

## DESCRIPTION

Johns Manville AP™ Foil-Faced Polyiso Continuous Insulation board consists of a uniform closed-cell polyisocyanurate foam core bonded on each side to a foil facer. One side has a reflective foil facer and the other side has a white non-reflective foil facer to suit your building needs.

Polyiso provides one of the highest R-values per inch of any rigid insulation (R-6.0 at 1 inch). Furthermore, when properly installed, AP Foil-Faced Polyiso Continuous Insulation functions as a water-resistive barrier, vapor barrier and air barrier, eliminating the need to install additional components.

AP Foil-Faced Polyiso Continuous Insulation is produced with a hydrocarbon-based blowing agent that has zero Ozone Depletion Potential (ODP) and virtually no Global Warming Potential (GWP), thus meeting all EPA and state regulations addressing ozone depletion or global warming potential of blowing agents. Polyiso is one of North America's most widely used insulation products.

AP Foil-Faced Polyiso Continuous Insulation provides exceptional heat, moisture and air control to protect your building's exterior wall assembly.

## INSTALLATION

AP Foil-Faced Polyiso Continuous Insulation is lightweight and can be easily cut with a utility knife or saw. Use maximum board lengths to minimize the number of joints. Vertical joints should be staggered. Butt joints should be centered over framing. To create a water-resistive barrier or an air barrier, treat seams and penetrations as instructed in the installation guide and in accordance with manufacturer's guidelines. Once installed, AP Foil-Faced Polyiso Continuous Insulation may be left exposed for up to 60 days. Consult your local building department for code requirements.

## COMPLIANCES

- UL 263 & ASTM E119
- ASTM C1289 Type 1, Class 1 or 2
- CAN/ULC S704, Type 1, Class 1
- CCRR-0444
- Air Barrier Association of America Evaluated Air Barrier Material, Assembly & Water Resistive Barrier
- Canadian Construction Materials Centre 13104-L
- International Building Code
- International Residential Code
- International Energy Conservation Code
- ENERGY STAR
- ASHRAE 90.1
- California State Insulation Quality Standards
- California Proposition 65

## PERFORMANCE STANDARDS

- ASTM C1289, Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board
- CAN/ULC-S704, Standard for Thermal Insulation, Polyurethane and Polyisocyanurate, Boards, Faced
- ASTM E84, Test for Surface Burning Characteristics of Building Materials – Class A
- CAN/ULC S102, Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies
- NFPA 259, Standard Test Method for Potential Heat of Building Materials
- NFPA 285, Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components
- AC 71, Acceptance Criteria for Foam Plastic Sheathing Panels Used as Water-Resistive Barriers
- ASTM E331, Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference
- AATCC Test Method 127, Water Resistance: Hydro Static Pressure Test
- ASTM E1233, Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights, and Curtain Walls by Cyclic Air Pressure Differential
- ASTM E2178, Standard Test Method for Air Permeance of Building Materials
- ASTM E2357, Standard Test Method for Determining Air Leakage of Air Barrier Assemblies

## AVAILABILITY

AP Foil-Faced Polyiso Continuous Insulation is available in the sizes shown in Table 1 (see reverse). For additional information or special size inquiries, please consult a sales representative at 800-654-3103.

## COMPANY

Johns Manville, a Berkshire Hathaway company, was founded in 1858. Our ownership by Berkshire Hathaway, one of the most admired companies in the world and one of the most financially secure, allows JM to invest for the future. This enables JM to continue delivering the broadest range of insulation products in the industry and offering innovative solutions that meet your needs.



## PERFORMANCE ADVANTAGES

**Thermal Insulation:** inch for inch, polyiso has one of the highest energy efficiencies. R-values for AP Foil-Faced Polyiso Continuous Insulation are shown in Table 1, and physical properties are shown in Table 2 (see reverse). R means resistance to heat flow. The higher the R-value, the greater the insulating power.

**Water-Resistive Barrier:** when properly installed as part of a Johns Manville Wall System, AP Foil-Faced Polyiso Continuous Insulation meets the ICC-ES AC71 acceptance criteria for foam plastic sheathing used as a water-resistive barrier. Please see the installation guide for qualifying assemblies and detailed instructions.

**Vapor Barrier:** at a minimum thickness of one inch, AP Foil-Faced Polyiso Continuous Insulation has a vapor permeance of 0.05 perms and qualifies as a Class I vapor retarder.

**Air Barrier:** when properly installed as part of a Johns Manville Wall System, AP Foil-Faced Polyiso Continuous Insulation meets the Air Barrier Association of America boardstock criteria for materials and assemblies. Please see installation guide for qualifying assemblies and detailed instructions.

**Noncorrosive:** does not accelerate corrosion of pipes, wiring or metal studs.

**Lightweight:** easy to handle, can be cut with a utility knife or saw.

## ENERGY, QUALITY & ENVIRONMENT



### STORAGE

Store AP Foil-Faced Polyiso Continuous Insulation elevated above the floor or ground and standing water. If stored outdoors, keep dry by covering completely with a waterproof tarpaulin.

### LIMITATIONS

AP Foil-Faced Polyiso Continuous Insulation is nonstructural. The walls must be braced in accordance with the requirements of the applicable code.

### WARRANTY

All Johns Manville products are sold subject to Johns Manville's Limited Warranty and Limitation of Remedy. For a copy of these documents, call 800-654-3103.

### PERFORMANCE DATA

**Table 1: Thermal Performance**

THICKNESS (in)	R-VALUE U.S. <sup>1</sup> (°F•ft <sup>2</sup> •h/BTU)	THICKNESS (mm)	RSI-VALUE <sup>1</sup> (°K•m <sup>2</sup> /W)	BOARD SIZE (ft)	R-VALUE WITH REFLECTIVE AIR SPACE <sup>2</sup>		
					½" Air Space	¾" Air Space	1" Air Space
0.50	2.9	13	0.48	4 x 8, 9, or 10	5.2	5.5	5.4
0.62	3.5	16	0.62	4 x 8, 9, or 10	6.0	6.3	6.2
0.75	5.0	19	0.88	4 x 8, 9, or 10	7.5	7.8	7.7
1.00	6.0	25	1.06	4 x 8, 9, or 10	8.5	8.8	8.7
1.20	7.5	31	1.32	4 x 8, 9, or 10	9.9	10	10
1.50	9.3	38	1.63	4 x 8, 9, or 10	12	12	12
1.55	9.6	39	1.69	4 x 8, 9, or 10	12	12	12
1.65	10	42	1.82	4 x 8, 9, or 10	13	13	13
2.00	13	51	2.21	4 x 8, 9, or 10	15	15	15
2.50	16	64	2.79	4 x 8, 9, or 10	18	19	19
3.00	19	76	3.36	4 x 8, 9, or 10	22	22	22
3.50	22	89	3.94	4 x 8, 9, or 10	25	25	25
4.00	26	102	4.52	4 x 8, 9, or 10	28	28	28
4.50	28	114	5.09	4 x 8, 9, or 10	30	31	31

<sup>1</sup> Aged R-value at 75° F in accordance with ASTM C1289.

<sup>2</sup> Only applies when an ideal reflective air space and horizontal heat flow conditions exist. The shiny foil side of product must face the air space.

Determined in accordance with FTC 16 CFR Part 460 requirements and published ASHRAE air space R-values. Refer to the 2009 ASHRAE Handbook of Fundamentals, Chapter 25, Table 3, for details.

**Table 2: Physical Properties**

PROPERTY	UNITS	TEST METHOD	RESULT
Thermal Resistance, 1 inch	°F•ft <sup>2</sup> •hr/BTU	ASTM C518 <sup>1</sup>	6.0
Compressive Strength	psi	ASTM D1621	≥ 16
Flexural Strength	psi	ASTM C203	≥ 40
Water Absorption	% by volume	ASTM C209	0.1
Water Vapor Permeance	perms	ASTM E96	0.05
Air Barrier	L/(s•m <sup>2</sup> )	ASTM E2178	< 0.02
Mold Resistance	rating	ASTM D3273	10, no defacement
Sound Transmission Class for R-5 to R-13	STC	ASTM E90	34-55 <sup>2</sup>
Surface Burning Characteristics <sup>3</sup>			
Flame Spread <sup>4</sup>	index	ASTM E84	≤ 25
Smoke Developed <sup>4</sup>	index	ASTM E84	≤ 450
Service Temperature	°F		-100 to 250

<sup>1</sup> Aged R-value at 75° F in accordance with ASTM 1289 (90 days @ 140°F).

<sup>2</sup> Residential exterior wall with ½" interior gypsum, 2"x4" studs at 16" o.c., R-13 fiberglass batts in cavity, 7/16" OSB sheathing and AP Foil continuous insulation. Exact performance depends on AP Foil thickness, cladding type, and inclusion of resilient channels (optional) in the assembly.

<sup>3</sup> Numerical flame spread and smoke developed ratings are not intended to reflect hazards present in actual fire conditions.

<sup>4</sup> Foam core tested at 4-inches.

### WARNING

AP Foil-Faced Polyiso Continuous Insulation is combustible and shall only be used as specified by the local building code with respect to flame spread classification and to the use of a suitable thermal barrier when required.

### TECHNICAL SERVICES

Johns Manville can provide technical information to assist in addressing questions regarding AP Foil-Faced Polyiso Continuous Insulation. Please call 800-654-3103 for technical assistance.