Johns Manville

ENRGY™ 3

Description

ENRGY 3 is a rigid roof insulation board composed of a closed cell polyisocyanurate foam core bonded in the manufacturing process to universal fiber glass reinforced facers.

ENRGY 3 utilizes an environmentally compliant blowing agent containing pentane hydrocarbon to enhance the thermal performance of the foam insulation. This hydrocarbon has zero ozone depletion potential and conforms to the Montreal Protocol established in 1987.

ENRGY 3 meets the physical property requirements of ASTM C 1289-02 Type II, Class I, Grade 2 and CAN/ULC S 704. ENRGY 3 specialty products are also available as tapered panels, pre-cut miters and pre-cut crickets.

Use

ENRGY 3 provides high thermal insulation value over metal, nailable, and non-nailable roof decks in built-up, modified bitumen and single ply membrane roofing systems. It may be applied using hot bitumen, cold adhesives or mechanical fasteners. The universal facer on both the top and bottom provides a suitable surface for mechanical attachment to a structural deck as well as a suitable surface to apply hot asphalt or cold adhesives. ENRGY 3 is rated in Factory Mutual fire and wind-resistant systems for BUR, modified bitumen and single ply systems in specific constructions. It has been classified by UL as an approved roof insulation in many Class A roof constructions and Roof/Ceiling hourly fire-rated assemblies, and is classified by UL Canada.

JM supports NRCA Bulletin #9 in recommending that a cover board of Fesco Board or ½" Retro-Fit Board be installed over foam insulations in hot membrane systems.

Energy and the Environment

LEED	Recycled Content	
	Post Industrial:	See chart below
	Post Consumer:	See chart below
	Producing Locations:	
	Bremen, IN	Cornwall, ONT
	Fernley, NV	Hazleton, PA
	Jacksonville, FL	

Advantages

- High thermal efficiency
- Universal facer that is compatible with BUR, modified bitumen and single ply membrane systems
- Complies with EPA, CEPA and Montreal Protocol requirements
- Meets Clean Air Act Amendments of 1990
- Third-party certification with the PIMA Quality Mark™ for Long Term Thermal Resistance (LTTR) values
- Potential LEED points

Sizes

ENRGY 3 is available in 4' x 4' (1.22 m x 1.22 m) or 4' x 8' (1.22 m x 2.44 m) boards (other sizes available by special request) and in thicknesses of 1.0" (25 mm) to 4.0" (102 mm). Some sizes are special order with minimum order quantities. Contact your JM Sales Representative for details.

For Use Over Metal Decks

The minimum thicknesses of ENRGY 3 insulation over metal decks are as follows:

Width of Rib Opening	Up to 2⅝" (67 mm)	Up to 3⅜" (86 mm)	Up to 4⅜" (111 mm)
Thickness of Insulation (Minimum)	1.0" (25 mm)	1.2" (30 mm)	1.3" (33 mm)

Typical Physical Properties

	Values	ASTM Test Method
Water Absorption	<1.5% max	C 209
Dimensional Stability Change	<2%	D 2126
Compression Resistance*		
10% Consolidation-psi (kPa)	20 (138) min.	D 1621
Moisture Vapor Permeance	<1 perm (57.5 ng/(Pa•s•m²))	E 96
Service Temperature	-100° to 250°F (-73° to 121°C)	
Tensile Strength-psf (kPa)	730 (35) nom.	D 1623

* Also available in 25 psi (172 kPa).

Product Data

Standard Thicknesses (nom.)		LTTR R-Value*		Recycled Content**		
				Post Industrial	Post Consumer	Total
(in.)	(mm)	(hr•ft²•°F)/BTU	m²•°C/W	(%)	(%)	(%)
1.0	25	6.0	1.05	8.4	36.4	44.8
1.5	38	9.0	1.59	10.3	26.4	36.7
1.7	43	10.3	1.81	10.7	24.1	34.8
2.0	51	12.1	2.14	11.1	21.8	32.9
2.3	58	14.0	2.47	11.7	18.4	30.1
2.5	64	15.3	2.69	11.8	17.9	29.7
2.8	71	17.2	3.03	12.0	16.4	28.4
3.0	76	18.5	3.26	12.3	15.7	28.0
3.1	79	19.0	3.33	12.4	15.2	27.6
3.3	84	20.4	3.60	12.5	14.5	27.0
4.0	102	25.0	4.40	13.1	12.0	25.1

* The Long Term Thermal Resistance (LTTR) values were determined in accordance with CAN/ULC S 770.

** Value represents average results

Non-standard thicknesses are available. Contact your JM Sales Representative for more information.

Refer to the Material Safety Data Sheet and Product Label prior to using this product.

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