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## ATLAS ROOFING PRODUCT GUIDE

POLYISO ROOF INSULATION, SPECIALTY PRODUCTS & ACCESSORIES



www.atlasroofing.com



### **POLYISO ROOF INSULATION, SPECIALTY PRODUCTS & ACCESSORIES**

Innovation

PAGE

24

32

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CrossVent<sup>®</sup> RB

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sroofing.co

Corporate & Contact Information

# Responsibility

# **Energy Efficient: Green** Polyiso

Leadership





(if you think "green" isn't about you, think again)



# Introduction

From our start as a single asphalt shingle manufacturing company in 1982, to becoming a recognized leader and driving force in the green movement today, Atlas has done more than simply adapt to industry trends; we've led the way in setting standards.

Convinced that building "green" was not just a cliché or bandwagon to jump on, Atlas became a pioneer in the manufacturing of "Green Polyiso" insulation. Polyiso-a closed-cell, rigid foam board insulation-is used primarily on the roofs of commercial buildings where high thermal performance is essential. The term "Green Polyiso" refers to Environmentally-Friendly, polyisocyanurate insulation with Zero Ozone Depletion Potential (ODP), and Zero Global Warming Potential (GWP).

Through the development of our patented hydrocarbon blowing technology called ACUltra® Technology, Atlas became the first Polyiso manufacturer to cease the use of Chlorofluorocarbons (CFCs) in 1993 and Hydrofluorocarbons (HCFCs) in 1998, years ahead of the Montreal Protocol deadline for compliance. Due to the material's contribution to energy efficiency throughout a building's life, LEED credits and life cycle assessment, Owners, Architects, Specifiers, and Contractors all recognize the vast benefits of choosing Polyiso as their insulation board.

### POLYISO INSULATION PRODUCTS

When it comes to selecting the best overall insulation product for roof systems, Polyiso is the product of choice. No other foam plastic insulation has the perfect combination of features so important for long-term performance. These features provide excellent initial installation costs, as well as attractive life-cycle payback rates, which can be easily calculated by using the EnergyWise Roof Calculator Online (NRCA/PIMA). Ask your Atlas Sales representative for a demonstration.

> Polyiso insulation is the only foam plastic insulation that can be used in almost all types of roof systems without the need for a thermal barrier. Polyiso's high-temperature stability prevents melting when mopped with hot bitumen. Polyiso is unaffected by properly applied construction adhesives, and many membrane manufacturers specify its use without the need for a cover board in single-ply adhered systems.

Atlas recommends ACFoam<sup>®</sup> Roof Insulation only for roofing applications installed by a qualified contractor. FM Approvals has approved the use of ACFoam<sup>®</sup> as a component in Class 1 insulated roof deck construction. ACFoam® has also been tested and Classified by Underwriters Laboratories as a component of an insulated roof deck.

## LIFE-CYCLE ASSESSMENT

Besides its many well-known benefits, including serving as an appropriate base for roof membranes, improving occupant comfort, reducing potential for condensation, and reducing operating expenses, ACFoam<sup>®</sup> also provides a positive Life-Cycle Assessment, a key measure of sustainability. Based on a cradleto-grave assessment, Polyiso greatly reduces fossil fuel use and associated carbon emissions. Energy savings and carbon reductions greatly outweigh the marginal embodied energy needed for the creation, use, and disposal of the material. For more information, visit www.GreenPolyiso.com and search Life-Cycle Assessment.

# ACFoam<sup>®</sup>LEED Credits

## MATERIALS & RESOURCES

- **Construction Waste Management: Credit 2** If the total percentage of reused materials in a project does not meet the minimum levels stated in the Materials and Resources, Credit 1, Building Reuse, these reuse activities may be applied to this credit.
- **Materials Reuse: Credit 3**

Polyiso can be and often is reused in order to reduce demand for virgin materials and reduce waste.

**Recycled Content: Credit 4** 

ACFoam®-II roof insulation can be used toward one of the levels of recycled materials credit.

Local/Regional Materials: Credit 5 Atlas has seven Polviso insulation plants and sources of raw materials across North America. Therefore, the use of ACFoam® roof insulation may contribute towards gaining this credit, depending on the project location and the version of LEED being used as the basis of design.

### ENERGY & ATMOSPHERE

- Minimum Energy Performance: Prerequisite 2 Thermally efficient ACFoam® roof insulation facilitates compliance with ASHRAE 90.1-2007 and local energy codes.
- **Optimize Energy Performance: Credit 1**
- ACFoam<sup>®</sup> roof insulation provides the highest thermal resistance per inch of material and can economically contribute to achieving the LEED mandatory and optional credits for optimized energy performance.

## **RECYCLED CONTENT**

ACFoam<sup>®</sup>-II roof insulation contains between 16% and 43% recycled materials by weight, depending on thickness. Since the facers are made of 100% recycled materials (57% post-consumer, 43% pre-consumer), the thinner the product, the higher the recycled content.

A double layer application of insulation with staggered joints is well known for its improved thermal efficiency (prevention of heat loss or gain) over a single layer. Also important, a double layer can increase the level of recycled material in the total roof insulation.



### www.greenzone.com

**Polyiso Now And For The Future** GreenZone provides access to three Atlas sites devoted to Green Polyiso and all things related to green building:

**GreenPolyiso.com** 

Isological.com

OneDegreeChange.com





# **GOING BEYOND ASHRAE 90.1**

For the first time in over 19 years, ASHRAE (The American Society of Heating, Refrigerating and Air-Conditioning Engineers) has increased the minimum required prescriptive R-value (resistance to heat flow) for roof and wall insulation levels in Standard 90.1 The above-deck roof insulation requirements previously at R-15 go to R-20 – an increase of 33% – in every climate zone in the U.S. Similar increases were approved for walls. These increases apply to all commercial and high-rise residential buildings covered by Standard 90.1.

> Thanks to the Leadership in Energy & Environmental Design (LEED) Green Building Rating System and other "Beyond the Code" initiatives such as Architecture 2030, many specifiers, architects, and designers will recognize the increased minimum R-values as the new base for exceeding the code. As the newest ASHRAE 90.1 Standard is officially adopted into building codes by state and local governments, Atlas believes that it should be the minimum benchmark for going "Beyond the Code."

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## **TYPICAL** COMMERCIAL ROOF SYSTEM DESIGN CRITERIA

Several design criteria require the designer's consideration when determining the components of a roof assembly. The following checklist is not exhaustive but should assist in the design process:

- Geographical location (climate)
- Building usage (temperature and humidity)
- Type of roof deck
- Code requirements
- Slope and drainage
- Desired thermal requirements
- Insurance requirements (fire and wind)
- Positive life-cycle assessment
- Environmental factors
- Roofing materials
- Manufacturer's requirements

## **TYPICAL PHYSICAL PROPERTIES** (FOAM PORTION)

	PROPERTY	TEST METHOD	TYPICAL RESUL
	Dimensional Stability (Length and Width)	ASTM D 2126	< 2 %
1	Compressive Strength (10% Deformation)	ASTM D 1621	20 psi (138 kPa) or 2 (172 kPa)
	Water Absorption	ASTM C 209 ASTM D 2842	< 1 % < 3.5 %
	Moisture Vapor Transmission	ASTM E 96	< 1.0 Perm (85.0ng/ (Pa•s•m²
	Product Density	ASTM D 1622	Nominal 2.0 pcf (32.04
	Flame Spread	ASTM E 84 (Full 10 min. Test)	40 - 60*
	Smoke Developed	ASTM E 84 (Full 10 min. Test)	50-170*
	Tensile Strength	ASTM D 1623	>730 psf (35 kPa
	Service Temperature	-	-40 to 200F**

\*The numerical ratings as determined by ASTM Test Method E 84 are not intended to reflec 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, the codes exempt foam plastic insulation when 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.

\*\*ASTM C 1289 Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board.

The physical properties listed above are presented as typical average values as determined by accepted ASTM test methods and are subject to normal manufacturing variation. Standard, Grade 2, 20 psi. Non-standard, Grade 3, 25 psi.

## **TECHNICAL ASSURANCE**

Atlas provides a full-service Technical Department with a LEED Accredited Professional (AP), Registered Roof Consultant (RRC), Construction Documents Technologists (CDT) and Certified Construction Product Representatives (CCPR) on staff.

## **BENEFITS OF ROOF INSULATION**

Because of its ability to resist heat transfer, roof insulation conserves energy and increases occupant comfort. It also provides important roof system benefits:

- Helps with energy efficiency
- Helps reduce the Carbon Footprint of buildings
- Provides a suitable substrate for the roof membrane
- Reduces deck movement by stabilizing temperatures
- Key component of fire rated roof assemblies
- Compatible with system components, including adhesives
- Dimensionally stable

### AWARDS

In 1999 the U.S. EPA awarded Atlas the Stratospheric Ozone Protection Award for "leadership in CFC phase-out in Polyiso insulation and in recognition of exceptional contributions to global environmental protection."

Atlas Polyiso products and the trade association representing the industry. PIMA, have received many environmental awards. These include the Sustainable Buildings Industry Council's (SBIC) 2003 "Best Practice" Sustainability Award and the U.S. EPA's Climate Protection Award for the association's leadership in promoting energy efficiency and climate protection.

MECHANICALLY ATTACHED TPO

**NODIFIED BITUMEN** 

1 22

**INSULATED ROOF DECK WITH SHINGLES** 

APP

**MODIFIED BITUMEN** 

1000

SBS

ADHERED PVC

2.

NIIIII

WITH GEMINI™

## ATLAS CITY

**FIRE RESISTANT** SLIPSHEET

**EXPERIENCE ATLAS CITY AT:** www.AtlasRoofing.com/AtlasCity

PVC

METAL ROOFING

SYSTEM

### WELCOME TO ATLAS CITY

We have created this prototype city to illustrate the many uses of Atlas commercial roofing products. There's an Atlas product that's perfect for every need from skyscrapers to single family homes and everything in between.

**FULLY ADHERED TPO** 

MECHANICALLY

ATTACHED PVC

BALLASTED EPDM 

INTERPRETATION OF

BUR



MECHANICALLY ATTACHED TPO WITH

GEMINI™



**POLYISO ROOFING APPLICATIONS V** NAILABLE ROOFING APPLICATIONS **TAPERED ROOFING APPLICATIONS SPECIALTY PRODUCTS** 

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### **SINGLE-PLY ROOFING SYSTEMS**

### **ADHERED SINGLE-PLY MEMBRANE SYSTEMS**

ACFoam<sup>®</sup>-II, ACFoam<sup>®</sup>-III, ACFoam<sup>®</sup>-IV, Tapered ACFoam<sup>®</sup>-II, Tapered ACFoam<sup>®</sup>-III, Tapered ACFoam<sup>®</sup>-IV, Composite/GB and Composite/FB are the most commonly specified products in adhered single-ply membrane systems. When a single-ply membrane is specified for direct application to ACFoam<sup>®</sup>, solvent-based adhesive shall be applied in strict accordance with the membrane/adhesive manufacturer's instructions, and must be allowed to dry sufficiently to become tacky to the touch before the single-ply membrane is applied.

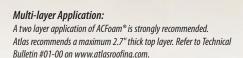
For cold weather applications, the membrane adhesive shall be applied at the temperature recommended by the membrane manufacturer. Do not thin the adhesive with solvents, which can adversely affect the insulation. Failure to allow the adhesive solvents to evaporate or failure to protect the insulation from damage can cause the facer and membrane to separate from the foam core.

Some designers, consultants, and industry organizations recommend the use of a coverboard in adhered singleply applications. Consult the membrane manufacturer for recommendations regarding coverboard requirements. The use of a coverboard may change the fastening requirements or fire/wind ratings.

### MECHANICALLY ATTACHED SINGLE-PLY MEMBRANE SYSTEMS

ACFoam<sup>®</sup>-II, ACFoam<sup>®</sup>-III, ACFoam<sup>®</sup>-IV, Tapered ACFoam<sup>®</sup>, ACFoam<sup>®</sup> Supreme, ACFoam<sup>®</sup> Composite/GB and ACFoam<sup>®</sup> Composite/FB may be used under this membrane system. The insulation should be attached with FM Approved fasteners in accordance with the fastening patterns shown and as required by the membrane roof system manufacturer. ACFoam<sup>®</sup>-III, ACFoam<sup>®</sup>-IV, and Composite/GB are especially recommended for this application.





### **RECOVER BOARD APPLICATIONS**

ACFoam® Recover Board is specified for recover applications and should be attached as shown when used in a mechanically fastened single-ply system. (Check with the membrane manufacturer regarding approvals of this product as a membrane substrate and fastening rates for adhered systems.)

### LOOSE-LAID BALLASTED SINGLE-PLY MEMBRANE SYSTEMS

All ACFoam<sup>®</sup> products may be used with ballasted systems. Atlas does not require attachment of the insulation in this system; however, for projects insured by FM or that require FM compliance, refer to FM Loss Prevention Data Sheets. All installed insulation must fit together tightly to prevent separation, movement and damage during membrane installation. After the membrane is installed, sufficient amounts of ballast must be applied to prevent insulation and membrane movement.

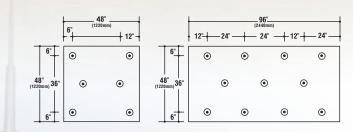
### FOR SELECTED ADHERED SINGLE-PLY SYSTEMS\*

### FM 1-60 & FM 1-90

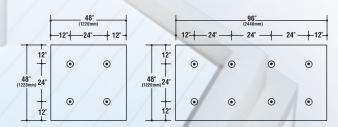
	6"	48" . (1220mm)	18"—∳6" ·		6"	·	96 (2440 18"————————————————————————————————————	∂" <sup>mm)</sup> 2" <b>↓</b> 18'	· -+-	18"-+6"
6"   18"	۲	۲	۲	6"           	۲	۲	۲	۲	۲	۲
48" (1220mm) 18"	۲		۲	48" (1220mm) 18"	۲		۲	۲		۲
	۲	۲	۲		۲	۲	۲	۲	۲	۲

• One FM approved fastener/plate per 2 square feet

• 1.3" through 1.4" thickness



- One FM approved fastener/plate per 2.7 square feet (4' x 4')
- One FM approved fastener per 2.9 square feet (4' x 8')
- 1.5" through 1.9" thickness



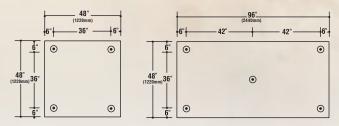
- One FM approved fastener/plate per 4 square feet
- 2.0" thickness and greater

\*Refer to FM Approvals RoofNav for details on specific systems. Go to www.atlasroofing.com for additional fastening patterns and downloadable CAD details.

### FIELD FASTENING PATTERNS

### FOR SELECTED MECHANICALLY ATTACHED SINGLE-PLY MEMBRANE SYSTEMS\*

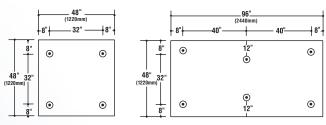
### FM 1-60 & FM 1-90



- One FM approved fastener/plate per 6.4 square feet (4' x 8')
- One FM approved fastener per 4 square feet (4' x 4')
- 1.3" and thicker ACFoam®-II, ACFoam®-III and ACFoam® Supreme
- 1.5" and thicker ACFoam® Composite

### ACFOAM® RECOVER BOARD FASTENING PATTERNS FOR MECHANICALLY ATTACHED SYSTEMS\*

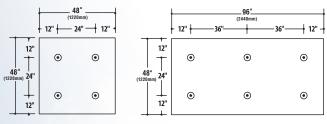
### FM 1-60 & FM 1-90



- One FM approved fastener/plate per 5.33 square feet (4' x 8')
- One FM approved fastener/plate per 4 square feet (4' x 4')

### ACFOAM®-IV FASTENING PATTERNS FOR SELECTED ADHERED SINGLE-PLY SYSTEMS\*

### FM 1-90



- One FM approved fastener/plate per 5.33 square feet (4' x 8')
- One FM approved fastener/plate per 4 square feet (4' x 4')
- ACFoam<sup>®</sup>-IV has been tested and approved up to FM 1-345.\*
- 2.0" thickness and greater

### **BUR & MODIFIED BITUMINOUS ROOFING SYSTEMS**

### **BUR & MODIFIED BITUMINOUS SYSTEMS**

ACFoam<sup>®</sup>-II, ACFoam<sup>®</sup>-III, ACFoam<sup>®</sup>-IV, Tapered ACFoam<sup>®</sup>, ACFoam<sup>®</sup> Composite/PB, and ACFoam<sup>®</sup> Composite/FB are used in BUR and modified bituminous membrane systems. Do not torch apply modified bituminous systems directly to any ACFoam<sup>®</sup> product. Membranes may be hot mopped directly to the perlite or fiberboard side of ACFoam<sup>®</sup> products. When using ACFoam<sup>®</sup>-II, -III or -IV, a separation layer is recommended.

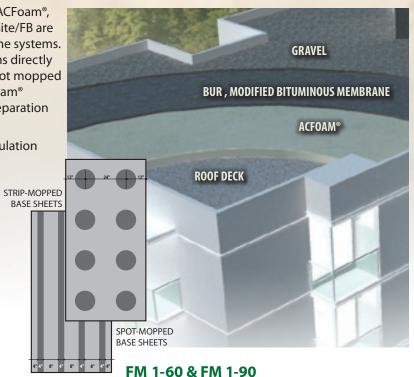
The use of a separation layer means that the insulation shall be covered with one of the following prior to membrane application:

- A spot-mopped glass base sheet
- A strip-mopped glass base sheet with approximately 4" wide strips and approximately 8" wide spaces between-strips
- A vented-glass base sheet
- A mopped minimum 1/2" wood fiberboard, mopped minimum 1/2" perlite board, glass or mineral fiberboard

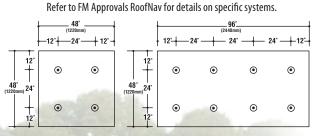
Check with the membrane manufacturer for required roof system installation procedures.

### **BITUMEN TEMPERATURE**

When using hot applied bitumen for attachment of insulation to structural concrete decks and successive insulation layers, the temperature of the bitumen should be approximately 50° F below the interply hand mopping EVT and a maximum of 390° F. Consult roof system manufacturer for bitumen temperature recommendation for membrane application.



For selected modified bituminous membranes.

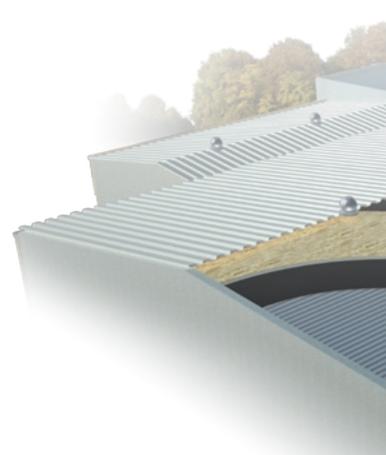


- One FM approved fastener/plate per 4 square feet
- 1.3" and thicker ACFoam<sup>®</sup>-II with 1/2" min. perlite mopped overlay board
- 1.5" and thicker ACFoam<sup>®</sup>-II with 1/2" min. wood fiber mopped overlay board
- 2.0" and thicker ACFoam®-IV with 1/2" min. wood fiber mopped overlay board
- 1.5" and thicker ACFoam<sup>®</sup> Composite/PB
- 2.0" and thicker ACFoam<sup>®</sup> Composite/FB

### **METAL ROOF SYSTEMS**

ACFoam<sup>®</sup> products can be used under metal roof systems fastened through the insulation into the roof deck. ACFoam<sup>®</sup> Nail Base Insulation (NBI), CrossVent<sup>®</sup> and CrossVent<sup>®</sup> RB (Radiant Barrier) featuring an OSB top surface, provide a dense surface to support fastening clips.

Consult the metal roof panel manufacturer for attachment details. Nail Base, CrossVent<sup>®</sup>, and CrossVent<sup>®</sup> RB shall be mechanically attached only, in accordance with Atlas *Guide Details for Atlas Nailable Insulation*. Fasten ACFoam<sup>®</sup>-II or ACFoam<sup>®</sup> Supreme as a minimum with FM approved fasteners and insulation plates at the rate of 1 fastener per 6.4 sq. ft. as shown on page 11 under "Mechanically Attached Single-Ply Membrane Systems." Install only as much ACFoam<sup>®</sup> product as can be covered the same day with completed roofing.





**METAL ROOFING ROOF UNDERLAYMENT** ACFOAM® NAIL BASE VAPOR RETARDER **METAL ROOF DECK** greenzone.com



### ACFOAM®-II

- Closed-cell, polyiso foam core integrally laminated to heavy, black (non-asphaltic), fiber-reinforced organic felt facers.
- Offered in a variety of thicknesses, providing long-term thermal resistance (LTTR) values from 6.0 to 25.0.
- Typically specified for hot asphalt or coal tar BUR, modified bitumen and single-ply membrane systems. Consult membrane manufacturer for specific system details.
- Recycled Content: Between 16% and 43% by weight depending on thickness (57% post-consumer, 43% pre-consumer). Refer to Technical Bulletin #03-02.
- CFC-, HCFC-, and HFC-free foam blowing technology with zero ozone depletion potential (ODP) and zero (negligible) global warming potential (GWP).

LTTR-VALUE	THICKNESS		RSI**	PCS/PKG	METAL DECK FLUTE SPANABILITY		
LITH-VALUE	in	mm	1.51	1 C3/1 KG	in	mm	
6.0	1.0	25.40	1.06	48	2.625	66.68	
9.0	1.5	38.10	1.58	32	4.375	111.13	
12.1	2.0	50.80	2.13	24	4.375	111.13	
15.3	2.5	63.50	2.69	19	4.375	111.13	
18.5	3.0	76.20	3.26	16	4.375	111.13	
19.1	3.1	78.74	3.36	15	4.375	111.13	
20.4	3.3	83.82	3.59	14	4.375	111.13	
25.0	4.0	101.60	4.40	12	4.375	111.13	

LTTR (long-term thermal resistance) values were determined in accordance with CAN/ULC-S770 and ASTM C 1289. All test samples were third-party selected and tested by an ed material testing laboratory. The LTTR results were reviewed and authorized by FM Approvals and certified by the PIMA Quality Mark Prog

ommends multi-layering when desired insulation thicknesses are greater than 2.7 in.

\*\*RSI is the metric expression of R-value (m<sup>2</sup> • K/W).

**CODES AND COMPLIANCES** 

- ASTM C 1289, Type II, Class 1, Grade 2 (20 psi) or Grade 3 (25 psi)
- California State Insulation Quality Standards and Title25 Foam Flammability Criteria (License #TC 1231)
- CAN/CGSB-51.26-M86
- CAN/ULC-S704
- CCMC No. 12464-L
- Federal Specification HH-I-1972/GEN and HH-I-1972/2, Class 1 have been cancelled
- IBC, NBC, UBC, and SBC Sections on Foam Insulation (Chapter 26)
- Miami-Dade County Product Control Approved, Miami-Dade County, Florida, NOA No. 08-0111.01, 4/14/13
- NYC MEA No.107-01-M
- State of Florida Product Approval #FL6796

#### FM Standard 4450/4470 Approval

ACFoam<sup>®</sup>-II 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 Approvals RoofNav for details on specific systems.

Available in 48" x 48" (1220mm x 1220mm)

and 48" x 96" (1220mm x 2440mm) panels.

#### UL Standard 1256 Classification

Insulated metal deck construction assemblies - Construction No. 120, No. 123, and No. 292

### 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 P225, P230, P259, P508, P510, P514, P519, P701, P710, P713, P717, P718, P719, P720, P722, P723, P724, P725, P727, P728, P729, P730, P732, P801, P814, P815, P818, P819, and P828. See UL Fire Resistance Directory for updated listings.

### UL Standard 1897 Uplift Resistance (For specific roof assemblies)

120 psf, 150 psf, 165 psf, 245 psf

### **UL Certified for Canada**

### UL of Canada

Insulated Roof Deck Assemblies - Construction No. C34 Meets CAN/ULC-S126-M86, CAN/ULC-S101-M89, CAN/ULC-S107-M87

### ACFOAM®-III

- Closed-cell polyiso foam core integrally laminated to heavy, durable and dimensionally stable inorganic coated-glass facers.
- Offered in a variety of thicknesses, providing long-term thermal resistance (LTTR) values from 6.0 to 25.0.
- Typically specified for hot asphalt or coal tar BUR, modified bitumen and single-ply membrane systems. Consult membrane manufacturer for specific system details.
- CFC-, HCFC-, and HFC-free foam blowing technology with zero ozone depletion potential (ODP) and zero (negligible) global warming potential (GWP).

LTTR-VALUE	THICKNESS		RSI**	PCS/PKG	METAL DECK FLUTE SPANABILITY		
	in	mm		TC5/TKG	in	mm	
6.0	1.0	25.40	1.06	48	2.625	66.68	
9.0	1.5	38.10	1.58	32	4.375	111.13	
12.1	2.0	50.80	2.13	24	4.375	111.13	
15.3	2.5	63.50	2.69	19	4.375	111.13	
18.5	3.0	76.20	3.26	16	4.375	111.13	
19.1	3.1	78.74	3.36	15	4.375	111.13	
20.4	3.3	83.82	3.59	14	4.375	111.13	
25.0	4.0	101.60	4.40	12	4.375	111.13	

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\*\*RSI is the metric expression of R-value (m<sup>2</sup> • K/W).

### **CODES AND COMPLIANCES**

- ASTM C 1289, Type II, Class 1, Grade 2 (20 psi) or Grade 3 (25 psi)
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- CAN/CGSB-51.26-M86
- CAN/ULC-S704
- CCMC No. 12423-L
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- IBC, NBC, UBC, and SBC Sections on Foam Insulation (Chapter 26)
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- State of Florida Product Approval #FL6796



### **ACFOAM® ROOF INSULATION**



#### Available in 48" x 48" (1220mm x 1220mm) and 48" x 96" (1220mm x 2440mm) panels.

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### FM Standard 4450/4470 Approval

ACFoam<sup>®</sup>-III 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 Approvals RoofNav for details on specific systems.

### UL Standard 1256 Classification

Insulated metal deck construction assemblies – Construction No. 120, No. 123, and No. 292

#### 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 P225, P230, P259, P508, P510, P514, P519, P701, P710, P713, P717, P718, P719, P720, P722, P723, P724, P725, P727, P728, P729, P730, P732, P801, P814, P815, P818, P819, and P828. See UL Fire Resistance Directory for updated listings.

### **UL Certified for Canada**

### **UL of Canada**

Insulated Roof Deck Assemblies - Construction No. C34 Meets CAN/ULC-S126-M86, CAN/ULC-S101-M89, CAN/ULC-S107-M87



### **ACFOAM®-IV**

- Closed-cell polyiso foam core integrally laminated to heavy, durable and dimensionally stable coated-glass facers.
- Offered in a variety of thicknesses, providing long-term thermal resistance (LTTR) values from 6.0 to 25.0.
- Provides high wind uplift ratings in fully adhered systems with mechanically attached insulation ranging from FM 1-90 to FM 1-345.
- UL Class A over combustible decks.
- Up to FM 1-990 with polyurethane foam adhesive.
- Typically specified for hot asphalt or coal tar BUR, modified bitumen and single-ply membrane systems. Consult membrane manufacturer for specific system details.
- CFC-, HCFC-, and HFC-free foam blowing technology with zero ozone depletion potential (ODP) and zero (negligible) global warming potential (GWP).

LTTR-VALUE	THIC	(NESS	METAL DECK FLUTE SP.		UTE SPANABILITY	
	in	mm			in	mm
3.0	0.5	12.70	0.53	46	N/A (Recover Only)	N/A (Recover Only)
6.0	1.0	25.40	1.06	48	2.625	66.68
12.1	2.0	50.80	2.13	24	4.375	111.13
15.3	2.5	63.50	2.69	19	4.375	111.13
17.2	2.8	71.12	3.03	17	4.375	111.13
18.5	3.0	76.20	3.26	16	4.375	111.13
19.1	3.1	78.74	3.36	15	4.375	111.13
20.4	3.3	83.82	3.59	14	4.375	111.13

LTTR (long-term thermal resistance) values were determined in accordance with CAN/ULC-S770 and ASTM C 1289. All test samples were third-party selected and tested by an accredited material testing laboratory. The LTTR results were reviewed and authorized by FM Approvals and certified by the PIMA Quality Mark Program

Atlas recommends multi-lavering when desired insulation thicknesses are greater than 2.7 in.

\*\*RSI is the metric expression of R-value (m<sup>2</sup> • K/W).

### CODES AND COMPLIANCES

- ASTM C 1289, Type II, Class 1, Grade 2 (20 psi) or Grade 3 (25 psi)
- California State Insulation Quality Standards and Title 25 Foam Flammability Criteria (License #TC 1231)
- CAN/CGSB-51.26-M86
- CAN/ULC-S704
- Miami-Dade County Product Control Approved, Miami-Dade County, Florida, NOA No. 08-0111.01, 4/14/13
- Federal Specification HH-I-1972/GEN and HH-I-1972/2, Class 1 have been cancelled
- IBC, NBC, UBC, and SBC Sections on Foam Insulation (Chapter 26)
- State of Florida Product Approval #FL6796

### FM Standard 4450/4470 Approval

ACFoam®-IV (min. 1.0 in. thickness) is approved for Class 1 insulated steel, wood, concrete and gypsum roof deck construction for 1-60 and 1-90.

ACFoam<sup>®</sup>-IV (min. 2.0 in. thickness) is also approved for Class 1 steel and concrete roof deck construction for 1-90, 1-120, 1-150, 1-240, and 1-345 Windstorm Classifications, and up to 1-990 Windstorm Classification with polyurethane foam adhesive over structural concrete decks. Refer to FM Approvals RoofNav for details on specific systems.

#### **UL Standard 1256 Classification**

Insulated metal deck construction assemblies - Construction No. 120, No. 123 and No.292

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 P225, P230, P259, P508, P510, P514, P519, P701, P710, P713, P717, P718, P719, P720, P722, P723, P724, P725, P727, P728, P729, P730, P732, P801, P814, P815, P818, P819, and P828. See UL Fire Resistance Directory for updated listings.

#### **UL Certified for Canada**

### **UL of Canada**

Insulated Roof Deck Assemblies - Construction No. C34. Meets CAN/ULC-S126-M86, CAN/ULC-S101-M89, CAN/ULC-S107-M87

### **ACFOAM® COMPOSITE/FB INSULATION**

- Closed-cell polyiso bonded to 1/2" high density wood fiberboard on the top and a fiber-reinforced felt facer on the bottom.
- · Wood fiberboard top eliminates the need for cover boards or vented base sheets normally recommended over foam insulations.
- Typically specified for hot asphalt or coal tar BUR, modified bitumen and single-ply membrane systems. Consult membrane manufacturer for specific system details.
- CFC-, HCFC-, and HFC-free foam blowing technology with zero ozone depletion potential (ODP) and zero (negligible) global warming potential (GWP).

TTR-VALUE	THICKNESS		RSI** PCS/PKG	PCS/PKG	METAL DECK FLUTE SPANABILITY		
	in	mm			in	mm	
7.3	1.5	38.10	1.28	31	4.375	111.13	
9.1	1.8	45.72	1.60	26	4.375	111.13	
10.4	2.0	50.80	1.83	23	4.375	111.13	
13.4	2.5	63.50	2.36	18	4.375	111.13	
14.7	2.7	63.58	2.59	17	4.375	111.13	
16.6	3.0	76.20	2.92	15	4.375	111.13	
19.2	3.4	86.36	3.38	14	4.375	111.13	
19.8	3.5	88.90	3.48	13	4.375	111.13	
23.0	4.0	101.60	4.05	11	4.375	111.13	

LTTR (long-term thermal resistance) values were determined in accordance with CAN/ULC-S770 and ASTM C 1289. All test samples were third-party selected and tested by an accredited material testing laboratory. The LTTR results were reviewed and authorized by FM Approvals and certified by the PIMA Quality Mark Pro-

The R-value (1.3) of ½ in, high density wood fiberboard was provided by the wood fiberboard manufacture Atlas recommends multi-lavering when desired insulation thicknesses are greater than 2.7 in.

\*\*RSL is the metric expression of R-value (m<sup>2</sup> • K/W)

### CODES AND COMPLIANCES

- Federal Specification HH-I-1972/GEN and HH-I-1972/3 have been cancelled
- ASTM C 1289, Type IV
- Miami-Dade County Product Control Approved, Miami-Dade County, Florida, NOA No. 08-0111.01, 4/14/13
- IBC, NBC, UBC, and SBC Sections on Foam Insulation (Chapter 26) • State of Florida Product Approval #FL6796

#### FM Standard 4450/4470 Approval

ACFoam® Composite/FB is 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 Approvals RoofNav for details on specific systems.

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**HIGH PERFORMANCE CHARACTERISTICS** • Up to 500% improvement in facer adhesion

- Up to 200% improvement in fastener pull through

UL Fire Rating	Min. Thickness	Approved Classified Membrane
Class A	1.0 in. min.	Any UL Classified Membrane
Class B	0.5 in. min.	Any UL Classified Membrane

Directory for system details.

Available in 48" x 48" (1220mm x 1220mm) and 48" x 96" (1220mm x 2440mm) panels.

• Maximum wind uplift rating of FM 1-345 Class A Fire Rating over combustible decks Superior dimensional stability

### **ACFOAM® COMPOSITES**

### ACFoam<sup>®</sup> Composite/FB Vood Fiberboard

Available in 48" x 48" (1220mm x 1220mm) and 48" x 96" (1220mm x 2440mm) panels.

### UL Standard 1256 Classification

Insulated metal deck construction assemblies - Construction No. 120 and No. 123

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.

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### **ACFOAM® COMPOSITE/PB INSULATION**

- Closed-cell polyiso bonded to 1/2" perlite on the top and a fiberreinforced felt facer on the bottom.
- Perlite top eliminates the need for cover boards or vented base sheets normally recommended over foam insulations.
- Typically specified for hot asphalt or coal tar BUR, modified bitumen and single-ply membrane systems. Consult membrane manufacturer for specific system details.
- CFC-, HCFC-, and HFC-free foam blowing technology with zero ozone depletion potential (ODP) and zero (negligible) global warming potential (GWP).

LTTR-VALUE	THICKNESS		RSI**	PCS/PKG	METAL DECK FLUTE SPANABILITY		
	in	mm			in	mm	
7.4	1.5	38.10	1.30	31	4.375	111.13	
9.2	1.8	45.72	1.62	26	4.375	111.13	
10.4	2.0	50.80	1.83	23	4.375	111.13	
13.5	2.5	63.50	2.38	18	4.375	111.13	
14.8	2.7	63.58	2.60	17	4.375	111.13	
16.7	3.0	76.20	2.94	15	4.375	111.13	
19.3	3.4	86.36	3.40	14	4.375	111.13	
19.9	3.5	88.90	3.50	13	4.375	111.13	
23.1	4.0	101.60	4.07	11	4.375	111.13	

LTTR (long-term thermal resistance) values were determined in accordance with CAN/ULC-S770 and ASTM C 1289, Annex A1. All test samples were third-party selected and tested by an accredited material testing laboratory. The LTTR results were reviewed and authorized by EM Approvals and certified by the PIMA Quality Mark Program

The R-value of .5 in. perlite (1.39) was provided by ASHRAE Handbook, Fundamentals

Atlas recommends multi-layering when desired insulation thicknesses are greater than 2.7 in.

\*\*RSI is the metric expression of LTTR (m<sup>2</sup> • K/W)

Available in 48" x 48" (1220mm x 1220mm) and 48" x 96" (1220mm x 2440mm) panels.

### **CODES AND COMPLIANCES**

- Federal Specification HH-I-1972/GEN and HH-I-1972/3 have been cancelled
- ASTM C 1289, Type III
- Miami-Dade County Product Control Approved, Miami-Dade County, Florida, NOA No. 08-0111.01, 4/14/13
- State of California, License #TC 1231. ACFoam® Composite/PB
- IBC, NBC, UBC, and SBC Sections on Foam Insulation (Chapter 26)
- State of Florida Product Approval #FL6796

#### FM Standard 4450/4470 Approval

ACFoam® Composite/PB is 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 Approvals RoofNav for details on specific systems.

**UL Standard 1256 Classification** 

Insulated metal deck construction assemblies - Construction No. 120 and No. 123

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.

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### **ACFOAM® COMPOSITE/GB INSULATION**

- Closed-cell polyiso foam bonded to 1/4" or 1/2" primed glass-mat gypsum board on the top and a fiber-reinforced felt facer on the bottom.
- · Glass-mat gypsum board provides a dense protection layer for the primary foam insulation and makes Composite/GB a good choice where foot traffic is a concern.
- Typically specified for hot asphalt or coal tar BUR, modified bitumen and single-ply membrane systems. Consult membrane manufacturer for specific system details and application recommendations.
- CFC-, HCFC-, and HFC-free foam blowing technology with zero ozone depletion potential (ODP) and zero (negligible) global warming potential (GWP).

LTTR-VALUE	THICKNESS		RSI**	PCS/PKG	METAL DECK FLUTE SPANABILITY		
	in	mm			in	mm	
6.3	1.3	30.02	1.11	17	2.625	66.68	
7.5	1.5	38.10	1.32	15	4.375	111.13	
9.3	1.8	45.72	1.62	12	4.375	111.13	
10.6	2.0	50.80	1.87	11	4.375	111.13	
13.7	2.5	63.50	2.41	9	4.375	111.13	
15.0	2.7	63.58	2.64	8	4.375	111.13	
16.9	3.0	76.20	2.97	7	4.375	111.13	
19.4	3.4	86.36	3.41	7	4.375	111.13	
20.1	3.5	88.90	3.54	7	4.375	111.13	
23.3	4.0	101.60	4.10	6	4.375	111.13	

LTTR (long-term thermal resistance) values were determined in accordance with CAN/ULC-S770 and ASTM C 1289, Annex A1. All test samples were third-party selected and tested by an accredited material testing laboratory. The LTTR results were reviewed and authorized by FM Approvals and certified by the PIMA Quality Mark Program. LTTR-values shown for ACFoam® Composite/GB include an R-value of .25 per inch of gypsum board. The R-value of .25 in. gypsum board (.28) was provided by the gypsum board manufacturer. Atlas recommends multi-layering when desired insulation thicknesses are greater than 2.7 in.

\*\*RSI is the metric expression of LTTR (m<sup>2</sup> • K/W)

### **CODES AND COMPLIANCES**

- Federal Specifications HH-I-1972/GEN and HH-I-1972/3 have been cancelled
- ASTM C 1289, Type VII
- Miami-Dade County Product Control Approved, Miami-Dade County, Florida, NOA No. 08-0111.01, 4/14/13
- IBC, NBC, UBC, and SBC Sections on Foam Insulation (Chapter 26)
- State of Florida Product Approval #FL6796

ACFoam<sup>®</sup> Composite/PB **Perlite Board** 

### **ACFOAM® COMPOSITES**

ACFoam<sup>®</sup> Composite/GB **Gypsum Board** 

Available in 48" x 48" (1220mm x 1220mm) and 48" x 96" (1220mm x 2440mm) panels.

#### FM Standard 4450/4470 Approval

ACFoam<sup>®</sup> Composite/GB is approved for Class 1 insulated steel and concrete roof deck construction for 1-60, 1-75, 1-90 and 1-165 Windstorm Classifications. Refer to FM Approvals RoofNav for details on specific systems.

#### **UL Standard 1256 Classification**

Insulated metal deck construction assemblies - Construction No. 120 and No. 123

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.

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### **ACFOAM® RECOVER BOARD**

### **ACFOAM® RECOVER BOARD**

- Closed-cell polyiso foam core integrally laminated to heavy, durable and dimensionally stable inorganic coated-glass facers.
- Typically specified for use with single-ply systems as well as cold-applied modified bitumen and cold-applied BUR systems. Consult membrane manufacturer for specific system details.
- Provides an improved substrate for the roofing membrane in recover applications.
- Check with the membrane manufacturer regarding approvals of this product as a membrane substrate.
- CFC-, HCFC-, and HFC-free foam blowing technology with zero ozone depletion potential (ODP) and zero (negligible) global warming potential (GWP).

LTTR-VALUE	THIC	(NESS	RSI**	PCS/PKG	METAL DECK FL	JTE SPANABILITY	
	in	mm			in	mm	
3.0	.5	12.70	.53	46	4.375	111.13	
4.5	.75	19.05	.79	31	4.375	111.13	
6.0	1.0	25.40	1.06	23	4.375	111.13	

LTTR (long-term thermal resistance) values were determined in accordance with CAN/ULC-S770 and ASTM C 1289, Annex A1. All test samples were third-party selected and tested by an accredited material testing laboratory.

Atlas recommends multi-layering when desired insulation thicknesses are greater than 2.7 in.

\*\*RSI is the metric expression of LTTR (m<sup>2</sup> • K/W)

### **CODES AND COMPLIANCES**

- Federal Specification HH-I-1972/GEN and HH-I-1972/3 have been cancelled
- Miami-Dade County Product Control Approved, Miami-Dade County, Florida, NOA No. 08-0111.01, 4/14/13
- IBC, NBC, UBC, and SBC Sections on Foam Insulation (Chapter 26)
- State of Florida Product Approval #FL6796

#### FM Standard 4450/4470 Approval

ACFoam® Recover Board is approved for Class 1 insulated steel deck construction in recover applications with mechanically attached single plies only. Refer to FM Approvals RoofNav for details on specific systems.

Available in 48" x 48" (1220mm x 1220mm) and 48" x 96" (1220mm x 2440mm) panels.

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

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

### **ACFOAM® SUPREME**

- 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<sup>®</sup> products.
- Used in metal roofing systems, mechanically attached, and loose-laid ballasted single-ply membrane systems.
- Typically specified for cold storage and metal building applications. Consult membrane manufacturer for specific system details.
- ACFoam<sup>®</sup> Supreme should not be used directly with hot asphalt, torch-applied or any adhered systems.
- Not designed as a substitute for a vapor retarder.
- CFC-, HCFC-, and HFC-free foam blowing technology with zero ozone depletion potential (ODP) and zero (negligible) global warming potential (GWP).

LTTR-VALUE	THIC	KNESS	RSI**	PCS/PKG	METAL DECK FLUT	METAL DECK FLUTE SPANABILITY		
	in	mm		T CJ/T KG	in	mm		
6.0	1.0	25.40	1.06	48	2.625	66.68		
9.0	1.5	38.10	1.58	32	4.375	111.13		
10.8	1.8	45.72	1.90	26	4.375	111.13		
12.0	2.0	50.80	2.11	24	4.375	111.13		
15.0	2.5	63.50	2.64	19	4.375	111.13		
16.2	2.7	68.58	2.85	17	4.375	111.13		
18.0	3.0	76.20	3.17	16	4.375	111.13		
19.8	3.3	83.82	3.48	14	4.375	111.13		

CAN/ULC-5770 and ASTM C 1289 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 ACFoam<sup>®</sup> Supreme based on LTTR test experience with permeably-faced products

\*\* RSI is the metric expression of LTTR (m<sup>2</sup> • K/W)

### **CODES AND COMPLIANCES**

- Federal Specification HH-I-1972/GEN and HH-I-1972/3 have been cancelled
- ASTM C 1289, Type I, Class 1
- Miami-Dade County Product Control Approved, Miami-Dade County, Florida, NOA No. 08-0111.01, 4/14/13
- State of California, License #TC 1231
- IBC, NBC, UBC, and SBC Sections on Foam Insulation (Chapter 26)
- CCMC No. 12422-R
- CAN/ULC-S704
- CAN/CGSB 51.26-M86

**ACFoam® Recover Board** 

### **ACFOAM® SUPREME**

Available in 48" x 48" (1220mm x 1220mm) and 48" x 96" (1220mm x 2440mm) panels.

#### FM Standard 4450/4470 Approval

ACFoam<sup>®</sup> Supreme is approved for Class 1 insulated steel roof deck construction. Refer to FM Approvals RoofNav for details on specific systems.







### **ACFOAM® NAILABLE ROOF INSULATION**

### NAIL BASE

- Closed-cell polyiso insulation board bonded to 7/16" APA/TECO rated OSB on the top side.
- Combines nailable surface and insulation.
- Easy one-step labor saving process.
- Also available with minimum 19/32" CDX plywood.
- Atlas recommends a staggered double-layer application of ACFoam<sup>®</sup>-II and Nail Base.
- CFC-, HCFC-, and HFC-free foam blowing technology with zero ozone depletion potential (ODP) and zero (negligible) global warming potential (GWP).

NOMINAL	in	1.5	2.0	2.5	3.0	3.5	4.0	4.5
THICKNESS	mm	38	51	64	76	89	102	114
LTTR-values*		6.6	9.6	12.7	15.9	19.1	22.3	25.6
RSI**	1.16	1.69	2.24	2.80	3.36	3.92	4.51	
Pieces Per Pack	31	23	18	15	13	11	10	
Square Feet per Pa	992	736	576	480	416	352	320	

\*Long-term thermal resistance values of the foam 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 materials testing laboratory. The R-value of .55 for 7/16 in. OSB was provided by APA- The Engineered Wood Association, which cited ASHRAF Handbook Fundamental

R means resistance to heat flow. The higher the R-value, the greater the insulating power. Compare insulation values before you buy. To get the marked R-value, it is essential that this insulation be installed properly.

\*\*RSI is the metric expression of LTTR (m<sup>2</sup>• K/W).

### **CODES AND COMPLIANCES**

- Federal Specification HH-I 1972/GEN has been cancelled
- ASTM C 1289, Type V
- Miami-Dade County Product Control Approved, Miami-Dade County, Florida, NOA No. 08-0111.01, 4/14/13 (only with 19/32" plywood)
- State of California, License #TC 1231
- IBC, NBC, UBC, and SBC Sections on Foam Insulation (Chapter 26)
- APA/TECO rated OSB nailing surface
- State of Florida Product Approval #FL6796

### FM Standard 4450/4470 Approval (1-90, 1-105)

ACFoam® Nail Base Insulation is approved for Class 1 insulated roof deck construction. Refer to FM Approvals RoofNav for details on specific systems.

#### **UL Standard 1256 Classification**

Insulated metal deck construction assemblies-Construction No. 120 and No. 123

### UL Standard 790 Classification (ASTM E 108)

For use with Class A, B or C shingles, metal or tile roof coverings.

UL Standard 263 Fire Resistance Classification (ASTM E119) Some classifications for fire resistance are P225, P230, P259, P508, P510, P514, P701, P717, P719, P723, P728, P732, P734, P739, P801, P815, and P819. See UL Fire Resistance Directory.

### **CROSSVENT®**

- Closed-cell polyiso insulation board with 1.0", 1.5" or 2.0" vent spacer strips separating 7/16" APA/TECO rated OSB from the polyiso foam insulation.
- Combines nailable surface, insulation, and cross ventilating airspace.
- Easy one-step labor saving process.
- Available with minimum 19/32" CDX plywood.
- Atlas recommends a staggered double-layer application of ACFoam®-II and CrossVent<sup>®</sup>.
- CFC-, HCFC-, and HFC-free foam blowing technology with zero ozone depletion potential (ODP) and zero (negligible) global warming potential (GWP).

N	OMINAL	in	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5
TF	IICKNESS	mm	64	76	89	102	114	127	140	152	165
	*With 1.0"	Air Space	6.0	9.0	12.1	15.3	18.5	21.7	25.0	-	-
*	RSI	**	1.06	1.58	2.13	2.69	3.26	3.82	4.40	-	-
ALUES	*With 1.5"	Air Space	-	6.0	9.0	12.1	15.3	18.5	21.7	25.0	-
LTTR-VALUES*	RSI**		-	1.06	1.58	2.13	2.69	3.26	3.82	4.40	-
5	*With 2.0" Air Space		-	-	6.0	9.0	12.1	15.3	18.5	21.7	25.0
	RSI**		-	-	1.06	1.58	2.13	2.69	3.26	3.82	4.40
	Pieces/Package		18	15	13	11	10	9	8	7	7
	Square Feet		576	480	416	352	320	288	256	224	224
			TO	TAL PACK	AGES PE	R 45' TRL	JCKLOAD	-22			

\*I ong-term thermal resistance values (ITTR) of the polyiso foam were determined in accordance with CAN/UIC-S770 and ASTM C 1289. Annex A1. All test samples were third-party selected and tested by an accredited materials testing laboratory. The thermal resistance of air spaces does not apply when the air space is unsealed and subject to air exchange into and out of the air space, as occurs by design in cross ventilating nail base insulation with a high percentage of open air space. Therefore, only the LTTR of the ACFoam®-II base layer is reported. See ASHRAE Handbook Fundamentals, 23.7 "Factors Affecting Heat Transfer Across Air Spaces." R means resistance to heat flow. The higher the R-value, the greater the insulating power. Compare insulation values before you buy. To get the marked R-value, it is essential that this insulation be installed properly. \*RSI is the metric expression of LTTR (m<sup>2</sup> • K/W)

### **CODES AND COMPLIANCES**

- Federal Specification HH-I-1972/GEN has been cancelled
- ASTM C 1289, Type II, Class 1 (foam portion only)
- Miami-Dade County Product Control Approved, Miami-Dade County, Florida, NOA No. 08-0111.01, 4/14/13 (only with 19/32" plywood)
- State of California, License #TC 1231
- IBC, NBC, UBC and SBC Sections on Plastic Foam Insulation (Chapter 26).
- FHA minimum property requirements
- ARMA insulated deck requirements
- APA/TECO rated OSB nailable surface
- State of Florida Product Approval #FL6796

### Refer to Guide Details for Atlas Nailable Insulations for installation instructions and fastening requirements.

### Available in 48" x 96" (1220mm x 2440mm) size panels and in nominal thicknesses of 1.5" to 4.5". Other thicknesses available on special order.

NAIL BASE

Ε

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### **ACFOAM® NAILABLE ROOF INSULATION**



CrossVent<sup>®</sup> is covered by one or more claims of Patent # 5 433 050

Refer to Guide Details for Atlas Nailable Insulations for installation instructions and fastening requirements.

Available in 48" x 96" (1220mm x 2440mm) size panels and in nominal thicknesses of 2.5" to 6.5".

### FM Standard 4450/4470 Approval (1-105, 1-90, 1-60)

ACFoam<sup>®</sup> CrossVent<sup>®</sup> Insulation is approved for Class 1 insulated roof deck construction. Refer to FM Approvals RoofNav for Roof System details.

#### **UL Standard 1256 Classification**

Insulated metal deck construction assemblies - Construction #458.

### UL Standard 790 Classification (ASTM E108)

For use with Class A, B or C shingles, metal or tile roof coverings.

UL Standard 263 Fire Resistance Classification (ASTM E119) Some classifications for fire resistance are P225, P230, P259, P508, P510, P514, P701, P717, P719, P723, P728, P732, P734, P739, P801, P815, and P819. See UL Fire Resistance Directory.

CrossVent<sup>®</sup> is covered by one or more claims of Patent #5,433,050

greenzone.com



### **CROSSVENT® RB**

- Closed-cell polyiso insulation board with 1.0", 1.5" or 2.0" vent spacer strips separating 7/16" APA/TECO rated radiant barrier OSB from the polyiso foam insulation.
- Radiant barrier diminishes radiant heat transfer.
- Improves the thermal performance of standard CrossVent<sup>®</sup> by including a breathable radiant barrier on the underside of the OSB nailing surface.
- CFC-, HCFC-, and HFC-free foam blowing technology with zero ozone depletion potential (ODP) and zero (negligible) global warming potential (GWP).

N	OMINAL	in	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5
TH	THICKNESS		64	76	89	102	114	127	140	152	165
	*With 1.0" Air Space		6.0	9.0	12.1	15.3	18.5	21.7	25.0	-	-
	RSI**		1.06	1.58	2.13	2.69	3.26	3.82	4.40	-	-
LTTR-VALUES*	*With Air Spa		-	6.0	9.0	12.1	15.3	18.5	21.7	25.0	-
LTTR-	RSI**		-	1.06	1.58	2.13	2.69	3.26	3.82	4.40	-
	*With 2.0" Air Space		-	-	6.0	9.0	12.1	15.3	18.5	21.7	25.0
	RSI**		-	-	1.06	1.58	2.13	2.69	3.26	3.82	4.40
	Pieces/Package		18	15	13	11	10	9	8	7	7
	Square Fee	et	576	480	416	352	320	288	256	224	224

### **TOTAL PACKAGES PER 45' TRUCKLOAD-22**

\*Long-term thermal resistance values (LTTR) of the polyiso foam were determined in accordance with CAN/ULC-S770 and ASTM C 1289, Annex A1. All test samples wer third-party selected and tested by an accredited materials testing laboratory. The thermal resistance of air spaces does not apply when the air space is unsealed and subject to air exchange into and out of the air space, as occurs by design in cross ventilating nail base insulation with a high percentage of open air space. Therefore, only the LTTR of the ACFoam®-II base layer is reported. See ASHRAE Handbook Fundamentals, 23.7 "Factors Affecting Heat Transfer Across Air Spaces."

R means resistance to heat flow. The higher the R-value, the greater the insulating power. Compare insulation values before you buy. To get the marked R-value, it is essential that this insulation be installed properly. The Radiant Barrier is not a substitute for energy code required thermal resistance (R-val

\*\*RSI is the metric expression of LTTR (m2 • K/W)

### **CODES AND COMPLIANCES**

- Federal Specification HH-I-1972/GEN has been cancelled
- ASTM C 1289, Type V
- Miami-Dade County Product Control Approved, Miami-Dade County, Florida, NOA No. 08-0111.01, 4/14/13 (with 19/32" plywood)
- State of California, License #TC 1231
- IBC, NBC, UBC and SBC Sections on Plastic Foam Insulation (Chapter 26).
- FHA minimum property requirements
- ARMA insulated deck requirements
- APA/TECO rated OSB nailable surface
- State of Florida Product Approval #FL6796

### FM Standard 4450/4470 Approval (1-105, 1-90, 1-60)

ACFoam® CrossVent® RB Insulation is approved for Class 1 insulated roof deck construction. Refer to FM Approvals RoofNav for Roof System details.

#### **UL Standard 1256 Classification**

Insulated metal deck construction assemblies - Construction #458, #120 and #123.

### UL Standard 790 Classification (ASTM E108)

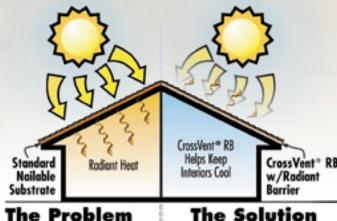
- For use with Class A, B or C shingles, metal or tile roof coverings.
- UL Standard 263 Fire Resistance Classification (ASTM E119) Some classifications for fire resistance are P225, P230, P259, P508, P510, P514, P701, P717, P719, P723, P728, P732, P734, P739, P801, P815, and P819. See UL Fire Resistance Directory.

CrossVent® RB is covered by one or more claims of Patent #5,433,050.

## **ACFOAM® NAILABLE ROOF INSULATION ONLY CROSSVENT® RB COMBINES...** ...polyiso insulation that provides unsurpassed thermal efficiency. ...a perforated, breathable, low-emissivity foil radiant barrier securely bonded to OSB. ...a radiant barrier panel that reflects up to 97% of the sun's radiant energy. ...an additional 7-10% savings annually on cooling costs.\* **Only CrossVent® RB substantially limits** *Conductive AND Radiant Heat Transfer.*

### WHAT IS RADIANT HEAT?

Radiant heat is formed when rays of energy from the sun strike an object and transform from motion energy to heat energy. Standard nail base insulation does a good job of reducing convective and conductive heat transfer. However, it does little to reduce radiant heat transfer, which contributes significantly to the total heat flow into the building.



It only takes an outside air temperature of 69 degrees to heat a roof deck to over 140 degrees, depending on the amount of direct sunshine and shingle color. \* Based on tests conducted by the Florida State Energy Center, University of Central Florida.

### **ATLAS NAIL BASE FASTENERS**

Specially Engineered Fasteners For Installing CrossVent®, CrossVent<sup>®</sup> RB and Nail Base Insulation.

- · Low-profile large diameter head eliminates need for stress plates.
- Sharp point speeds installation.
- Requires fewer fasteners than nailing.
- Installs with special drive bit for positive driving.
- Thread design increases pull-out strength.
- · Epoxy coated for maximum corrosion protection.

AVAILABLE LENGTHS FOR ATLAS NAIL BASE FASTENERS														
2-5/8"	3"	3-1/2"	4"	4-1/2"	5"	5-1/2"	6"	6-1/2"	7"	7-1/2"	8"	8-1/2"	9"	9-1/2"

	TECHNICAL DATA FOR ATLAS NAIL BASE FASTENERS										
MATERIAL	MAJOR DIAMETER	HEAD TYPE	HEAD SIZE								
Carbon Steel with Epoxy Coating	5/8" Nominal										
For engineered	For engineered fastening requirements, refer to Guide Details for Atlas Nailable Insulations.										

CrossVent® RB is covered by one or more claims of Patent # 5,433,050.

Insulations for installation instructions

Available in 48" x 96" (1220mm x 2440mm) size

panels and in nominal thicknesses of 2.5" to 6.5".

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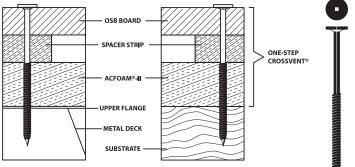
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Refer to Guide Details for Atlas Nailable





Atlas Nail Base Fasteners are required on all CrossVent®, CrossVent® RB and Nail Base Insulation Systems.



### **TAPERED ACFOAM® ROOF INSULATION**

Professional tapered specialists

Architectural design phase assistance

• Certified Drainage Program (CDP)

• Easy field application

• Lower job site costs

WHY ATLAS TAPERED POLYISO?

• Quick turnaround on estimates and shop drawings

GEMINI<sup>™</sup> Pre-Cut Crickets, GEMINI<sup>™</sup> Drain Sets,

GEMINI<sup>™</sup> Tapered Edge Strip, GEMINI<sup>™</sup> Miters,

### **TAPERED INSULATION BENEFITS**

### WHY TAPERED POLYISO?

### Superior LTTR-value per inch

- Less material
- Lower roof profile
- Reduces fastening costs

### UL Classified/FM Approved direct to metal deck application

• Less material/labor to achieve fire code requirements

Compatibility with most roof membrane systems Design flexibility

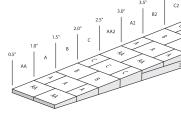
### **TAPERED DESIGN ASSISTANCE**

Atlas designs and manufactures quality tapered roof insulation systems, which have evolved from a rooftop art to a sophisticated science. Atlas's Tapered Systems Group designs tapered systems that drain properly and perform efficiently and is the only resource you need to resolve questions about the tapered phase of insulating. Our pre-bid design assistance team works with architects and engineers worldwide in solving the most challenging roof drainage problems. We support our customers during the bidding process by generating quotes and shop drawings based on everything from architectural bid documents to faxed rough sketches. Once our submittals are reviewed and approved, we deliver the tapered system.

### **TAPERED INSULATION SYSTEM DESIGNS**

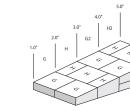
The Atlas Tapered Systems Group provides you with the best drainage solution based on the following design or project criteria.

- Flashing height conditions/restrictions
- Constant perimeter thickness
- Complex drain configurations • Roof design complexity
- Rooftop units/skylight locations • Value/performance evaluation

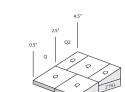


Typical cross-section of 1/4" slope

Typical cross-section of 1/8" slope with 1/2" start. Shown above as 8 panels @ 4'-0" each = 32'-0" run



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Typical cross-section of 1/4" slope with 1" start. Shown above as 4 panels @ 4'-0" each = 16'-0" run.

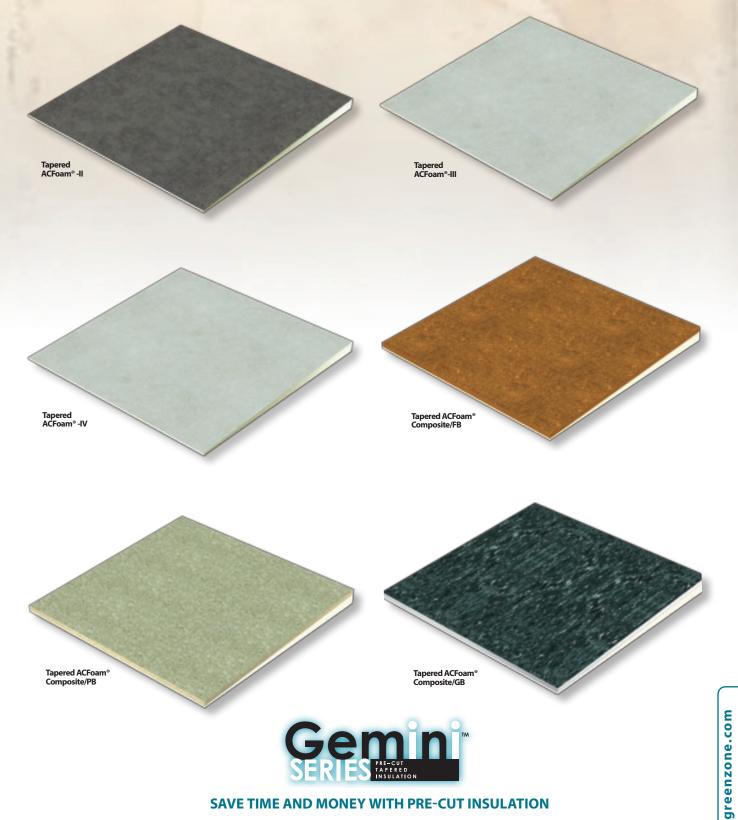
Typical cross-section of 1/2" slope with 1/2" start. Shown above as 2 panels @ 4'-0" each = 8'-0" run.

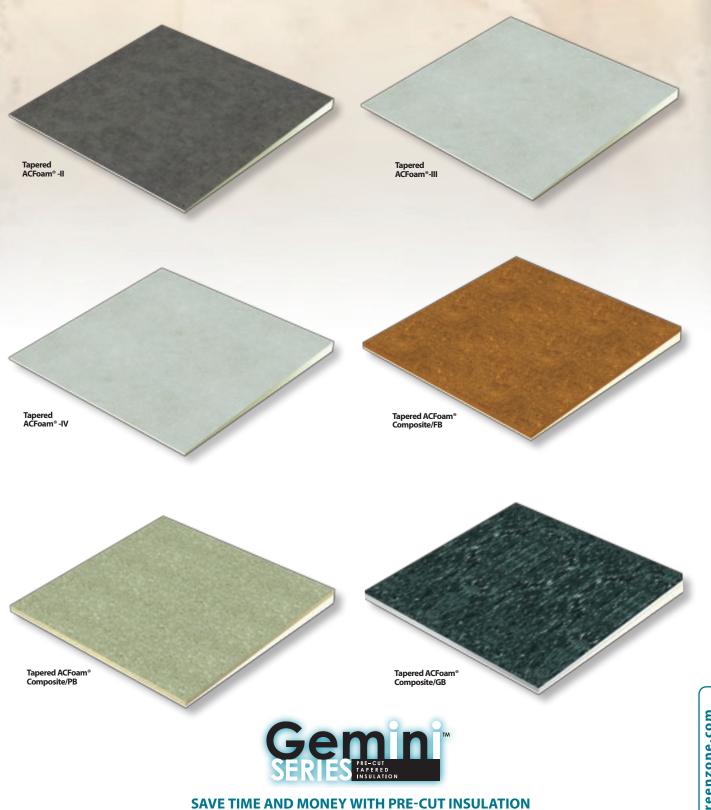
		DCI**	in			
-	LTTR-value*	RSI**	in	mm	per ft	percent
	ACFOAM <sup>®</sup> -II, TAP	1		· · · · ·		1
AA	4.5	.79	0.5-1.0	12-25	1/8"	1%
A	7.5	1.32	1.0-1.5	25-38	1/8"	1%
В	10.6	1.86	1.5-2.0	38-50	1/8"	1%
(	13.7	2.40	2.0-2.5	50-63	1/8"	1%
Х	6.0	1.06	0.5-1.5	12-38	1/4"	2%
Y	12.1	2.13	1.5-2.5	38-63	1/4"	2%
G	9.0	1.58	1.0-2.0	25-50	1/4"	2%
Н	15.3	2.69	2.0-3.0	50-76	1/4"	2%
JJ	5.3	.93	0.5-1.25	12-32	3/16"	2.5%
KK	9.8	1.72	1.25-2.0	32-50	3/16"	2.5%
Q	9.0	1.58	0.5-2.5	12-63	1/2"	4%
	TAPERED ACF	DAM <sup>®</sup> COM	POSITE/PB	(PERLITE)		
A	5.9	1.04	1.0-1.5	25-38	1/8"	1%
В	8.9	1.57	1.5-2.0	38-50	1/8"	1%
(	12.0	2.11	2.0-2.5	50-63	1/8"	1%
D	15.1	2.66	2.5-3.0	63-76	1/8"	1%
G	7.4	1.30	1.0-2.0	25-50	1/4"	2%
Н	13.5	2.38	2.0-3.0	50-76	1/4"	2%
XX	10.4	1.83	1.0-3.0	25-76	1/2"	4%
TAF	PERED ACFOAM®	COMPOSIT	E/GB (GLAS	S-MAT GYP	SUM)	
A	6.3	1.11	1.0-1.5	25-38	1/8"	1%
В	9.3	1.64	1.5-2.0	38-50	1/8"	1%
(	12.4	2.18	2.0-2.5	50-63	1/8"	1%
D	15.6	2.75	2.5-3.0	63-76	1/8"	1%
G	7.8	1.37	1.0-2.0	25-50	1/4"	2%
Н	14.0	2.46	2.0-3.0	50-76	1/4"	2%
XX	10.9	1.92	1.0-3.0	25-76	1/2"	4%
	TAPERED ACFOA					,.
A	5.8	1.02	1.0-1.5	25-38	1/8"	1%
B	8.8	1.55	1.5-2.0	38-50	1/8"	1%
C	11.9	2.09	2.0-2.5	50-63	1/8"	1%
D	15.0	2.64	2.5-3.0	63-76	1/8"	1%
G	7.3	1.28	1.0-2.0	25-50	1/4"	2%
H	13.4	2.36	2.0-3.0	50-76	1/4"	2%
XX	10.3	1.82	1.0-3.0	25-76	1/4	4%
AA			UT CRICKET		1/2	470
V		-	-	1	1/4"	20/
X Y	6.0	1.06	0.5-1.5	12-38	1/4"	2%
	12.1	2.13	1.5-2.5	38-63	1/4"	2%
Q	9.0	1.58	0.5-2.5	12-63	1/2"	4%
2"	12.1	2.13	2.0	50	N/A	N/A
		EMINI™ DR	-			
	6.0	1.06	0.5-1.5	12-38	1/2"	4%

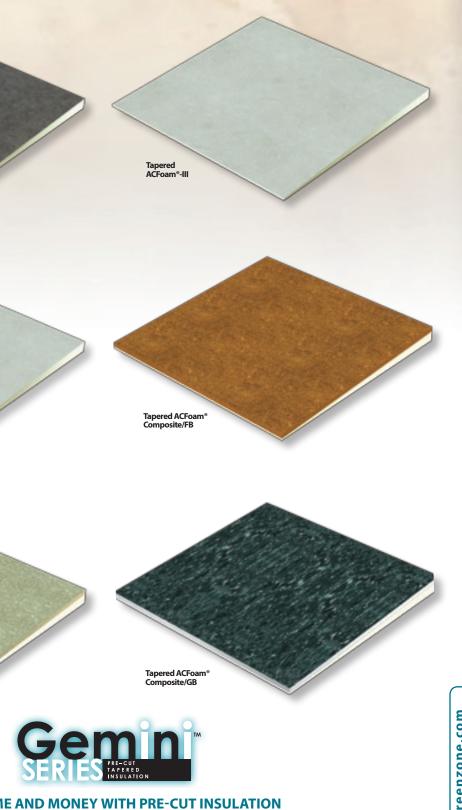
laboratory. The LTTR results were reviewed and authorized by FM Approvals and certified by the PIMA Quality Mark Program. The R-value (1.39) for 1/2 in. perlite was provided by ASHRAE Handbook, Fundamentals. The R-value (.28) for 1/4 in. glass-mat gypsum board was provided by the glass-mat gypsum board manufacturer. The R-value (1.3) of 1/2 in, high density wood fiberboard was provided by the wood fiberboard manufacture \*\* RSI is the metric expression of R-value (m<sup>2</sup> • K/W)

#### Available in 48" x 48" (1220mm x 1220mm) panels only.

with 1/2" start. Shown above as 4 panels @ 4'-0" each = 16'-0" run.







### **TAPERED ACFOAM® ROOF INSULATION**



### **GEMINI™ CRICKETS, DRAIN** Gem n sets, tapered edge strips **AND ONE-PIECE MITERS**

Everyone agrees that the number one problem on low slope roof systems is ponding water. That's because it's the primary cause of premature roof failures. Atlas has four powerful weapons to prevent structural collapse, ice build-up, moisture invasion, and other problems caused by standing water on roofs.

### **GEMINI™ PRE-CUT CRICKETS**

### PRE-CUT CRICKETS FROM ATLAS SAVE TIME AND MONEY

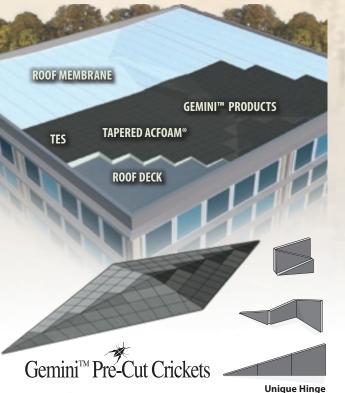
GEMINI<sup>™</sup> pre-cut crickets from Atlas are the industry's first standardized off-the-shelf solution to ponding water. Fabricating crickets by hand at the job site is extremely labor intensive and results in greater waste going to landfills.

GEMINI<sup>™</sup> pre-cut crickets are pre-packaged and available in 1/4" per foot or 1/2" per foot slopes. Designed to mate perfectly with Atlas 4' x 4' standard tapered panels, the hinged triangular cricket panels are clearly marked for fast, field-friendly installation.

### **NEW! GEMINI™ TAPERED EDGE STRIP**

### ATLAS IS PLEASED TO ADD ANOTHER GREAT PRODUCT TO OUR GEMINI<sup>™</sup> SERIES OF PRE-CUT TAPERED PRODUCTS, THE GEMINI<sup>™</sup> SERIES TAPERED EDGE STRIP (TES).

GEMINI<sup>™</sup> TES are manufactured in our state of the art facilities and provide a polyiso solution to your positive drainage needs. GEMINI<sup>™</sup> TES are made with a closedcell polyiso foam core integrally laminated to glass fiber reinforced, dimensionally stable, organic facers. GEMINI™ TES are also the only tapered polyiso product with a Zero-Edge Solution.



ZERO EDGE SOLUTION ······

**GEMINI<sup>™</sup> Pre-Cut Cricket** 

**Tapered ACFoam®-II** 

**GEMINI™** Tapered Edge Strip

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### **GEMINI™ ONE-PIECE MITERS**

### ATLAS INTRODUCES A REVOLUTIONARY PRODUCT, THE GEMINI™ **ONE-PIECE MITER! THIS IS THE ONLY ONE-PIECE POLYISO MITER AVAILABLE.**

Manufactured in a variety of slopes and thicknesses, this product can be used with virtually any tapered insulation system.

Field cut miters are responsible for a large percentage of job-site waste on roofing projects. Unlike hand-cut miters which will produce 50% waste for each 4' x 4' hip or valley, GEMINI<sup>™</sup> One-Piece Miter is a stand alone 4' x 4' hip or valley with no field fabrication or waste. Set them in place and you are done!

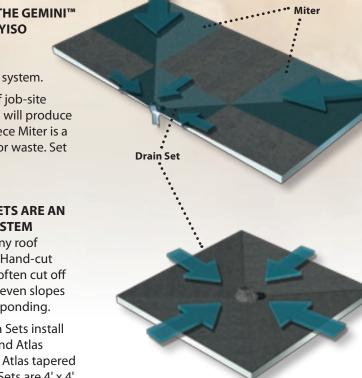
### **GEMINI™ ONE-PIECE DRAIN SETS**

PRE-MANUFACTURED ONE-PIECE GEMINI<sup>™</sup> DRAIN SETS ARE AN **ESSENTIAL FEATURE OF A WELL-DESIGNED ROOF SYSTEM** Even with the use of tapered insulation and crickets, many roof designs fail to eliminate ponding around the drain area. Hand-cut drain sumps are even less efficient because contractors often cut off facers, resulting in membrane adhesion problems, or uneven slopes to the drain, which could cause membrane stresses and ponding.

Atlas has developed the perfect solution. GEMINI<sup>™</sup> Drain Sets install quickly, save labor costs, and eliminate rooftop waste. And Atlas GEMINI<sup>™</sup> Drain Sets are designed to mate perfectly with Atlas tapered insulation panels and GEMINI<sup>™</sup> Crickets. GEMINI<sup>™</sup> Drain Sets are 4' x 4' and are available in a 1.5" maximum thickness.

**GEMINI™** Drain Set

### TAPERED ACFOAM<sup>®</sup> GEMINI<sup>™</sup> PRODUCTS



**GEMINI™** Miter



## SPECIALTY PRODUCTS

### FIRE RESISTANT SLIPSHEETS

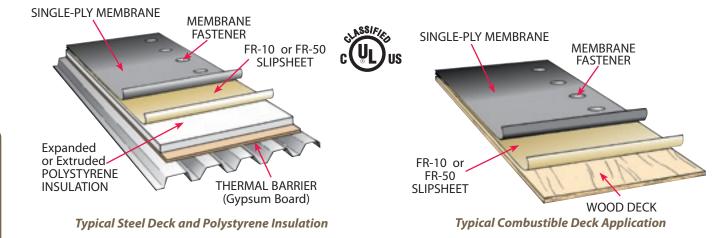
FR-10 and FR-50 fire resistant slipsheets enhance the overall fire performance of many conventional commercial roof systems, including metal roofs.

FR-10 and FR-50 are coated-glass fiber mats specifically designed for installation over wood decks or certain combustible insulation. FR-50 incorporates a heavier glass mat and more coating than FR-10 to provide enhanced fire performance.

- Superior protection against flame spread and penetration.
- A lightweight and easy-to-install roof system component.
- Part of a "Class A" assembly over noncombustible decks and expanded polystyrene.
- Part of a "Class A" assembly over combustible and noncombustible decks and extruded polystyrene.
- Miami-Dade County, Florida Product Control No. 05-0602.03, 10/20/10

		STANDARD SIZES		
SLIPSHEET	SQUARES PER ROLL	COVERAGE W/2" LAP	ROLL SIZE	ROLL WEIGHT (APPROX.)
FR-10	10 Squares (1000 sq. ft.)	9.64 Squares (964 sq. ft.)	48.25" x 250' (1225.55 mm x 76.2 m)	96-107 lbs.
FR-50	4.2 Squares (420 sq. ft.)	4.02 Squares (402 sq. ft.)	48" x 105' (1219.2 mm x 32 m)	80 lbs.

$\left( \right)$	TENSILE PROPERTIES											
	PROPERTY	TEST METHOD	FR-10	FR-50								
Γ	Machine Direction	TAPPI T 1009 om-06	37 lbs/in.	64 lbs/in.								
	Cross Machine Direction	TAPPI T 1009 om-06	27 lbs/in.	46 lbs/in.								



### INSTALLATION

Before installation begins, the roof deck should be firm, well attached, even, clean and Moisture vapor tends to migrate from warmer to cooler areas. In building construction, vapor/air retarders are used to inhibit or block the passage of warm, moisture laden air 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 into walls or roofing assemblies. To determine whether a vapor/air retarder is necessary, can be attached to decks that are approved by FM Approvals and local codes. Atlas is not calculations based on interior relative humidity, interior temperature, and outside design responsible for determining the suitability of the deck. temperature must be performed. Consult the NRCA Roofing Manual: Membrane Roofing Systems for more information regarding vapor/air retarders and dew point calculations.

ACFoam® products shall be kept dry before, during and after installation. Install

only as much ACFoam<sup>®</sup> product as can be covered the same day with completed roofing. Special consideration should be given to construction generated moisture as well. For example, construction-generated moisture will be released when concrete floor Although ACFoam<sup>®</sup> products have been designed to withstand normal foot traffic, slabs are placed after the roof has been installed, which can drive large quantities of protection from damage by construction traffic and/or abuse is extremely important. moisture into the roof system. Therefore, Atlas is not responsible for damage to the Roof surface protection such as plywood shall be used in areas where storage and insulation when exposed to construction-generated moisture or from moisture released staging are planned and heavy or repeated traffic is anticipated during or after from building materials. Refer to the NRCA Roofing Manual: Membrane Roofing Systems installation. Refer to Atlas Technical Bulletin #00-01. for recommendations for the use of a vapor retarder when construction-generated moisture is present. Refer to Atlas Technical Bulletin #00-01. Consult vapor/air retarder **MULTI-LAYER INSTALLATION** manufacturer for recommended applications and details.

A two-layer application of ACFoam® products 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 Catalog according to the membrane system. Refer to the current FM Loss Prevention Data Sheet 1-29 for special considerations regarding perimeter and corners of the roof. Go to www.atlasroofing.com for typical fastening patterns for field area of the roof.

For further recommendations regarding attachment of insulation to lightweight insulating concrete decks or poured gypsum concrete decks, follow the instructions outlined in the NRCA Roofing Manual: Membrane Roof Systems 2007. ACFoam<sup>®</sup> products shall not be adhered directly to these decks by any bitumen or adhesive attachment method.

### **ADHESIVE ATTACHMENT**

For installing ACFoam<sup>®</sup> products to a structural concrete deck, adhesive/bitumen attachment is the recommended method. When using hot bitumen on concrete decks, priming is necessary. Precautions must be taken to ensure that concrete decks have fully hydrated and do not continue to release moisture. Insulation must remain dry before, during, and after installation. Precautions must also be taken to prevent bitumen drippage. When using hot-applied bitumen for attachment of insulation to structural concrete decks and successive insulation layers, the temperature of the bitumen shall be approximately 50°F below the interply hand mopping EVT. The deck shall be dry and care must be taken to apply the bitumen in sufficient quantity to totally cover the available deck surface when applied at the correct temperature (390°F). To ensure embedment, the board shall also be "stepped in" at several points while the bitumen is still hot enough to allow positive attachment. The recommended size of ACFoam® product for hot bitumen attachment is 4' x 4'.

When using polyurethane adhesives or cold applied asphalt adhesive, follow the adhesive manufacturer's installation recommendations.



### **GENERAL INSTRUCTIONS & WARRANTY INFORMATION FOR ACFOAM® PRODUCTS**

### **VAPOR/AIR RETARDERS**

### **STORAGE**

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 three 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, of the same type.

### 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.

### **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.

### **20-YEAR LIMITED WARRANTY**

In response to valid concerns of building designers regarding thermal efficiency of roof assemblies and the long-term insulating value of roof insulation, Atlas offers a 20- year, limited thermal warranty. The "ACFoam® Limited Warranty" places Atlas ACFoam® products above all others and supports the building owner, designer and contractor by backing up thermal performance. This warranty is available to the building owner at the time the building is completed and is transferable to any subsequent owner for the duration of the 20-year period.

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