal shorts through the steel studs and improves the performance of insulating batting, if used.



*STYROFOAM CAVITYMATE SC features a shiplap edge, one of the most thermally efficient joints available, to help minimize air and moisture infiltration.*



*THERMAX Sheathing can help alleviate thermal short circuits and increase the R-values of properly designed steel stud walls.*



*STYROFOAM WEATHERMATE Plus building wrap forms a continuous protective membrane that protects walls from damaging bulk water and air infiltration.*

# Exterior Precast

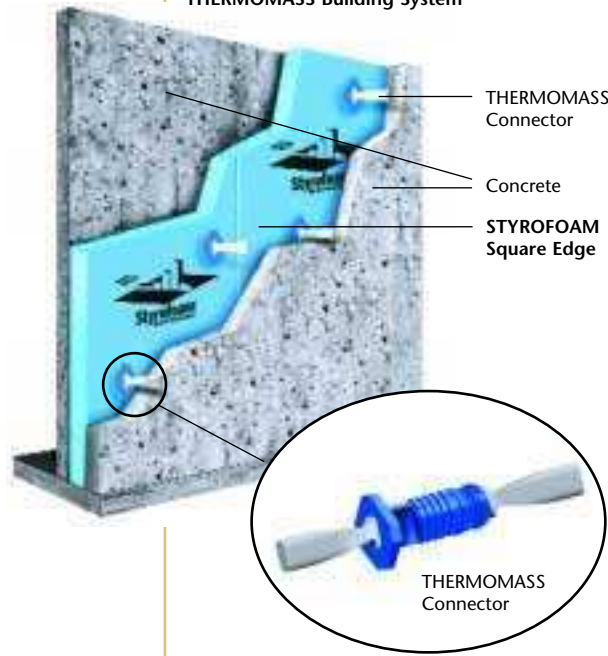
**PRODUCTS:**

- STYROFOAM Square Edge Extruded Polystyrene Insulation
- ISOCAST\* R Polyisocyanurate Insulation

**APPLICATION:**

Used in insulated precast, prestressed or tilt-up construction, rigid foam insulation products from Dow combine unmatched insulating capabilities with the added strength of concrete. The foam is sandwiched between two wythes of concrete and held together structurally by engineered composite fiber connectors.

**THERMOMASS Building System**

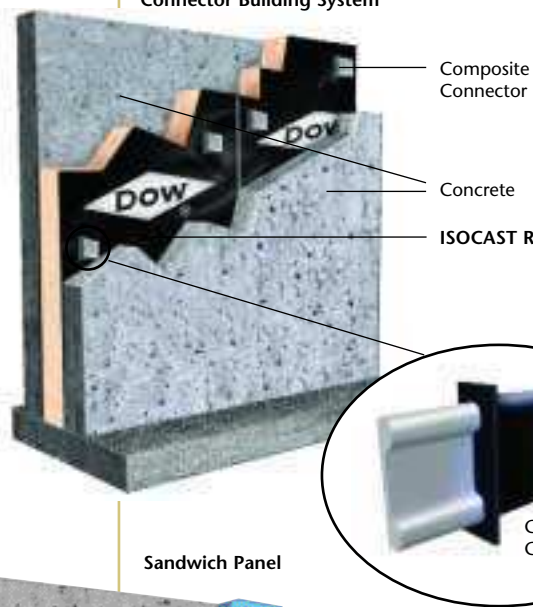


The THERMOMASS<sup>®</sup> and STYROFOAM Composite Connector Building Systems are an intricate part of today's insulated concrete sandwich wall structures. They are fully tested, engineered, and designed for load-bearing and composite wall applications. The two-component system, which consists of fiber composite connectors and pre-fabricated STYROFOAM extruded polystyrene insulation or ISOCAST R polyisocyanurate insulation, allows for fast, error-free installation and superior insulation performance.

**THERMOMASS and STYROFOAM Composite Connector Building Systems:**

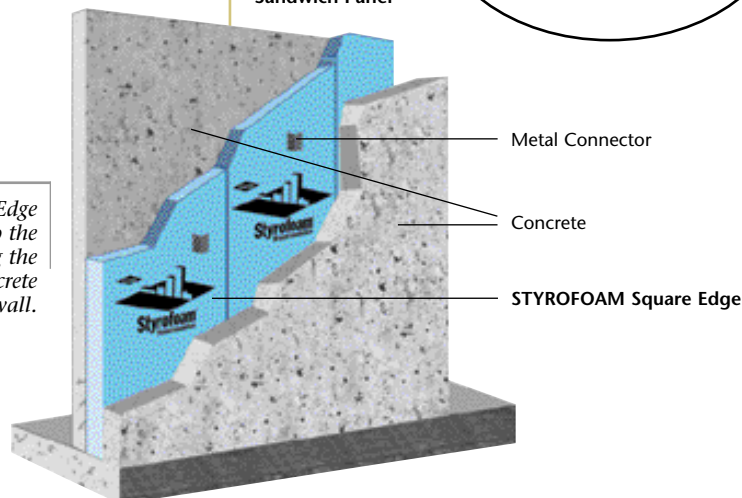
- Prevent thermal bridging
- Contain no solid cast sections
- Reduce cooling and heating costs
- Are based on fire resistance per UBC 7-7

**STYROFOAM Composite Connector Building System**



*ISOCAST R polyisocyanurate insulation features a trilaminate aluminum/poly/kraft facer for strength and high R-value per inch in precast concrete walls.*

**Sandwich Panel**



*STYROFOAM Square Edge insulation stands up to the moisture present during the construction of the concrete panel wall.*

Trymer\* 2000 pipe insulation and *Saran*\* Vapor Retarder Film are ideal for applications below 300°F, particularly chilled water lines.

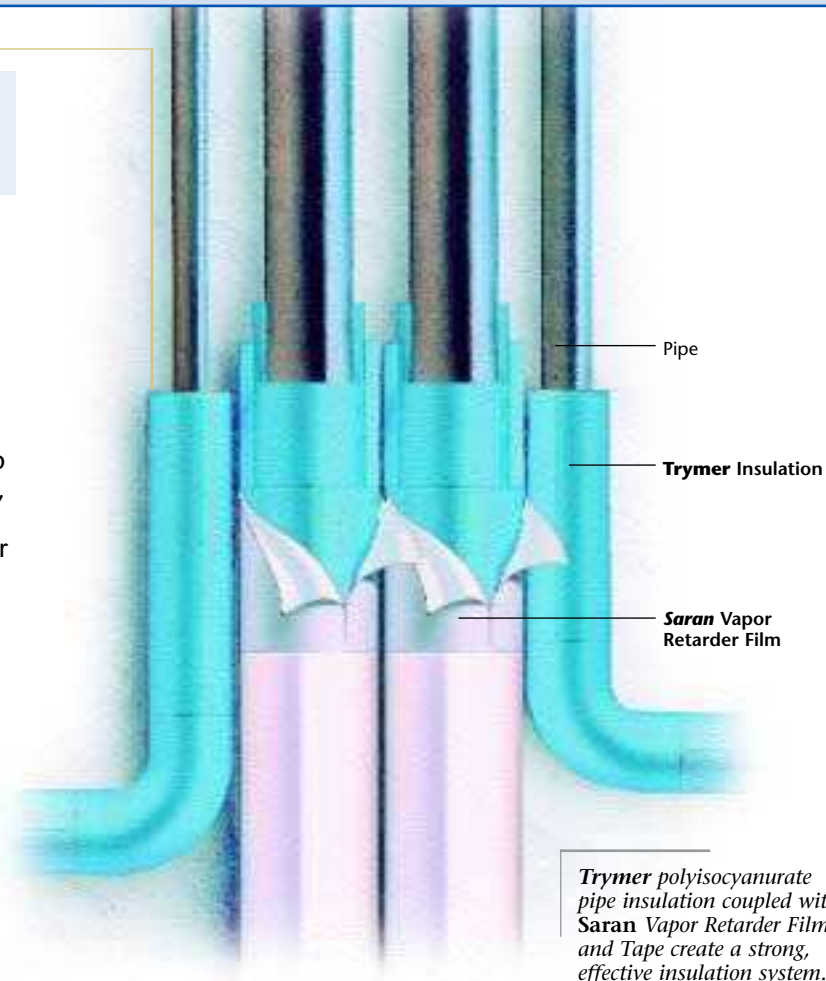
- No known nutrients for growth of mold and fungus
- Superior moisture resistance
- Long-term insulation efficiency
- Lowest life-cycle cost

#### PRODUCTS:

- Trymer 2000 Pipe Insulation
- *Saran* Vapor Retarder Film and Tape

#### APPLICATION:

Install Trymer 2000 pipe insulation around pipes, like chilled water lines. Wrap *Saran* Vapor Retarder Film around straight sections of pipe. *Saran* Tape should be used around elbows, valves and fittings to help ensure long life span and a tight, water-resistant seal. Consult an experienced contractor, distributor or fabricator.



*Trymer polyisocyanurate pipe insulation coupled with Saran Vapor Retarder Film and Tape create a strong, effective insulation system.*

# STYROFOAM Extruded Polystyrene Insulation Products

Physical Properties	Property (units)	Thermal resistance <sup>(1,2)</sup> , aged R-value per inch @ 75°F mean temp	Compressive strength (lb/in <sup>2</sup> ) min. <sup>(3)</sup>	Flexural strength (lb/in <sup>2</sup> ) min.	Water absorption (% by volume) max.	Water vapor permeance <sup>(4)</sup> max. (perm)	Dimensional stability (% linear change), max.	Coefficient of linear thermal expansion (x10 <sup>-6</sup> /min, °F)	Complies with ASTM C 578, Type <sup>(5)</sup>	Maximum use temperature (°F)	Flame spread <sup>(6)</sup>	Smoke development	Width (inches)	Length (inches)	Thickness (inches)
ASTM METHOD	C518	D1621	C203	C272	E96	D2126				E84	E84				
CAVITYMATE	5.0	15	40	0.1	1.1	2.0	3.5	X	165	5	165	16	96	1, 1.5, 2	
CAVITYMATE SC	5.0	16	40	0.1	1.1	2.0	3.5	X	165	5	165	48	96	1, 1.5, 2	
CAVITYMATE Plus	5.0	25	50	0.1	1.1	2.0	3.5	IV	165	5	165	16	96	1.5, 2	
CAVITYMATE Ultra	5.6	25	50	0.1	1.1	2.0	3.5	IV	165	10	160	16	96	1.75, 2, 125	
DECKMATE	5.0	18	40	0.1	1.1	2.0	3.5	X	165	5	165	24 48	96 96	2, 3, 4 2, 2.5, 3, 4	
DECKMATE Plus	5.0	25	50	0.1	1.1	2.0	3.5	IV	165	5	165	24 48	96 96	2, 3, 4 2, 2.5, 4	
FREEZERMATE	5.0	30	50	0.1	0.8	2.0	3.5	IV	165	5	165	24 48	96 96	2, 3 3	
PERIMATE	5.0 <sup>(7)</sup>	30	50	0.1	1.1	2.0	3.5	IV	165	5	165	24	96	1.5, 2, 125	
PLAZAMATE	5.0	60	75	0.1	0.8	2.0	3.5	VII	165	5	165	24	96	1.5, 2, 3	
RECOVERMATE CR	1.4 <sup>(8)</sup>	15	-	0.2	1.8	<0.5	3.5	-	165	10	165	48	600	0.375	
ROOFMATE	5.0	40	60	0.1	1.1	2.0	3.5	VI	165	5	165	24	96	1, 1.5, 2, 2.5, 3, 3.5, 4	
Ribbed ROOFMATE	5.0 <sup>(9)</sup>	60 <sup>(10)</sup>	-	0.1	0.8	2.0	3.5	VI	165	5	165	24	96	2	
Z-MATE	5.0	15	40	0.1	1.1	2.0	3.5	X	165	5	165	24	96	1.5, 2	
DOW Protection Board III	1.0 <sup>(11)</sup>	8	-	0.2	0.8 <sup>(11)</sup>	-	-	-	165	10	165	48	600	0.25	
Highload 40	5.0	40	60	0.1	0.8	2.0	3.5	VI	165	15	165	24 48	96 96	2, 3 2	
Highload 60	5.0	60	75	0.1	0.8	2.0	3.5	VII	165	15	165	24	96	2, 3	
Highload 100	5.0	100	100	0.1	0.8	2.0	3.5	V	165	15	165	24	96	2	
Scoreboard <sup>(12)</sup>	5.0	25	50	0.1	1.1	2.0	3.5	IV	165	5	165	48	96	0.75, 1, 1.5, 2, 2.5, 3	
Square Edge <sup>(12)</sup>	5.0	25	50	0.1	1.1	2.0	3.5	IV	165	5	165	24 48	96 96	0.75, 1, 1.5, 2, 2.5, 3, 4 0.75, 1, 1.5, 2, 2.5, 3	
Tongue and Groove	5.0	25	50	0.1	1.1	2.0	3.5	IV	165	5	165	24 48	96 96	0.75, 1, 1.5, 2 0.75, 1, 1.5, 2	

**NOTES:**

1. Values are consistent with the criteria of ASTM C578 and the requirements of the FTC R-value rule (16 CFR Part 460). A 15-year limited thermal warranty is available.
2. R means resistance to heat flow. The higher the R-value, the greater the insulating power. R-values are expressed in ft<sup>2</sup>·h·°F/Btu.
3. Vertical compressive strength is measured at 10% deformation (5% for STYROFOAM PLAZAMATE insulation and for STYROFOAM Highload 40, 60 and 100 insulation products) or at yield, whichever occurs first. Since STYROFOAM extruded polystyrene insulation products are visco-elastic materials, adequate design safety factors should be used to prevent long-term creep. For

- static loads, 3-1 is suggested. For dynamic loads, 5-1 is suggested.
4. Water vapor permeance varies with product type and thickness. Values are based on the desiccant method, and they apply to insulation 1" in thickness. Thicker products have lower permeance.
5. Former Federal Specification HH-I-524C was cancelled in 1985 and replaced by ASTM Specification C578.
6. This numerical flame spread rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.
7. For 1½" thickness.
8. For ¾" thickness.

9. R-value is 10.0 for nominal 2" thickness and 15.0 for nominal 3" thickness.
  10. Recommended load (psf) including 5:1 design factor.
  11. For ¼" thickness; perm-inches.
  12. If using these products for Z-furring applications, please contact your local Dow sales representative for exact product sizes.
- Note: Not all products are available in all parts of the country. Other product sizes are available on a made-to-order basis. Please contact your Dow sales representative with questions.

# Dow Polyisocyanurate Insulation Products

07210/DOW  
BuyLine 4350

Physical Properties	Property (units)	Thermal resistance <sup>1,2</sup> hydrocarbon blowing agent	Compressive strength <sup>3</sup> (lb/in <sup>2</sup> ), min., core foam	Flexural strength (lb/in <sup>2</sup> ), min., for 1" core foam	Water absorption (% increase by volume, 2-hr. results), max., core foam	Water vapor permeance <sup>4</sup> (perm)	Dimensional stability (% linear change), max.	Complies with ASTM Type	Maximum use temperature (°F)	Flame spread <sup>5</sup> max., core foam	Smoke development, max., core foam	Width (inches)	Length (inches)	Thickness (inches), core foam
ASTM Method	C518	D1621	C203	C209	E96	D2126	C1289		E84	E84				
CELO-VENT Insulated Shingle Deck <sup>6</sup>	7.1 <sup>(7)</sup>	16	40	1.0	-	2.0	V	-	55	150	48	96	1.0, 2.0, 2.5, 3.0, 3.5, 4.0, 4.5, 5.0, 5.5	
HY-THERM NAIL-LINE Roof Insulation	6.6 <sup>(7,8)</sup>	16	40	1.0	-	2.0	V	-	55	150	48	96	1.5, 2.0, 2.4, 3.0, 4.0	
Super TUFF-R	6.5 <sup>(9)</sup>	25	55	0.05	<0.03	1.0	I Class 1 or 2 <sup>(10)</sup>	190	40	70	16 48 48	96 96 108	.5, .625, .75, 1.0, 1.5, 2.0	
THERMAX Heavy Duty	6.5 <sup>(9)</sup>	25	55	0.05	<0.03	0.1	I Class 2	250	25	250	48 48	96 120	.5, .75, 1.0, 1.25, 1.5, 1.75, 2.0, 2.25, 2.5, 2.75, 3.0	
THERMAX Heavy Duty Plus	6.5 <sup>(9)</sup>	25	55	0.05	<0.03	0.1	I Class 2	250	25	250	48 48	96 120	.5, .75, 1.0, 1.25, 1.5, 1.75, 2.0, 2.25, 2.5, 2.75, 3.0	
THERMAX Light Duty	6.5 <sup>(9)</sup>	25	55	0.05	<0.03	0.1	I Class 2	250	25	250	48 48	96 120	.5, .75, 1.0, 1.25, 1.5, 1.75, 2.0, 2.25, 2.5, 2.75, 3.0	
THERMAX Sheathing	6.5 <sup>(9)</sup>	25	55	0.05	<0.03	0.1	I Class 2	250	25	250	16 24 48	96, 108, 120 96, 108, 120 96, 108, 120	.5, .75, 1.0, 1.25, 1.5, 1.75, 2.0, 2.25, 2.5, 2.75, 3.0, 3.5, 4.0	
TUFF-R	6.5 <sup>(9)</sup>	25	55	0.05	<0.03	1.5	I Class 1 or 2 <sup>(10)</sup>	190	40	70	48	96, 108	.5, .625, .75, 1.0, 1.5, 1.55, 2.0	
VALUE-R	15.8 <sup>(9, 11, 12)</sup>	20	-	0.3	<0.03	2.0	I Class 1	190	55	150	48 48	96 108	2.25, 2.5, 2.75, 3.0, 3.25, 3.5, 3.75, 4.0	

**NOTES:**

1. Aged R-value per 1" of core foam @ 75°F mean temperature. R-values are expressed in ft<sup>2</sup>·h·°F/Btu.  
 2. R means resistance to heat flow. The higher the R-value, the greater the insulating power. R-value determined by ASTM C518, unless otherwise specified.  
 3. Vertical compressive strength is measured at 10% deformation or at yield, whichever occurs first. Since Dow polyisocyanurate insulation products are visco-elastic materials, adequate design safety factors

should be used to prevent long-term creep. For static loads, 3-1 is suggested. For dynamic loads, 5-1 is suggested.  
 4. Water vapor permeance varies with product type and thickness. Values are based on the desiccant method, and they apply to insulation 1" in thickness. Thicker products have lower permeance.  
 5. These numerical flame spread ratings are not intended to reflect hazards presented by this or any other material under actual fire conditions.

6. Nominal core foam thickness includes facers.  
 7. Expected results for foam pending confirmation using Long-Term Thermal Resistance (LTTR) – ASTM C1289 Annex method.  
 8. For 1½" thickness.  
 9. R-values determined by ASTM C518 using the aging process in ASTM C1289 (90 days @ 140°F).  
 10. Varies with thickness.  
 11. Only available west of the Rocky Mountains.  
 12. For 2½" thickness.

Illustrations are not intended to replace the need for design by appropriate professionals such as architects or engineers.

Dow has manufactured STYROFOAM extruded polystyrene insulation for use in construction and specialty applications for over 50 years. Its dense closed-cell structure gives STYROFOAM extruded polystyrene insulation superior moisture resistance, long-term thermal performance and compressive strength. STYROFOAM extruded polystyrene insulation is CFC-free and reusable.

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**STYROFOAM Extruded Polystyrene Insulation, Dow Polyisocyanurate Insulation Other Than THERMAX Products and TRYMER Polyisocyanurate Pipe Insulation**

COMBUSTIBLE: Protect from high heat sources. Local building codes may require a protective or thermal barrier. For more information, consult MSDS, call Dow at 1-866-583-BLUE (2583) or contact your local building inspector. In an emergency, call 1-989-636-4400.

**THERMAX Products**

COMBUSTIBLE: THERMAX products should be used only in strict accordance with product application instructions. THERMAX products, when used in a building containing combustible materials, may contribute to the spread of fire. For more information, consult MSDS and/or call Dow at 1-866-583-BLUE (2583). In an emergency, call 1-989-636-4400.

WARNING: THERMAX insulation/finish boards do not constitute a working walkable surface or qualify as a fall protection product.

NOTE: STYROFOAM WEATHERMATE Plus building wrap is a secondary defense against bulk water intrusion. The exterior finish is the primary water barrier.

**THE DOW CHEMICAL COMPANY • Building Materials • 200 Larkin • Midland, MI 48674**  
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