

# STYROFOAM™ Brand Extruded Polystyrene Foam Insulation

Physical Properties	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> (perm), max.	Dimensional Stability (% linear change), max.	Coefficient of Linear Thermal Expansion (x10 <sup>-5</sup> in/in·°F)	Complies with ASTM C578, Type <sup>(5)</sup>	Maximum Use Temperature (°F)	Flame Spread <sup>(6)</sup>	Smoke Developed	Width (inches)	Length (inches)	Typical Thickness Range (inches)
ASTM Method	C518	D1621	C203	C272	E96	D2126				E84	E84			
CAVITYMATE™	5.0	15	40	0.3	1.5	2.0	3.5	X	165	15	165	16	96	1.0, 1.5, 2.0, 3.0
CAVITYMATE™ SC	5.0	15	40	0.3	1.5	2.0	3.5	X	165	15	165	48	96	1.0, 1.5, 2.0, 2.5
CAVITYMATE™ Plus	5.0	25	50	0.3	1.5	2.0	3.5	IV	165	15	165	16	96	1.0, 1.5, 2.0
CAVITYMATE™ Ultra	5.6	25	50	0.3	1.5	2.0	3.5	IV	165	0	155	15.75	96	1.75, 2.125, 2.5, 3.0
CAVITYMATE™ Ultra SL	5.6	25	50	0.3	1.5	2.0	3.5	IV	165	0	155	48	96	1.75, 2.125, 2.5, 3.0
DECKMATE™ Plus	5.0	25	50	0.3	1.5	2.0	3.5	IV	165	15	165	24 48	96 96	1.0, 1.5, 2.0, 2.5, 3.0, 4.0
DECKMATE™ Plus FA (Flat and Tapered)	5.0	25	50	0.3	1.5	2.0	3.5	IV	165	15	165	24	96	1.5, 2.0, 2.5, 3.0, 4.0 1/8", 1/4", 1/2" slopes
FREEZERMATE™	5.0	30	50	0.3	1.5	2.0	3.5	IV	165	15	165	24/48	96/96	2.0, 3.0
PERIMATE™	1.063" R-5.0 2.125" R-10.0	30	50	0.3	1.5	2.0	3.5	IV	165	15	165	24	96	1.063, 2.125
PLAZAMATE™	5.0	60	75	0.3	0.8	2.0	3.5	VII	165	15	165	24	96	2.0, 3.0
RECOVERMATE™ CR*	1.5 <sup>(7)</sup>	15	-	0.3	1.5	2.0	3.5	-	165	10	200- 350	48	600	0.375
ROOFMATE™	5.0	40	60	0.3	1.0	2.0	3.5	VI	165	15	165	24	96	1.0, 1.5, 2.0, 2.5, 3.0, 3.5, 4.0
Ribbed ROOFMATE™	5.0	40 <sup>(8)</sup>	60	0.3	1.0	2.0	3.5	VI	165	15	165	24	96	2.0
WALLMATE™	5.0	15	40	0.3	1.5	2.0	3.5	X	165	15	165	24	96	1.5, 2.0
Z-MATE™	5.0	15	40	0.3	1.5	2.0	3.5	X	165	15	165	24	96	1.5, 2.0
Protection Board III*	1.0 <sup>(9)</sup>	8	-	0.2	1.5 <sup>(9)</sup>	-	-	-	165	10	200- 350	48	600	0.25
HIGHLOAD 40	5.0	40	60	0.3	1.0	2.0	3.5	VI	165	15	165	24 48	96 96	2.0, 3.0
HIGHLOAD 60	5.0	60	75	0.3	0.8	2.0	3.5	VII	165	15	165	24	96	2.0, 3.0
HIGHLOAD 100	5.0	100	100	0.1	0.8	2.0	3.5	V	165	15	165	24	96	2.0
Scoreboard <sup>(10)</sup>	5.0	25	50	0.3	1.5	2.0	3.5	IV	165	15	165	48	96	0.75, 1.0, 1.5, 2.0, 2.5, 3.0
Square Edge <sup>(10)</sup>	5.0	25	50	0.3	1.5	2.0	3.5	IV	165	15	165	24 48	96 96	0.75, 1.0, 1.5, 2.0, 2.5, 3.0, 4.0
Tongue and Groove	5.0	25	50	0.3	1.5	2.0	3.5	IV	165	15	165	24 48	96 96	0.75, 1.0, 1.5, 2.0

(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™ Brand PLAZAMATE™ Insulation and for STYROFOAM™ Brand HIGHLOAD 40, 60 and 100 Insulation) or at yield, whichever occurs first. Since STYROFOAM™ Brand Extruded Polystyrene Foam Insulation is a visco-elastic material, adequate design safety factors should be used to prevent long-term creep and fatigue deformation. 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 3/8" thickness.  
 (8) Recommended load (psf) including 5:1 design factor.  
 (9) For 1/4" thickness; perm-inches.  
 (10) If using product for Z-furring applications, 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. Contact your Dow representative with questions.

\* For additional information visit <http://www.adamsplasticsinc.com/>



Manufacturer's Insulation Fact Sheet

# Extruded Polystyrene Foam Home Insulation Products

This fact sheet contains important information about STYROFOAM™ brand insulation, BLUECOR™ brand Underlayment and DOW High Performance Underlayment insulation. These products, available from Dow Building Solutions, are made of extruded polystyrene foam insulation and are clearly identified by the DOW Diamond Logo.

### Aged R-Value (Measured at 75° Mean Temperature)

Product Thickness (nominal inches)	0.38	1/4	3/8	1/2	0.55	5/8	3/4	0.78	1	1 1/2	2	2 1/2	3
STYROFOAM™ Brand Square Edge Insulation	-	-	-	-	2.8*	-	3.8	4.0*	5.0	7.5	10.0	-	-
STYROFOAM™ Brand Tongue & Groove Insulation	-	-	-	-	-	-	3.8	-	5.0	7.5	10.0	-	-
STYROFOAM™ Brand Residential Sheathing	-	-	-	3.0	-	-	4.0	-	5.0	-	-	-	-
STYROFOAM™ Brand Residing Board	-	-	-	2.8	-	-	-	-	-	-	-	-	-
STYROFOAM™ UTILITYFIT™ PSI 15	-	-	-	-	-	-	-	-	5.0	7.5	10.0	-	-
STYROFOAM™ DURAMATE™ Plus Brand Insulation	2.0	-	-	3.0	-	-	-	-	-	-	-	-	-
STYROFOAM™ WALLMATE™ Brand Insulation	-	-	-	-	-	-	-	-	-	7.5	10.0	-	-
STYROFOAM™ PERIMATE™ Brand Insulation	-	-	-	-	-	-	-	-	-	7.0	10.0 <sup>1</sup>	-	-
STYROFOAM™ STUCCOMATE™ Brand Insulation	-	-	-	-	-	-	-	-	5.0	-	-	-	-
STYROFOAM™ Scoreboard Brand Insulation	-	-	-	-	-	-	3.8	-	5.0	7.5	10.0	12.5	15
STYROFOAM™ BLUEGUARD™ Brand Insulation	-	-	-	-	-	-	-	-	5.0	7.5	10.0	-	-
BLUECOR™ Brand Underlayment	-	1.0	-	-	-	-	-	-	-	-	-	-	-
DOW™ High Performance Underlayment	-	1.0	1.5	-	-	-	-	-	-	-	-	-	-

<sup>1</sup> Nominal 2" thickness. \* Available in Florida only

### Board Coverage Area

Standard Size (feet) sizes vary by product	2 x 8	4 x 8	4 x 9	4 x 50
Coverage per board (sq. ft.)	16	32	36	200

### READ THIS BEFORE YOU BUY

The chart shows the R-value of this insulation. R means resistance to heat flow. The higher the R-value, the greater the insulating power. Compare insulation R-values before you buy.

There are other factors to consider. The amount of insulation you need depends mainly on the climate you live in. Also, your fuel savings from insulation will depend upon the climate, the type and size of your house, amount of insulation already in your house, and your fuel use patterns and family size. If you buy too much insulation, it will cost you more than what you'll save on fuel.

To get the marked R-value, it is essential that this insulation be installed properly.

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NOTICE: Changes to the International Residential Code require the installation of a weather-resistive barrier (WRB) within most exterior wall assemblies in residential construction. The following Dow insulated sheathing products qualify as a WRB when installed according to the installation instructions developed for "installation of foam sheathing as a weather-resistive barrier": STYROFOAM™ DURAMATE™ Brand Plus, STYROFOAM™ Brand Residential Sheathing, STYROFOAM™ Brand Tongue and Groove, STYROFOAM™ Brand Square Edge, STYROFOAM™ Brand Residing Board, DOW™ High Performance Underlayment, THERMAX™ Sheathing, TUFF-R™ and Super TUFF-R™ and therefore do not require the use of a building paper or a housewrap as a WRB. When a WRB is not needed, these Dow foam sheathings may be installed according to standard installation instructions for foam sheathing from Dow. Be sure products and installation instructions meet code requirements for your particular location. Note: WEATHERMATE™ and WEATHERMATE™ Plus housewraps have already qualified as weather-resistive alternatives to the prescribed felt (see Evaluation Reports NER-593 and NER-640 for approved alternative).

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.

Building and/or construction practices unrelated to building materials could greatly affect moisture and the potential for mold formation. No material supplier including Dow can give assurance that mold will not develop in any specific system.

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Manufacturer's Insulation Fact Sheet

# Polyisocyanurate Foam Home Insulation Products

This fact sheet contains important information about DOW Polyisocyanurate insulation. These products, available from Dow Building Solutions, are clearly identified by the DOW Diamond Logo.

## Product R-Value

Product Thickness (nominal inches)	0.38	0.5	0.59	0.625	0.75	1.0	1.25	1.5	1.55	1.75	2.0
THERMAX™ Sheathing	-	3.3	-	-	5.0	6.5	-	9.8	10.1	-	13.0
Reflective system R-Value with 3/4" vertical air space	-	6.1	-	6.9	7.8	9.3	-	12.6	-	-	15.8
THERMAX™ White Finish	-	3.3	-	-	5.0	6.5	-	9.8	10.1 <sup>†</sup>	-	13.0
TUFF-R™	-	3.3	-	4.1 <sup>††</sup>	5.0	6.5	-	9.8	-	-	-
Reflective system R-Value with 3/4" vertical air space	-	6.1	-	6.9	7.8	9.3	-	12.6	-	-	-
TUFF-R™ C	-	-	-	-	-	-	-	9.8	-	-	13.0
Reflective system R-Value with 3/4" vertical air space	-	-	-	-	-	-	-	12.6 <sup>†††</sup>	-	-	15.8
Super TUFF-R™	2.0	3.3	-	4.1 <sup>††</sup>	5.0	6.5	-	9.8	-	-	-
STURDY-R™	-	2.5	3.0	-	4.0	5.0	-	-	-	-	-
QUIK-R™	-	-	3.0	-	4.0	5.0	-	-	-	-	-

<sup>†</sup> Only 1.55" THERMAX™ White Finish standard offering. All other sizes available under non-standard business rules.

<sup>††</sup> Available under non-standard business rules.

<sup>†††</sup> Reflective System R-value is the sum of the product R-value plus additional R-value calculated when the aluminum foil surface is installed next to a non-ventilated 3/4" air space (R-value = 2.8). All values from the ASHRAE Fundamentals Handbook.

## Board Coverage Area

Standard Size (feet) sizes vary by product	4x8	4x9	4x10	4x12
Coverage per board (sq. ft.)	32	36	40	48

### READ THIS BEFORE YOU BUY

The chart shows the R-value of this insulation. R means resistance to heat flow. The higher the R-value, the greater the insulating power. Compare insulation R-values before you buy.

There are other factors to consider. The amount of insulation you need depends mainly on the climate you live in. Also, your fuel savings from insulation will depend upon the climate, the type and size of your house, amount of insulation already in your house, and your fuel use patterns and family size. If you buy too much insulation, it will cost you more than what you'll save on fuel.

To get the marked R-value, it is essential that this insulation be installed properly.

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### 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.

### Dow Polyisocyanurate Insulation Other than THERMAX™ Products

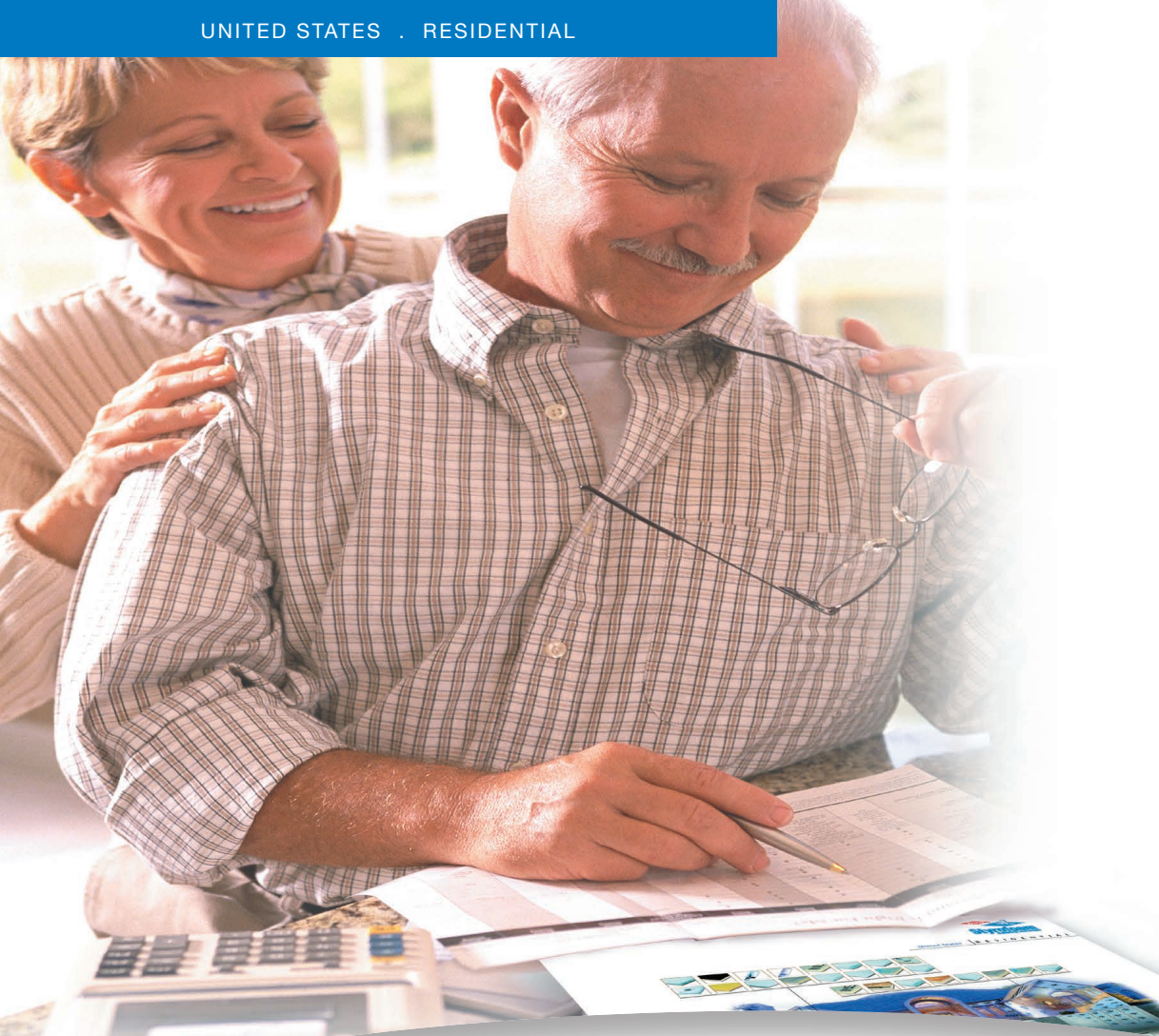
COMBUSTIBLE: Protect from high heat sources. Local building codes may require a protective or thermal barrier. For more information, consult MSDS, call Dow at 1-866-583-BLUE (2583) or contact your local building inspector. In an emergency, call 1-989-636-4400.

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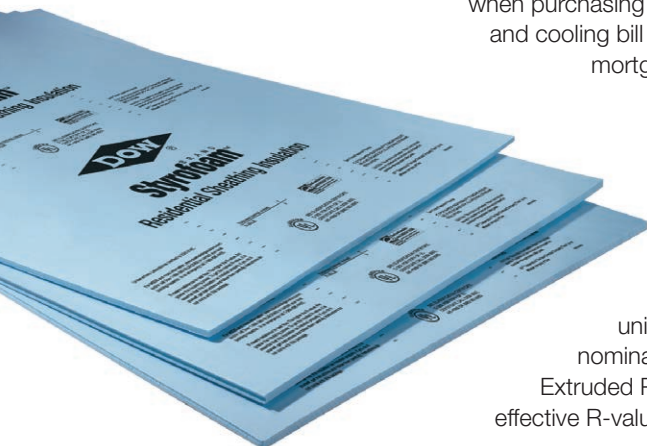


[www.insulateyourhome.com](http://www.insulateyourhome.com)

## WHEN YOU ADD IT ALL UP... **STYROFOAM™ BRAND RESIDENTIAL SHEATHING BOOSTS THE BOTTOM LINE**

Homeowners consistently rank energy efficiency as a high priority when purchasing a new home. That's understandable, since the heating and cooling bill is the second highest monthly payment after the mortgage for many families. Most say they are willing to spend more for a home that will deliver energy savings year after year.

Cavity insulation is a good start, but it's not enough. Wood framing, ducts, wiring and plumbing – all poor insulators – make up more than 25 percent of a wall's surface. In a typical home, that's the equivalent of leaving an entire wall uninsulated. With an R-value\* of approximately 3.0 at nominal 1/2", STYROFOAM™ Brand Residential Sheathing Extruded Polystyrene Insulation on exterior walls boosts the effective R-value of the wall by 20%.







Studs account for 25 percent of the wall surface, leaving a quarter of the building with no thermal protection if an uninsulated sheathing is used.

STYROFOAM™ Brand Residential Sheathing adds up to an investment that will pay for itself in just a few years, and continue to provide value for years to come. Using STYROFOAM™ Brand Residential Sheathing could lead to fewer callbacks resulting in an enhanced reputation for builders.

## PROTECTION AGAINST MOISTURE AND AIR

Extruded polystyrene foam insulation like STYROFOAM™ Brand Residential Sheathing is inherently resistant to moisture, which can wreak havoc on other building materials. Moisture can compromise the performance of cavity insulation and damage drywall, wood framing and OSB or plywood sheathing. STYROFOAM™ Brand Residential Sheathing provides a one-two punch against moisture:

- Defends against wind-driven moisture penetrating a wall system, providing an effective layer of protection for wood components and cavity insulation.
- Moderates temperature in the wall cavity, reducing the potential for damaging moisture condensation to accumulate inside the wall cavity.

Air infiltration is the largest single cause of energy loss in most homes. Adding STYROFOAM™ Brand Residential Sheathing to an exterior wall helps cover seams in the sheathing and gaps around windows and doors, providing a more complete barrier against air leakage.

## TOUGH FOR THE JOB

STYROFOAM™ Brand Residential Sheathing is lightweight, making it easy to handle, but its thin plastic film coating enables it to withstand abuse during handling and around the job site. Yet it remains a simple matter to cut to size with a score and a snap. It can be placed directly over uninsulated studs using let-in bracing or metal strappings to provide the code-required lateral structural bracing, or as an insulating and weather barrier layer over wood panel sheathings such as OSB or plywood.

Adding STYROFOAM™ Brand Residential Sheathing also provides a level, even surface for the exterior sheathing. With STYROFOAM™ Brand Residential Sheathing on your next build, you'll offer homebuyers a winning combination of durability and long-term savings.

## KEEP HIGH ENERGY COSTS DOWN WITH STYROFOAM™ BRAND RESIDENTIAL SHEATHING

Call your Dow representative for more details.

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**CAUTION:** This product is combustible and shall only be used as specified by the local building code with respect to flame spread classification and to the use of a suitable 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.

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[www.insulateyourhome.com](http://www.insulateyourhome.com)

FOR TECHNICAL INFORMATION: 1-866-583-BLUE (2583)

FOR SALES INFORMATION: 1-800-232-2436

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