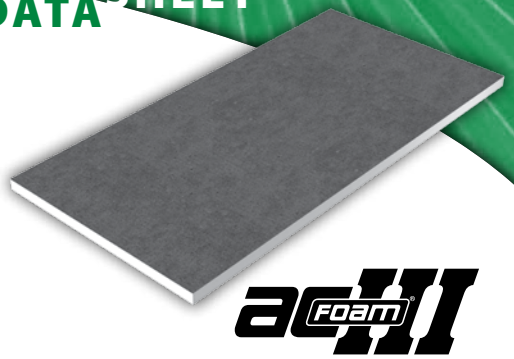
ACFOAM®-III INSULATION DATA SHEET



ACFOAM®-III INSULATION PRODUCT DESCRIPTION AND RECOMMENDED USES

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, BUR, modified bitumen and single-ply membrane systems.

ACFoam®-III uses CFC-, HCFC-, and HFC-free foam blowing technology with zero ozone depletion potential (ODP) and zero (negligible) global warming potential (GWP).

ACFoam®-III available in 4' x 4' (1220mm x 1220mm) and 4' x 8' (1220mm x 2440mm) panels.

INSTALLATION

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® 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® products have 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.

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
- CCMC No. 12423-L
- Federal Specifications 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, Florida Product Control No. 08-0111.01
- State of Florida Product Approval #FL6796

FM Standard 4450/4470 Approval
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

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

THERMAL DATA

OTHER DATA

LTTR-VALUE	THICKNESS		RSI**	PCS/PKG	METAL DECK FLUTE SPANABILITY	
	in	mm			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-S770-3. 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-layering when desired insulation thicknesses are greater than 2.7 in.

**RSI is the metric expression of R-value (m^2 • K/W).

MULTI-LAYER INSTALLATION

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® products shall not be adhered directly to these decks by any bitumen or adhesive attachment method.

ADHESIVE ATTACHMENT

For installing ACFoam® 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. In any case, roll or weigh down the insulation to ensure contact between the adhesive and the insulation board.

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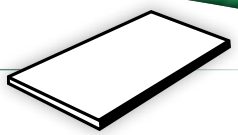

VAPOR/ AIR RETARDERS

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 into walls or roofing assemblies. To determine whether a vapor/air retarder is necessary, calculations based on interior relative humidity, interior temperature, and outside design temperature must be performed. Consult the *NRCA Roofing Manual: Membrane Roofing Systems* for more information regarding vapor/air retarders and dew point calculations.

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 or from moisture released from building materials. Refer to the *NRCA Roofing Manual: Membrane Roofing Systems* 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 manufacturer for recommended applications and details.**

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.

TECHNICAL ASSURANCE

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

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.

TYPICAL PHYSICAL PROPERTIES

PROPERTY	TEST METHOD	TYPICAL RESULTS
Dimensional Stability (Length and Width)	ASTM D 2126	< 2 %
Compressive Strength (10% Deformation)	ASTM D 1621	20 psi (138 kPa) or 25 psi (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 kg/m3)
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 200° F

*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, 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.

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.

ACFoam-III

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