NCFI 11-033 InsulStar® 1.7 OPTIMAXX

DESCRIPTION: 11-033 InsulStar® 1.7 OPTIMAXX is a two component, self-adhering, seamless, closed-cell spray applied polyurethane foam insulation system formulated with a low GWP HFO blowing agent. 11-033 is a low VOC, 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. 11-033 is an air impermeable insulation at ½". Compliant with ICC 1100, IAPMO ES1000, and ASTM C1029 Type II.

TYPICAL PHYSICAL PROPERTIES

Property	Test Method	Value
R-Value *Aged R-Value Per ICC 1100 Standard	ASTM C518	7.1 @ 1" 23 @ 3.5"
Core Density	ASTM D1622	1.7 lb./ft^3
Moisture Vapor Transmission	ASTM E96	1.4 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	27 psi
Tensile Strength	ASTM D1623	45 psi
Fungi Resistance	ASTM C1338	Pass, No Growth

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

Building Code Compliance	
Code Compliance Report	IAPMO UES ER-667
Intertek Clean Air Gold	CA-31883
Building Types	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.

R-Values*		
Thickness (inches)	R-Value (°F · hr · ft² / Btu)	Moisture Vapor Perm
1	7.1	1.40
2	14	0.70
3	20	0.67
3.5	23	0.40
4.5	30	0.37
5.5	37	0.25
6	40	0.23
7	47	0.20
8	53	0.18
9	60	0.16

*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.
and use conditions.

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-11-033 Resin- 6 months
A2-000 Isocyanate- 24 months

Vapor Retarder
When installed at a minimum thickness of 11-033 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.

Application Guideline
Read all instructions before applying this product. Consult NCFI's application guideline for 11-033 (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
Email: techservice@ncfi.com

Exterior Applications
11-033 InsulStar® 1.7 OPTIMAXX is not approved for any exterior applications.

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.