

## 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.

## DESCRIPTION

JM Formaldehyde-free™ thermal and acoustical insulation is made of long, resilient glass fibers bonded with a thermosetting resin. A wide range of thermal resistance R-values is available to provide thermal control for both vertical and horizontal applications. JM insulation is available unfaced or with a variety of facings, including kraft or foil vapor retarder.

## USE

JM Formaldehyde-free™ thermal and acoustical insulation can be used in a wide variety of wood frame, engineered wood and steel frame construction applications, including:

**New Construction:** residential homes and commercial buildings interior and exterior walls, floors and ceilings for thermal and sound control, as well as basement wall insulation.

**Retrofit:** adding insulation to attics, crawl spaces and above suspended ceilings.

## INSTALLATION

JM insulation cuts easily with an ordinary utility knife, and unfaced or tabless versions install easily by simply pressing in place between studs or joists in standard framing. Standard facings have stapling tabs for attachment to framing if additional securement is required.

## PACKAGING

JM insulation is compression-packaged for savings in storage and freight costs.

## DESIGN CONSIDERATIONS

Kraft and standard foil facings on this product will burn and must not be left exposed. It must be covered with gypsum board or another approved interior finish. Where an exposed application is required, use FSK-25 flame-resistant faced insulation.

In colder climate areas, vapor retarders (whether attached to the insulation or applied separately) are often placed toward the heated or conditioned side of the wall. This is done to reduce water vapor penetration into the wall from the building interior. Check your local building codes for vapor retarder requirements.

Refer to JM guide specifications for further design considerations and required installation instructions.

## LIMITATIONS OF USE

Check applicable building codes.



## PERFORMANCE ADVANTAGES

**Formaldehyde-free:** will not off-gas formaldehyde in the indoor environment.

**Thermally Efficient:** provides effective resistance to heat transfer with R-values up to R-49 (RSI-8.6).

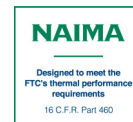
**Sound Control:** reduces transmission of sound through exterior and interior walls and floor or ceiling assemblies.

**Fire Resistant and Noncombustible:** see Physical Properties.

**Durable Inorganic Glass:** will not rot, mildew or deteriorate and is noncorrosive to pipes, wiring and metal studs.

**Superior Performance:** bonded glass fibers are dimensionally stable and will not slump within the wall cavity, settle or break down during normal applications.

## ENERGY AND ENVIRONMENT



*\*GREENGUARD certification is not intended for residential environments. Instead, the certification is intended only for buildings meeting ASHRAE 62.1-2010 commercial building ventilation rates. This certification is proof that the product meets the GREENGUARD Environmental Institute's indoor air quality standards and product emission standards for VOCs.*

## APPLICABLE STANDARDS & BUILDING CODE CLASSIFICATION

| JM UNFACED INSULATION        | JM KRAFT FACED INSULATION              | JM FOIL FACED INSULATION                 |
|------------------------------|--|--|
| ASTM C665, Type I; ASTM E136 | ASTM C665, Type II Class C, Category 1 | ASTM C665, Type III, Class B, Category 1 |
| IBC, ALL TYPES               | IBC TYPES III, IV, V                   | IBC TYPES III, IV, V                     |

## STANDARD SIZES\*

| R-VALUE<br>(hr·ft <sup>2</sup> ·°F/Btu) | RSI VALUE<br>(m <sup>2</sup> ·°C/Watts) | THICKNESS** |                    | WIDTH†               |          |                       |
|---|---|-------------|--------------------|----------------------|----------|-----------------------|
|   |   | in (mm)     |                    | WOOD FRAMING in (mm) |          | METAL FRAMING in (mm) |
| ††                                      | ††                                      | 2¾ (70)     |                    | —                    |          |                       |
| 11                                      | 1.9                                     | 3½ (89)     | 3¾ (92)            | 15 (381)             | 19 (483) | 23 (584)              |
| 13                                      | 2.3                                     | 3½ (89)     | 3¾ (92)            | 15 (381)             |          | 23 (584)              |
| 15                                      | 2.6                                     |             | 3½ (89)            | 15 (381)             |          |                       |
| 19                                      | 3.3                                     |             | 6½ (165)           | 15 (381)             | 19 (483) | 23 (584)              |
| 20                                      | 3.5                                     |             | 5½ (140)           | 15 (381)             |          |                       |
| 21                                      | 3.7                                     |             | 5½ (140)           | 15 (381)             |          | 23 (584)              |
| 22                                      | 3.9                                     |             | 7½ (191)           | 15 (381)             |          |                       |
| 23                                      | 4.1                                     |             | 5½ (140)           | 15 (381)             |          |                       |
| 25                                      | 4.4                                     |             | 8¼ (210)           | 15 (381)             |          | 23 (584)              |
| 30                                      | 5.3                                     |             | 10¼ (260)          | 16 (406)             | 19 (483) | 24 (610)              |
| 30‡                                     | 5.3                                     |             | 8¼ (210)           | 15½ (394)            |          | 23¾ (600)             |
| 38                                      | 6.7                                     |             | 12 (305) 12½ (318) | 16 (406)             |          | 24 (610)              |
| 38‡                                     | 6.7                                     |             | 10¼ (260)          | 15½ (394)            |          | 23¾ (600)             |
| 49                                      | 8.6                                     |             | 13½ (343)          | 16 (406)             |          | 24 (610)              |

\* Consult your local JM sales representative or product availability chart for available sizes and R-values (RSI-values) including wide-roll products.

\*\* Thickness may vary by producing location.

† Special widths and lengths may be available. Check with your local JM sales representative. Standard product lengths include 48", 93" and 96" (1219 mm, 2362 mm and 2438 mm) batts.

†† For sound control applications in interior walls.

‡ Cathedral ceiling application.

## PHYSICAL PROPERTIES\*\*

| PRODUCTION  | FLAME SPREAD | SMOKE DEVELOPED | VAPOR RETARDER (PERMS) | WATER VAPOR SORPTION |
|-------------|--------------|-----------------|------------------------|----------------------|
| Unfaced*    | <25          | <50             | N/A                    | <5%                  |
| Foil Faced  | <75          | <150            | 0.05                   | N/A                  |
| Kraft Faced | N/R          | N/R             | 1                      | N/A                  |

‡‡ **Products are tested in accordance:** R-value ASTM C518 | Surface Burning Characteristics ASTM E84 | Water Vapor Permeance ASTM E96 | Water Vapor Sorption ASTM C1104

Kraft and standard foil facing will burn. Do not leave exposed. Facing must be installed in substantial contact with an approved ceiling, floor or wall material. Keep open flame and other heat sources away from facing. Do not place insulation within 3" of light fixtures or similar electrical devices unless device is labeled for contact with insulation. Use only unfaced insulation between wood framing and masonry chimneys. Do not use insulation in spaces around metal chimneys, fireplaces, or flues. JM Unfaced insulation is considered non-combustible by model building codes. Flame Spread 25 products are flame spread rated and can be left exposed where codes allow. See package for warnings, fire hazard and installation instructions, or call 800-654-3103.

Due to potential skin irritation, unfaced insulation should not be used for exposed applications where it will be subject to human contact.

\* Unfaced fiberglass insulation is considered noncombustible according to ASTM E136. UL File No. BKNV.R3711 and BZJZ.R3711.