



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		1.0	1.5	1.8	2.0	2.5	2.7	3.0	3.4	3.5	4.0
		in.	mm.	25.40	38.10	45.72	50.80	63.50	63.58	76.20	86.36
*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		0.5	0.75	1.0
		in.	mm.	12.70
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-5770 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-5770 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 (m² · 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"



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-5704, 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.



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D A T A S H E E T

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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