NCFI 11-037 InsulBloc® OPTIMAXX

DESCRIPTION: 11-037 InsulBloc® OPTIMAXX is a two component, self-adhering, seamless, closed-cell spray applied polyurethane foam insulation system formulated with a low GWP HFO blowing agent. 11-037 is a low VOC, ABAA specified, and FEMA Class 5 flood resistant material with exceptional yield, thermal performance, and moisture resistance making it a top choice as an insulation system for residential and commercial applications. 11-037 is an air impermeable insulation at ½". Compliant with ASTM C1029, IAPMO ES1000, and ICC 1100. Approved for exterior below grade foundation walls, exterior side of walls and under concrete slabs.

TYPICAL PHYSICAL PROPERTIES

Property	Test Method	Value
R-Value	ASTM C518	7.1 @ 1"
		23 @ 3.5"
Core Density	ASTM D1622	2.0 lb./ft^3
Moisture Vapor Transmission	ASTM E96	0.74 perms @ 1"
Air Permeance @ 75 Pa	ASTM E2178	< 0.02 (L/s-m^2) @ $^1/_2$"
Closed Cell Content	ASTM D6226	>90%
Dimensional Stability 28 days at 158°F, 97%RH	ASTM D2126	<9%
Compressive Strength	ASTM D1621	28 psi
Tensile Strength	ASTM D1623	45 psi
Fungi Resistance	ASTM C1338	Pass, No Growth
Sound Transmission Loss	ASTM E90	STC- 31* OITC- 24*

* As measured in a 2" x 4" studwall assembly

Building Code Compliance	
Code Compliance Report	IAPMO UES ER-667, IAPMO UES ER-340
Intertek Clean Air Gold	CA-31883
Miami Dade NOA	24-0916.03
FL Product Approval	FL9975-R9
ABAA	Specified Product
Building Types	Exterior or Interior of Type I, II, III, IV, & V Construction
ASTM E84 Flame Spread	Class I ≤ 25
ASTM E84 Smoke Development	Class I ≤ 450
NFPA 285	Code Compliant, refer to UES ER-667.
Ignition Barrier	Compliant with 2018, 2021 & 2024 IBC and IRC for application in attics and crawl spaces without a prescriptive ignition barrier.
Thermal Barrier NFPA 286	Compliant with the 2018, 2021 & 2024 IBC and IRC, as an interior finish without a 15-minute thermal barrier when coated with an approved intumescent coating.
	Pass: 14 Wet Mils International Fireproof Technology DC 315
	Pass: 14 Wet Mils No-Burn Plus ThB
	Pass: 14 Wet Mils Flame Control 60-60 A
	Pass: 1 in. on Vertical Wall / 0.5 in. on Horizontal Ceiling/Roof Staycell One Step 502

*For information regarding approved thermal and ignition barriers and their application, please refer to code compliance report UES ER-667.

Property	Test Method	Test Condition	Result @ 1" Thickness
Air Barrier (ABAA Specified Product)	ASTM E 2357	Infiltration @ 1.57 psf	0.0087 cfm/ft^2
	ASTM E 2178	Exfiltration @ 1.57 psf	0.0000 cfm/ft^2
Water Resistance	AATCC 127-98	@ 56.5 ft	No failure
	ASTM E 331	6.24 psf	No Penetration

11-037 closed cell spray foam system is an approved Air and Water Resistive Barrier Evaluated Material per the Air Barrier Association of America (ABAA) and is certified per AC 71 as a Water Resistive Material when installed on the exterior side of walls. Exterior wall coverings of this spray foam system may be restricted. Contact NCFI for the current approvals.

R-Values*		
Thickness (inches)	R-Value (°F·hr·ft^2 / Btu)	Moisture Vapor Perm
1"	7.1	0.74
2"	14	0.37
3"	20	0.25
3.5"	23	0.21
4.5"	30	0.16
5.5	37	0.13
6	40	0.12
7	47	0.10
8	53	0.09
9	60	0.08

*Note: As with all insulating materials, the R-value will vary with age and use conditions.

Vapor Retarder

When installed at a minimum thickness of 1" InsulBloc Optimaxx is considered a class II moisture vapor retarder. Consult local building code officials for specific requirements. Climate zone tables are available in current IBC and IRC publications.

Exterior Applications-Weather Protection

Spray polyurethane foam should be protected from adverse effects direct sunlight causing dusting and discoloration. On exterior applications where a masonry veneer or mechanically attached covering is to be installed, the 11-037 may be exposed to UV light up to 6 months. Protective coatings are available for other applications.

Storage Recommendation

Shelf life listed below is from the date of manufacture when stored indoors, in the original unopened containers and between the temperatures of 50° – 80°F.
B-11-037 Resin- 6 months
A2-000 Isocyanate- 24 months

Application Guideline

Read all instructions before applying this product. Consult NCFI's application guideline for 11-037 (Grade: Summer, Regular or Winter) prior to installation. The system should be processed through spray equipment capable of delivering the proper 1:1 ratio by volume. Material should be pre-conditioned to 65-85°F and pre-heater temperatures set between 110- 135°F. A minimum 1000 psi dynamic pressure is recommended. Maximum service temperature of <180°F.

Scan to access the SDS and Application Guideline:

Technical Assistance

For additional assistance please contact NCFI's Technical Services department at:
O: 336-783-3491