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 ICC 1100, IAPMO ES1000, and ASTM C1029 Type II. Approved for exterior below grade foundation walls, exterior side of walls and under concrete slabs.

TYPICAL PHYSICAL PROPERTIES

Property	Test Method	Value
R-Value *Aged R-Value Per ICC 1100 Standard	ASTM C518	7.6 @ 1" 25 @ 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.

Polyurethane products manufactured or produced from this liquid system may present a serious fire hazard if improperly used or allowed to remain exposed or unprotected. The character and magnitude of any such hazard will depend on a broad range of factors, which are controlled and influenced by the manufacturing and production process, by the mode of application or installation and by the function and usage of the particular product. Any flammability rating contained in this literature is not intended to reflect hazards presented by this or any other material under actual fire conditions. These ratings are used solely to measure and describe the product's response to heat and flame under controlled laboratory conditions. Each person, firm or corporation engaged in the manufacture, production, application, installation or use of any polyurethane product should carefully determine whether there is a potential fire hazard associated with such product in a specific usage and utilize all appropriate precautionary and safety measures.

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	7.6	0.74
2	15	0.37
3	23	0.25
3.5	25	0.21
4.25	30	0.17
4.5	32	0.16
5	36	0.15
5.5	39	0.13
6.9	49	0.11
8.4	60	0.09

*Note: As with all insulating materials, the R-value will vary with age and use conditions. The numbers represented in this table are aged R-values per ICC 1100 Standard.

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.

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

Exterior Applications-Weather Protection

Spray polyurethane foam should be protected from the adverse effects of direct sunlight causing dusting and discoloration. On exterior applications and a masonry veneer is to be installed, the 11-037 may be exposed to UV light for up to 6 months. For metal panel claddings where a coating is required, NCFI recommends the coating be applied within six weeks of the spray foam application. Refer to the 11-037 Application Guide for more information.

Application Guideline

Read all instructions before applying this product. Consult NCFI's application guideline for 11-037 (Grade: Slow, Regular or Fast) 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

Email: techservice@ncfi.com

The information on NCFI's data sheets is to assist customers in determining whether our products are suitable for their applications. The customers must satisfy themselves as to the suitability for specific cases. NCFI warrants only that the material shall meet its specifications. This warranty is in lieu of all other written or unwritten, expressed or implied warranties, and NCFI expressly disclaims any warranty of merchantability, fitness for a particular purpose, or freedom from patent infringement. Accordingly, buyer assumes all risks whatsoever as to the use of the material. Buyer's exclusive remedy as to any breach of warranty, negligence or other claim shall be limited to the purchase price of the material. Failure to adhere to any recommended procedures shall relieve NCFI of all liability with respect to the material or the use thereof.