Atlas Insulating Sheathing

PRODUCT DATA SHEET

Product Descriptions

RBOARD®: Rboard is a rigid polyiso foam board insulation with a coated fibrous facer on both sides.

ENERGY SHIELD®: Energy Shield is a rigid polyiso foam board insulation with a triplex facer (foil-kraft-foil) on the topside and a foil facer on the unprinted back side.

ENERGY SHIELD® PLUS: Energy Shield Plus is the non-reflective version of Energy Shield, plus non-reflective trilaminate facers to ease the installation process.

STUCCO-SHIELD®: Stucco-Shield is a rigid, polyiso foam board with specially coated, patented facers on both surfaces specifically for use as substrate for polymer stucco systems.

Recommended Uses

RBOARD® insulating sheathing is recommended for the following concealed applications when protected by a 15 minute thermal barrier: Exterior Walls, Interior Walls, Ceilings, Slab on Grades, Basement Walls (Interior/Exterior), Cathedral Ceilings, Exterior Roof Decks, Re-siding Projects, 1 Hour Rated Fire Walls and Cavity Walls. Some exterior hardboard and vinyl siding manufacturers do not recommend their products for use over foil-faced insulation. Rboard, a uniquely designed non-reflective product, can be used behind wood, brick, vinyl, aluminum and hardboard sidings. **Not for use as synthetic stucco substrate.**

ENERGY SHIELD® or ENERGY SHIELD® Plus insulating sheathing is recommended for the following concealed applications when protected by a 15 minute thermal barrier: Exterior Walls, Interior Walls, Ceilings, Slab on Grades, Basement Walls (Interior/Exterior), Cathedral Ceilings, Exterior Roof Decks, Re-siding Projects, 1 Hour Rated Fire Walls and Cavity Walls.

STUCCO-SHIELD® insulating sheathing is specifically designed to be used as a substrate for polymer base and modified stucco systems. Apply Stucco-Shield directly to the exterior side of metal framing, wood framing or masonry construction. Before using Stucco-Shield, the polymer stucco system manufacturer should be consulted for suitability and approvals.

Installation

Atlas recommends and supports the WarmWall System℠. The WarmWall System℠ covers all framing members 100%, including the corners, with Atlas Insulating Sheathings. WarmWall is a way to wrap your entire house with a high thermal insulating sheathing, reducing heating and cooling loss in all wall locations, not just the stud cavities. When using Atlas Insulating Sheathings on your home, you can meet or exceed the Model Energy Code for your area and also greatly reduce the potential for condensation problems.

ENERGY SHIELD®, ENERGY SHIELD® PLUS AND RBOARD®: Use code accepted shear or corner bracing, such as 1" x 4" let-in or steel strapping. Energy Shield, Energy Shield Plus and Rboard insulating sheathing should be placed with the longest edge in a vertical position with edges on stud centers. Stud wall spacing of 16" o.c. does not require horizontal support; however, 24" o.c. stud spacing should have a horizontal 2" x 4" at mid-height for internal support. Nailing should be done with 3/8" diameter head galvanized roofing nails long enough to penetrate the wood stud at least 3/4". Sixteen gauge wire staples having a crown minimum of 3/4" wide and legs long enough to penetrate the framing at least 1/2" may also be used. Staple crowns should be parallel with the longest edge of the Energy Shield, Energy Shield Plus and Rboard. Do not allow the nail head or staple crown to penetrate the sheathing surface. Fasteners should be placed no closer than 3/8" to the perimeter edges of Energy Shield, Energy Shield Plus and Rboard, spaced 12" o.c. around the perimeters (including top plate and sole plate), and spaced 12" o.c. in the field of the board. When nailing siding materials over Energy Shield, Energy Shield Plus and Rboard, care should be taken to avoid crushing the sheathing.

STUCCO-SHIELD®: Stucco-Shield less than 1" in thickness must be installed over solid backing. Use code accepted shear or corner bracing in all cases such as 1" x 4" let-in or steel strapping. Stucco-Shield should be placed with the printed side toward the building and with the longest edge in a vertical position with edges on stud centers. Stud wall spacing of 16" o.c. does not require horizontal support; however, 24" o.c. stud spacing should have a horizontal 2" x 4" at mid-height to support the Stucco-Shield. Each board must be attached with galvanized or other corrosion-resistant fasteners with minimum 1 1/4" diameter rigid washer caps. Suitable fasteners should be placed no closer than 3/8" to the perimeter edges of Stucco-Shield, spaced 12" o.c. on all perimeters, including the top and bottom, as well as in the field of the board. Because the washer caps may extend beyond the edge of the board, it is better to butt the second board to the first board prior to nailing either one of the adjacent edges. Do not overdrive fasteners. Smooth shank fasteners (12 gauge min.) must penetrate wood studs a minimum of 1 1/2". Wood screws and ring shank nails (12 ga. min.) must penetrate wood studs a minimum of 1". Metal studs must be penetrated 3/4" with self tapping screws.

Caulking (as specified by the EIFS system manufacturer) should be used to seal field cut irregularities at joints and around wall penetrations to ensure a closed surface for the polymer stucco base coat. All requirements for control of thermal, mechanical, and/or structural movement must be as required by the synthetic stucco coatings manufacturer. Horizontal control joints are needed at floor junctures to compensate for construction lumber shrinkage. Be sure to consult the coating manufacturer.

Although Stucco-Shield is weather resistant, it should be coated with the system base coat within 2 weeks of installation. In the event Stucco-Shield becomes moist prior to application of the base coat, it must be allowed to completely air dry to ensure proper adhesion of the base coat. Keep dust and all other contaminants off the surface of Stucco-Shield.

Avoid unequal stress on the exterior walls by making sure all roofing materials are distributed equally on the roof and distribution of all interior gypsum board is completed prior to application of the base coat.

Atlas requires full mesh reinforcement in the base coat for best impact resistance and total system performance. Follow coating manufacturer's instructions regarding reinforcement mesh application. Expansion control joints are required at each floor level to accommodate the inherent movements of the framing materials.

SPECIAL NOTICE: When building in areas of high humidity, and where building codes require it, a code-approved vapor retarder should be used. Typical vapor retarders used include kraft-faced batt insulation or polyethylene sheeting of a specific thickness. Review your local building codes and model energy codes to determine the requirements in your area.

While Atlas' sheathings are weather resistant, they are not designed for long term exterior exposure. Atlas recommends that they be covered with the permanent siding within 60 days of installation.

WARNING: These Products Will Burn. Do Not Leave Exposed. Atlas sheathing must have 1/2" gypsum wallboard, or other code-approved fire barrier, installed between it and the occupied area of a building.

Sheathing Technical Data

Product Name	Standard Thickness	in.	1/2"	5/8"	3/4"	1.0"	1.5"	2.0"	2.5"	3.0"	3.5"
		mm.	13	16	19	25	38	51	63.5	76.2	88.9
Rboard®	R-Value**		3.0	3.8	4.5	6.0	9.0	12.1	15.3	18.5	21.7
	RSI		.53	.67	.79	1.06	1.58	2.13	2.69	3.26	3.82
	4' x 8' Size - Sq. Ft./Pkg		1344	1088	928	704	480	352	576	480	416
	4' x 9' Size - Sq. Ft./Pkg		1512	1244	1044	792	540	396	648	540	468
Energy-Shield®	R-Value**		3.3	4.1	5.0	6.5	9.6	12.8	16.0	19.0	–
	RSI		.58	.72	.88	1.14	1.69	2.25	2.82	3.34	–
	System R-Value*		6.1	6.9	7.8	9.3	12.4	15.6	18.8	21.8	–
	4' x 8' Size - Sq. Ft./Pkg		1440	1152	992	736	480	352	576	480	–
	4' x 9' Size - Sq. Ft./Pkg		1620	1296	1116	828	540	396	648	540	–
Energy Shield® Plus	R-Value**		3.3	4.1	5.0	6.5	9.6	12.8	16.0	19.0	–
	RSI		.58	.72	.88	1.14	1.69	2.25	2.82	3.34	–
	4' x 8' Size - Sq. Ft./Pkg		1440	1152	992	736	480	352	576	480	–
	4' x 9' Size - Sq. Ft./Pkg		1620	1296	1116	828	540	396	648	540	–
Stucco-Shield®	R-Value**		3.0	–	4.5	6.0	9.0	12.1	–	–	–
	RSI		.53	–	.79	1.06	1.58	2.13	–	–	–
	4' x 8' Size - Sq. Ft./Pkg		1344	–	928	704	480	352	–	–	–
	4' x 9' Size - Sq. Ft./Pkg		1512	–	1044	792	540	396	–	–	–

* System R-value is the product R-value plus the 2.8 R additional value as indicated in the ASHRAE Handbook Fundamentals, for 3/4" dead airspace with reflective foil one side. This information is for use in designing wall systems to comply with FTC Regulations.

** Conditioned thermal values were determined by ASTM Test Method C 518 at 75° F mean temperature. All test specimens were conditioned in accordance with procedures outlined in ASTM C 1289-02, Section 11.1.2.1

What You Should Know About R-Values

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, the amount of insulation already in your house, and your fuel use patterns and family size. To get the marked R-Value, it is essential that this insulation be installed properly.

Property	Test Method	Typical Results
Dimensional Stability	ASTM D 2126	<2% linear change
Water Absorption	ASTM C 209	<1%by volume
Moisture Vapor Trans.	ASTM E 96	<One (I) Perm (57.5ng/(Pa•s•m²))
Product Density	ASTM D 1622	Nominal 2.0 pcf
Flame Spread**	ASTM E 84	<75
Smoke Development**	ASTM E 84	<450
Service Temperature	——	-100°F to +250°F Max. (-73° to 122°C)

Storage

Sheathings should be stored indoors. If left outdoors for any length of time, keep dry by covering completely with a waterproof tarpaulin. Store flat on pallets elevated at least 4" above the floor or ground and standing water.

Availability & Cost

Availability: Marketed throughout North America and available for export shipment.

Cost: Prices are available from your local dealers.

Warranty: Manufacturer will replace at point of original destination within North America all material shown not to comply with manufacturer's specifications. Atlas Roofing Corporation assumes no responsibility for building design or construction, which is solely the responsibility of the owner, architect, engineer or contractor.

Maintenance: No maintenance required.

Codes & Compliances

Atlas sheathing products comply with the requirements of the following building codes when properly installed:

- Uniform Building Code, Section 2603.
- International Conference of Building Officials, Section 2603.
- International Residential Code, Section 2603. (NER-449)
- BOCA Building Code, Section 2603.
- Standard Building Code, Section 2603.
- Federal Specification, HH-I-1972.
- ASTM C 1289 Standard for Polyiso Insulation.
- CCMC Evaluation Report, #12423-L . (Meets CAN/CGSB 51.86-M86-Type 2)
- Metro Dade Product Notice of Acceptance, Product Control No. 00-0208.04.
- California State Insulation Quality Standards and Title 25 Foam Flammability Criteria - #TC 1231.

Energy Shield has been tested at Factory Mutual Research Corp. for surface burning characteristics, ASTM E 84 with the following results:

Factory Mutual Research
Specification Tested Per ASTM E 84 Test Method
Report J.I. 30092226
Atlas Roofing Corporation
EnergyShield®, EnergyShield® Plus, Rboard®, Stucco-Shield®
Tested with Facings Removed
1.5 - 1.9 16/ft³ (24-30kg/m³) Core Foam Density
ASTM E 84-98 FIRE TEST RESULTS
1/2" Thru 4" Thickness (13 to 102 mm Thickness)
**Flame Spread - 75 or less
**Smoke Density - 450 or less

FM

** These numerical values are not intended to reflect hazards presented by this material under actual fire conditions.

ATLAS ROOFING CORPORATION

WarmWall™ The Superior Sheathing System

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energy star CHANGE FOR THE BETTER WITH ENERGY STAR

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ATLAS® SHEATHING POWER SWITCH PROGRAM

Cavity Wall

PRODUCT DATA SHEET

Codes & Compliances

Energy Shield installed in a cavity wall complies with the requirements of the following building codes when properly installed:

- International Residential Code, Section 2603.
- Uniform Building Code, Section 2602.
- International Conference of Building Officials, Section 2603.
- BOCA Building Code, Section 2603.
- Standard Building Code, Section 2603.
- Federal Specification, HH-I-1972.
- ASTM C1289 Standard for Polyiso Insulation Type 1, Class 1.
- CCMC Evaluation Report, No. 12423-L (Meets CAN/CGSB 51.86-M86-Type 2)
- Miami-Dade Product Notice of Acceptance, Product Control No. 03-0103.01.
- California State Insulation Quality Standards and Title 25 Foam Flammability Criteria- #TC 1231
- CAN/ULC S704-01, Type 2, Class C

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U.S. GREEN BUILDING COUNCIL MEMBER

Energy Star CHANGE FOR THE BETTER WITH ENERGY STAR

WarmWall™ The Superior Sheathing System

Product Descriptions

Energy Shield® for use in cavity wall is a non-ozone depleting, rigid polyiso foam board insulation manufactured with a triplex facer (foil-kraft-foil) on the front side and a foil or triplex facer on the unprinted back side.

Energy Shield is manufactured under patents which are state of the art in providing 100% non-ozone depleting, high R-value insulation products. The ACUltra® foam manufacturing process, which is unique to Atlas Roofing Corporation, utilizes advanced processing equipment and chemistry. This ACUltra® process is a proven technology, with a track record of several years and billions of square feet of success already behind it.

The foil based facers shed water to help prevent moisture accumulation in the wall cavity. The stability provided by the thermoset foam core assures optimum performance at all extremes of temperatures found in a normal structure. When the board joints are sealed with a self adhering, flashing grade tape, the Energy Shield envelope also acts as an air barrier.

Foundation/Under Slab installation of Energy Shield offers physical properties which make this rigid insulation ideal for foundation and under slab applications. Its resistance to moisture and decay, together with its ability to withstand loading and long-term thermal requirements, make Energy Shield Insulation a cost-effective solution to on-grade and below-grade insulation. Energy Shield Insulation can be attached mechanically or with approved adhesives to the interior or exterior of the foundation wall. Protect Energy Shield from damage when backfill is performed.

Product Technical Data

Nominal Thickness (Std. 4' x 8')	in.	1"	1.5"	2.0"	2.5"	3.0"
	mm.	25.40	38.10	50.80	63.50	76.20
Product R-Value		6.5	9.6	12.8	16.0	19.0
RSI**		1.14	1.69	2.25	2.82	3.34
Pieces per Pkg		23	15	11	9	7
4' x 8' Size - Sq. Ft./Pkg		736	480	352	288	224
4' x 9' Size - Sq. Ft./Pkg		828	540	396	324	252
(Add 2.8 R with min. 3/4" Dead Air Space with Reflective Surface)						
Available cut or scored @ 16" or 24" O.C.						

* System R-value is the product R-value plus the 2.8 R additional value as indicatd in the ASHRAE Handbook *Fundamentals*, for 3/4" dead airspace with reflective foil one side. This information is for use in designing wall systems to comply with FTC Regulations.

** RSI is the metric expression of LTTR ($m^2 \cdot K/W$)

Storage

All sheathings should be stored with weather protection. If stored outdoors for any length of time, keep dry by covering completely with a waterproof tarpaulin. Store flat on pallets elevated at least 4" above the floor or ground and standing water.

What You Should Know about R-Values

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 building, the amount of insulation already in your building, and your fuel use patterns and occupancy load. To get the marked R-Value, it is essential that this insulation be installed properly.

Availability and Cost

Availability: Marketed throughout North America and available for export shipment.

Cost: Prices are available from your local dealers.

Warranty: Manufacturer will replace at point of original destination within North America all material shown not to comply with manufacturer's specifications. Atlas Roofing Corporation assumes no responsibility for building design or construction, which is solely the responsibility of the owner, architect, engineer or contractor.

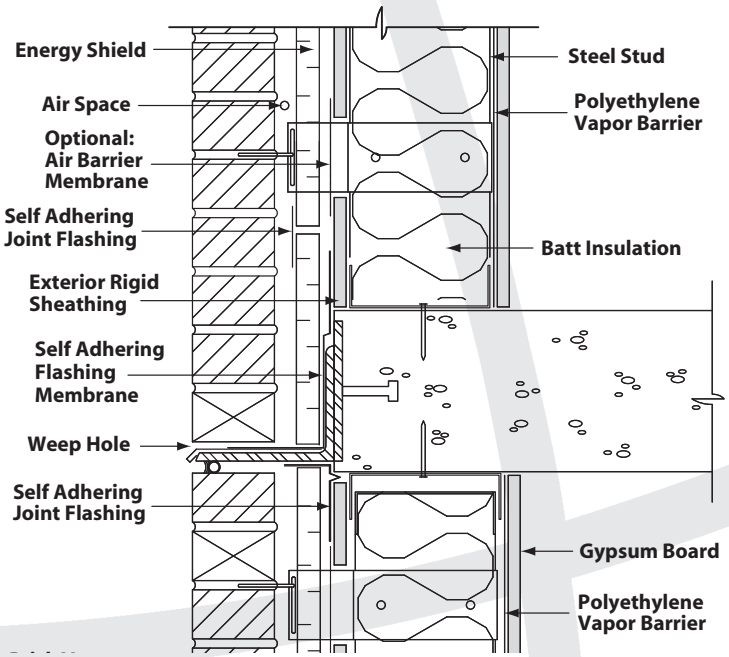
Maintenance: No maintenance required.

Typical Cavity Wall Cross Section With Energy Shield Insulation

FIG. 1

Typical Cavity Wall Cross Section With Energy Shield Insulation

FIG. 1



Typical Product Physical Properties

Property	Test Method	Typical Results
Dimensional Stability	ASTM D 2126	< 2 % linear change
Water Absorption	ASTM C 209	< 1 % by volume
Moisture Vapor Trans.	ASTM E 96	< One (1) Perm (57.5ng/Pa•s•m²)
Product Density	ASTM D 1622	Nominal 2.0 pcf
** Flame Spread	ASTM E 84	< 75
** Smoke Development	ASTM E 84	< 450
Service Temperature	—	-100° F to + 250° F Max (-73° to 122° C)
Compressive Strength	ASTM D 1621	20 psi Nominal

Energy Shield has been tested at Factory Mutual Research Corp. for surface burning characteristics, ASTM E 84 with the following results:

Factory Mutual Research
Specification Tested Per ASTM E 84 Test Method
Report J.I. 30092226
Atlas Roofing Corporation
Energy Shield
Tested with Facings Removed
1.5-1.9 lb/ft³ (24-30kg/m³) Core Foam Density

ASTM E 84-98 FIRE TEST RESULTS
1/2" Thru 4" Thickness (13 to 102 mm Thickness)
** Flame Spread - 75 or less
** Smoke Density - 450 or less

** These numerical values are not intended to reflect hazards presented by this material under actual fire conditions.

Warning: These Products Will Burn. Do Not Leave Exposed. Energy Shield must have 1/2" gypsum wallboard, or other code-approved fire barrier, installed between it and the occupied area of a building.

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ACFoam® Composite/PB (Perlite)
ACFoam® Composite/GB (Glass-Mat Gypsum)
ACFoam® Composite/FB (Fiberboard)
ACFoam® Supreme
ACFoam® Recover Board

DATA SHEET

Product Description and Recommended Uses

ACFoam Composite/PB consists of Atlas closed-cell polyiso bonded to 1/2" perlite on the top and a fiber-reinforced felt facer on the bottom. The perlite top eliminates the need for cover boards or vented base sheets normally recommended over foam insulations. ACFoam Composite/PB may be used with BUR, modified bitumen, and single-ply systems. Consult membrane manufacturer for system details. Available in 4' x 4' (1220mm x 1220mm) and 4' x 8' (1220mm x 2440mm) panels.

ACFoam Composite/GB features Atlas closed-cell polyiso foam bonded to 1/4" primed glass-mat gypsum board on the top and a fiber-reinforced felt facer on the bottom. The glass-mat gypsum board provides a dense protection layer for the primary foam insulation and has a 500 psi compressive strength, which makes Composite/GB a good choice where foot traffic is a concern.

ACFoam Composite/FB consists of Atlas closed-cell polyiso bonded to 1/2" high density wood fiberboard on the top and a fiber-reinforced felt facer on the bottom. The wood fiberboard top eliminates the need for cover boards or vented base sheets normally recommended over foam insulations. ACFoam Composite/FB may be used with BUR, modified bitumen, and single-ply systems. Consult membrane manufacturer for system details. Available in 4' x 4' (1220mm x 1220mm) and 4' x 8' (1220mm x 2440mm) panels.

ACFoam Supreme features Atlas closed-cell polyiso with tri-laminate foil facers. Since these facers are considered impermeable, Supreme provides the highest R-value per inch of any of the ACFoam products, and is used in metal roof systems, mechanically attached and loose-laid ballasted single-ply membrane systems. This product is also specified for cold storage and metal building applications. ACFoam Supreme should not be used directly with hot asphalt, torch-applied or any adhered systems. Supreme is not designed as a substitute for a vapor retarder. Available in 4' x 4' (1220mm x 1220mm) and 4' x 8' (1220mm x 2440mm) panels.

ACFoam Recover Board is specified for use with single-ply systems as well as cold-applied modified bitumen and cold-applied BUR systems. Its primary function is to provide an improved substrate for the roofing membrane in recover applications. Check with the membrane manufacturer regarding approvals of this product as a membrane substrate. DO NOT USE RECOVER BOARD FOR HOT-APPLIED ROOFING SYSTEMS. ACFoam Recover Board is part of the Atlas family of thermally efficient, polyiso foam board insulations. The foam core of Recover Board is covered on both sides with heavy coated-glass facers. Available in 4' x 4' (1220mm x 1220mm) and 4' x 8' (1220mm x 2440mm) panels.

Long Term Thermal Resistance (LTTR)

Nominal Thickness	In.	1.0	1.5	1.8	2.0	2.5	2.7	3.0	3.4	3.5	4.0
	mm.	25.40	38.10	45.72	50.80	63.50	63.58	76.20	86.36	88.90	101.60
*ACFOAM SUPREME	LTTR VALUE	6.20	9.30	11.20	12.40	15.50	16.70	18.60	21.20	21.80	25.0
	RSI**	1.09	1.64	1.97	2.18	2.73	2.94	3.27	3.73	3.84	4.40
ACFOAM COMP/PB	LTTR VALUE	-	7.40	9.20	10.40	13.50	14.80	16.70	19.30	19.90	23.10
	RSI**	-	1.30	1.62	1.83	2.38	2.60	2.94	3.40	3.50	4.07
ACFOAM COMP/GB	LTTR VALUE	-	7.50	9.30	10.60	13.70	15.0	16.90	19.40	20.10	23.30
	RSI**	-	1.32	1.64	1.87	2.41	2.64	2.97	3.41	3.54	4.10
ACFOAM COMP/FB	LTTR VALUE	-	7.30	-	10.40	13.40	-	16.60	-	19.80	23.0
	RSI**	-	1.28	-	1.83	2.36	-	2.92	-	3.48	4.05

Nominal Thickness	In.	0.5	0.75	1.0
	mm.	12.70	19.05	25.40
ACFOAM RECOVER BOARD	LTTR VALUE	3.0	4.5	6.0
	RSI**	0.53	0.79	1.06

Long-term thermal resistance values were determined in accordance with CAN/ULC-S770 and ASTM C 1289-02, Annex A1. All test samples were third-party selected and tested by an accredited material testing laboratory. The R-value for .5 in. perlite (1.39) was provided by ASHRAE Handbook, *Fundamentals*. The R-value of .55 for 7/16 in. OSB was provided by APA-The Engineered Wood Association, which cited ASHRAE Handbook, *Fundamentals*. The R-value for .25 in. glass-mat gypsum board (.28) was provided by the glass-mat gypsum board manufacturer. The R-Value of .5 in. high density wood fiberboard (1.3) was provided by the wood fiberboard manufacturer. *CAN/ULC-S770 and ASTM C 1289-02, Annex A1 do not apply to impermeably-faced (e.g., foil-faced) foam plastic insulation. A test method for determining LTTR values for impermeably faced foam plastic insulation is currently under development. Until such a test is available, Atlas has chosen to establish an interim LTTR value for Supreme based on LTTR test experience with permeably-faced products. **Atlas recommends multi-layering when desired insulation thicknesses are greater than 2.7".**

** RSI is the metric expression of LTTR ($m^2 \cdot K/W$)

Typical Physical Properties (Foam Portion)

PROPERTY	TEST METHOD	TYPICAL RESULTS
Dimensional Stability (Length and Width)	ASTM D 2126	< 2 %
Compressive Strength (10% Deformation)	ASTM D 1621	20 psi (140 kPa)
Water Absorption	ASTM C 209 ASTM D 2842	< 1 % < 3.5 %
Moisture Vapor Transmission	ASTM E 96	< 1.5 perm (85.0ng/ (Pa•s•m^2))
Product Density	ASTM D 1622	Nominal 2.0 pcf (32.04 kg/m^3)
Flame Spread	ASTM E 84 (Full 10 min. Test)	25-50**
Smoke Developed	ASTM E 84 (Full 10 min. Test)	50-170**
Service Temperature	-	-100 to 250° F (-73 to 122° C)
Tensile Strength	ASTM D 1623	> 730 psf (35 kPa)
Flute Spanability	1.0" - 1.4" thick 1.5" - 4.0" thick	2 5/8" 4 3/8"

HCFC FREE ZERO OZONE DEPLETION POTENTIAL GLOBAL WARMING POTENTIAL
ACUltra® TECHNOLOGY

GREENZONE APPROVED

Codes and Compliances

- Federal Specification HH-I-1972/GEN and HH-I-1972/3 have been cancelled.
- ASTM C 1289, Type III, *ACFoam Composite/PB only.*
- ASTM C 1289, Type IV. *ACFoam Composite/FB only*
- ASTM C 1289, Type I, Class 1. *ACFoam Supreme only*
- Miami-Dade County, Florida Product Control No. 03-0103.01 *ACFoam Composite/PB, Supreme and Recover Board only.*
- State of California, License #TC 1231. *ACFoam Composite/PB and Supreme only*
- IBC, NBC, UBC, and SBC Sections on Foam Insulation (Chapter 26)
- CCMC No. 12422-R. *ACFoam Supreme only*
- CAN/ULC-S704. *ACFoam Supreme only*
- CAN/CGSB - 51.26-M86. *ACFoam Supreme only*

FM Standard 4450/4470 Approval
ACFoam Composite/PB and Composite/FB are approved for Class 1 insulated steel, wood, concrete and gypsum roof deck construction for 1-60 and 1-90 Windstorm Classifications (may be mopped or mechanically fastened to cast-in-place structural concrete roof decks). Refer to FM Approval Guide for details on specific systems.

FM Standard 4450/4470 Approval
ACFoam Recover Board is approved for Class 1 insulated steel, wood, concrete and gypsum roof deck construction for 1-60 and 1-90 Windstorm Classifications. Refer to FM Approval Guide for details on specific systems.

FM Standard 4450/4470 Approval
ACFoam Composite/GB is approved for Class 1 insulated steel and concrete roof deck construction for 1-60 and 1-90 Windstorm Classifications. Refer to FM Approval Guide for details on specific systems.

FM Standard 4450/4470 Approval
ACFoam Supreme is approved for Class 1 insulated steel roof deck construction. Refer to FM Approval Guide for details on specific systems.

UL Standard 1256 Classification
Insulated metal deck construction assemblies - Construction No. 120 and No. 123. *ACFoam Composite PB/GB/FB only*

UL Standard 790 (ASTM E 108) Classification
Class A with most roof membrane systems
See UL Roofing Materials & Systems Directory.

UL Standard 263 Fire Resistance Classification (ASTM E 119)
Some classifications for fire resistance are P230, P259, P508, P510, P514, P710, P711, P715, P718, P814, P815, P818 and P828 *ACFoam Composite PB/GB/FB only*

Recover Board is covered by one or more claims of Patent #5,001,005

** The numerical ratings as determined by ASTM Test Method E 84 are not intended to reflect hazards presented by this or any other material under actual fire conditions. A flame spread index of 75 or less and smoke development of 450 or less meet code requirements regarding flame spread and smoke development for foam plastic roof insulation. However, flame spread values do not apply to foam plastic insulation used in roof deck constructions that comply as an assembly with FM 4450 or UL 1256 (see IBC, NBC, UBC, and SBC Sections on Foam Plastic Insulation (Chapter 26)). Smoke development does not apply to roofing.

The physical properties shown are presented as typical average values as determined by accepted ASTM test methods and are subject to normal manufacturing variation. This data is offered as a service to our customers and is subject to change. All information can be confirmed by contacting Atlas's Technical Department.

ATLAS ROOFING CORPORATION

ACFoam® Composite/PB (Perlite)
ACFoam® Composite/GB (Glass-Mat Gypsum)
ACFoam® Composite/FB (Fiberboard)
ACFoam® Supreme
ACFoam® Recover Board

DATA SHEET

Moisture/Vapor Controls

Vapor retarders are used to impede the passage of water vapor into roofing systems, thereby preventing condensation and resulting damage to the insulation and roof system. All ACFoam Roof Insulation Products may be installed with or without a vapor retarder, the need for which is determined by the designer. The designer may consult the NRCA Roofing and Waterproofing Manual for guidance in determining the need for a vapor retarder. Special consideration should be given to construction-generated moisture, as well. For example, construction-generated moisture will be released when concrete floor slabs are placed after the roof has been installed, which can drive large quantities of moisture into the roof system. Therefore, Atlas is not responsible for damage to the insulation when exposed to construction-generated moisture. Refer to the NRCA Roofing and Waterproofing Manual for their recommendations for the use of a vapor retarder when construction-generated moisture is present (4th Edition, Volume 1, p. 121). Refer to Atlas Technical Bulletin #00-01.

Installation of ACFoam® Insulation

Before installation begins, the roof deck should be firm, well attached, even, clean and dry. Proper attachment of the insulation is necessary to prevent roof failures. Atlas is not responsible for any damage caused by improper attachment. ACFoam products can be attached to decks that are approved by FM Approvals and local codes. Atlas is not responsible for determining the suitability of the deck. **ACFOAM INSULATION PRODUCTS SHALL BE KEPT DRY BEFORE, DURING AND AFTER INSTALLATION.** Install only as much ACFoam product as can be covered the same day with completed roofing. Although ACFoam has been designed to withstand normal foot traffic, protection from damage by construction traffic and/or abuse is extremely important. Roof surface protection such as plywood shall be used in areas where storage and staging are planned and heavy or repeated traffic is anticipated during or after installation. Refer to Atlas Technical Bulletin #00-01.

Concrete Decks

Cast-in-place structural concrete, poured gypsum and lightweight insulating concrete decks require special consideration to address the large amounts of inherent moisture. Consult the NRCA Roofing and Waterproofing Manual for recommendations and instructions.

Multi-Layer Application of Insulation

A two-layer application of ACFoam is strongly recommended. The joints in each layer should be offset in order to avoid a vertically continuous joint through the total insulation thickness. Two layers (or more) with joints staggered can provide improved insulation performance by eliminating thermal bridges. This method also reduces condensation potential and thermal stress on the roof membrane Refer to Atlas Technical Bulletin #00-01.

Mechanical Attachment

Mechanical fastening is the recommended method of attachment over nailable decks. Fastener frequency and spacing for steel, wood, cast-in-place structural concrete and poured gypsum decks are covered in the current Atlas Sweet's Catalog according to the membrane system. Refer to FM Loss Prevention Data Sheet 1-29 for special considerations regarding perimeter and corners of the roof. Go to www.AtlasRoofing.com for fastening patterns for field, perimeter, and corner areas. For recommendations regarding attachment of insulation to lightweight insulating concrete decks or poured gypsum concrete decks, follow the instructions outlined in the NRCA Roofing and Waterproofing Manual. ACFoam products shall not be adhered directly to these decks by any bitumen or adhesive attachment method.

Bitumen Attachment - PB and FB

For installing ACFoam Composite/PB and Composite/FB to a cast-in-place structural concrete deck, adhesive/bitumen attachment is the recommended method. When using asphalt on concrete decks, priming is necessary. Precautions must be taken to prevent bitumen drippage. When using hot-applied bitumen for insulation attachment, the temperature of the asphalt should be approximately 50° F below the interply hand mopping EVT. The deck must be dry and care must be taken to apply the bitumen in sufficient quantity to totally cover the available deck surface. Use 18 to 30 pounds of bitumen per square to ensure proper attachment. To ensure embedment, the board must also be "stepped in" at several points while the bitumen is still hot enough to allow positive attachment. The recommended ACFoam Composite/PB and Composite/FB insulation size for hot asphalt attachment is 4' x 4'. Because of the unevenness of cast-in-place structural concrete decks, 4' x 8' boards are not recommended for bitumen attachment to the deck. 4' x 8' boards may, however, be mechanically fastened. *Composite/GB is typically mechanically attached but may be adhered to structural concrete under certain conditions.*

Storage of ACFoam® Insulation

Factory applied packaging is intended only for protection during transit. When stored outdoors or on the job site, the insulation should be stacked on pallets at least four inches above ground level and completely covered with a weatherproof covering such as a tarpaulin. The temporary factory-applied packaging should be slit or removed to prevent accumulation of condensation. Roof insulation which has become wet or damaged should be removed and replaced with solid, dry insulation.

Limitation of Liability

Other than the aforementioned representations and descriptions, Atlas Roofing Corporation (hereafter, "Seller") makes no other representations or warranties as to the insulation sold herein. The Seller disclaims all other warranties, express or implied, including the warranty of merchantability and the warranty of fitness for a particular purpose. Seller does, however, have a limited warranty as to the LTTR-value of the insulation, the terms of which are available upon request from the Seller.

The Seller shall not be liable for any incidental or consequential damages including the cost of installation, removal, repair or replacement of this product. The Buyer's remedies shall be limited exclusively to, at Seller's option, the repayment of the purchase price or resupply of product manufactured by Atlas in a quantity equal to that of the nonconforming product. Atlas distributors, agents, salespersons or other independent representatives have no authority to waive or alter the above limitation of liability and remedies.

WARNING - Do Not Leave Exposed

This product is a polyiso organic plastic foam and will burn if exposed to an ignition source of sufficient heat and intensity, or open flame, such as a welder's torch. Like other organic materials, this product will release smoke if ignited. Do not apply flame directly to ACFoam Roof Insulations. This product should be used only in strict accordance with Atlas recommended uses and application instructions.

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