Johns Manville

Installation Instructions

CI MAX™

Insulation for Exposed Interior Use

The following installation recommendations relate to the installation of CI Max Polyisocyanurate Foam Sheathing in an exposed condition on the interior of a building. CI Max foam sheathing is designed to be installed in the applications described below without the addition of a thermal barrier.

General

1. CI Max foam sheathing is not a structural material. It must not be used as a nailing base for any other building products.
2. CI Max foam sheathing passed NFPA 286 corner burn test for walls only or ceiling only without joint treatment. Boards need to be tightly butted. Taping the seams is acceptable with tapes that have a flame spread index of 25 or less and a smoke developed index of 450 or less.
3. All framed walls insulated with CI Max foam sheathing must be properly braced for lateral loads according to local building codes.
4. Consult local building codes and authorities regarding special applications or details required when using CI Max foam sheathing as an exposed product.
5. The interior and/or exterior of the building should be protected with a suitable vapor retarder and/or air barrier/ weather resistive barrier, based on local building codes and climate zone.
6. Repair any boards damaged during installation. Patch holes less than one inch across with seam tape. Patch holes greater than one inch across with matching board material and then seal with flashing tape that have a flame spread of 25 or less and a smoke development of 450 or less.

Masonry Walls

- CI Max foam sheathing may be installed to the interior of masonry walls, including above-grade masonry and tilt-up walls and below-grade basement and crawl space walls.
- All walls should already have air/water/vapor barriers installed prior to installation of CI Max foam sheathing.
- Below-grade applications may require additional materials to effectively manage water, water vapor and/or radon.
- Some below-grade applications may require a two- to three-inch inspection strip along the top of the foundation wall for termite mitigation. Always adhere to local building code or pest control requirements.

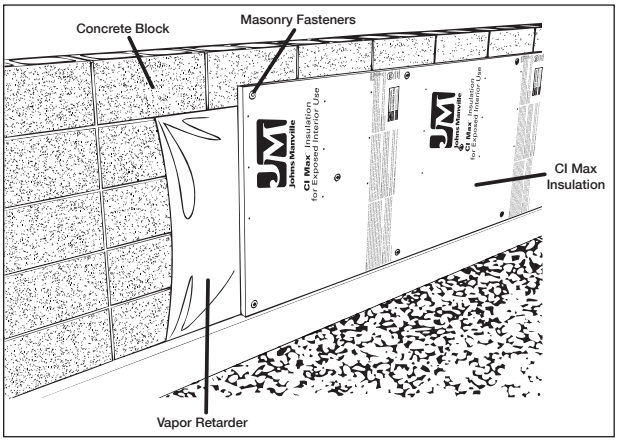
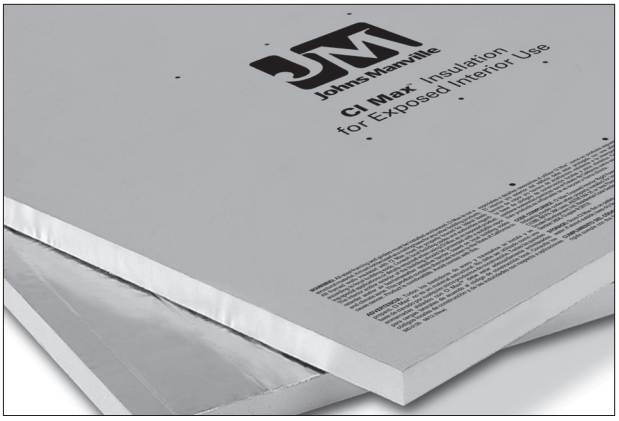


Figure 1. CI Max boards mechanically fastened



Fasten CI Max Insulation Directly to the Wall

1. Fasten CI Max insulation boards to the interior of the wall using power-driven masonry nails with 1½-inch minimum metal washers or caps, or other suitable masonry fastener. For crawl space wall installation, CI Max insulation should be installed horizontally (as shown in Figure 1). For basement installations, CI Max insulation can be installed either vertically or horizontally.
2. Space fasteners approximately 24 inches on center across the short board dimension and 48 inches on center across the long board dimension.
3. Butt board edges together tightly and carefully fit around penetrations. CI Max foam sheathing may be installed and left exposed without joint treatment. However, tape may be installed to reduce air leakage using aluminum or white foil tape that has a flame spread of 25 or less and a smoke development of 450 or less.

Fasten CI Max Insulation over Furring Strips

1. Install wood or pressure-treated wood furring strips, preferably spaced not more than 24 inches on center. Furring strips may be installed with power-driven masonry nails.
2. Install CI Max board over furring strips. Butt board edges together tightly, align seams over furring strips, and carefully fit around openings and penetrations. CI Max foam sheathing may be installed and left exposed without joint treatment. However, tape may be installed to reduce the air leakage of the wall system using aluminum or white foil tape that must have a flame spread of 25 or less and a smoke developed index of 450 or less.
3. Fasten insulation boards to the furring strips using screws or roofing nails with a 1½-inch minimum metal washer or top cap. Alternate fasteners may be used, with the type and length as recommended by their manufacturer for securing foam plastic insulating sheathing.

Table 1:

Insulation Thickness	Masonry Screw Length
½"	1"
.77"	1½"
1"	1½"
1½"	2"
2"	2½"
2½"	3"
3"	3½"
3½"	4"
4"	4½"
Special Order Thickness	**Thickness + ½"**

CI MAX™

Insulation for Exposed Interior Use

Framed Walls

1. Fasten CI Max insulation boards to the interior of the framing using #6 screws or nails with 1½-inch minimum metal washers or caps as described in Table 2. Alternate fasteners may be used, with the type and length as recommended by their manufacturer for securing foam plastic insulating sheathing.
2. Space fasteners approximately 16 inches on center around the perimeter and in the field of each board. (16 or 24 inches on center across framing, depending on framing spacing.)
3. Use maximum board lengths to minimize number of joints. Locate joints square to framing and center end joints over framing (as shown in Figure 2). Provide additional framing as necessary. It is not necessary to stagger board joints.
4. Butt board edges together tightly and carefully fit around openings and penetrations.
5. Drive fasteners so the stress plate is tight and flush with the board surface but do not countersink.
6. CI Max sheathing may be installed and left exposed without joint treatment. However, tape may be installed to reduce air leakage, using aluminum or white foil tape that must have a flame spread of 25 or less and a smoke developed index of 450 or less.

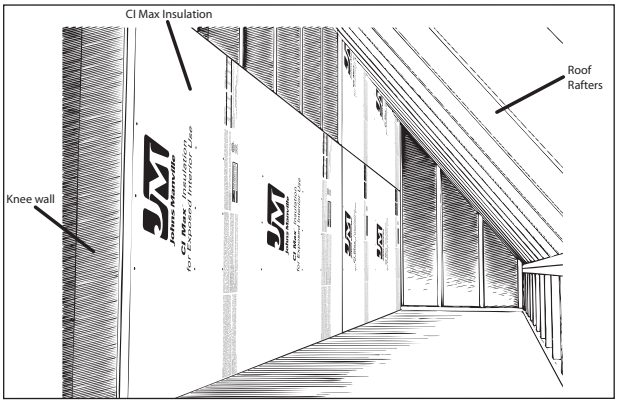


Figure 2. Knee wall installation of CI Max boards

Table 2:

Insulation Thickness	Screw Length
½"	1½"
.77"	1½"
1"	1¾"
1½"	2¼"
2"	2¾"
2½"	3¼"
3"	3¾"
3½"	4¼"
4"	4¾"
Special Order Thickness	**Thickness + ¾"**

Pre-Engineered Metal Buildings

1. All exterior wall panels should be installed. To avoid moisture accumulation within the wall, one of the following recommendations should be followed
   a. If the joints of CI Max insulation will be sealed to reduce air leakage, any fiber glass metal building insulation blankets should have perforated facings to avoid a double vapor retarder in the wall system.
   b. If the joints of CI Max insulation will not be sealed, no change is required to the metal building insulation blankets.
2. Install CI Max insulation over the interior face of the wall girts.
3. Use maximum board lengths to minimize number of joints. Locate joints square to girts and center end joints over girts. Provide additional framing as necessary. Stagger each course at least one girt. See Figure 3.

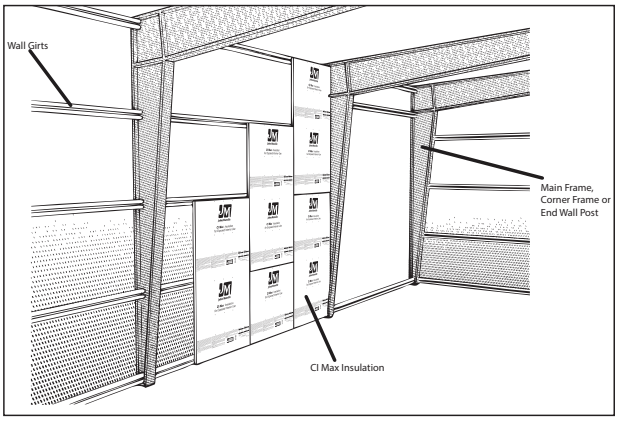


Figure 3. CI Max boards on interior of pre-engineered metal building

4. Butt board edges together tightly and carefully fit around openings and penetrations.
5. Fasten the insulation board to the face of the girts using preassembled screw and metal stress plate fasteners as described in Table 2. Alternate fasteners may be used, with the type and length as recommended by their manufacturer for securing foam plastic insulating sheathing.
6. Fasteners should be spaced 12 inches, across the face of each girt, as shown in Figure 4. Drive fasteners so the metal stress plate is tight and flush with the board surface but do not countersink.

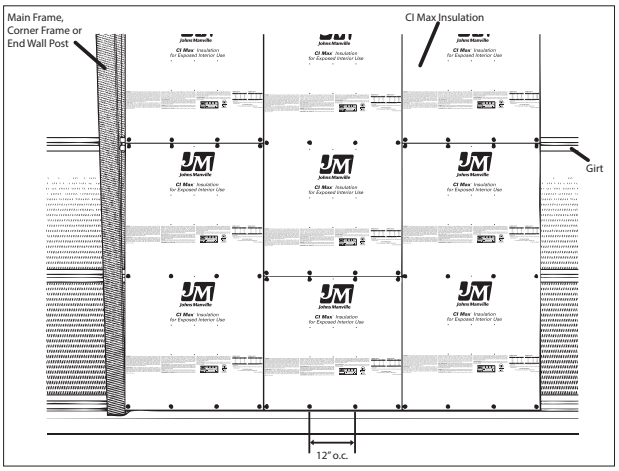


Figure 4. Fastener spacing for CI Max foam sheathing over the interior of pre-engineered metal building girts

Interior Ceilings

CI Max foam sheathing may be installed onto interior ceilings, including framed (wood or metal) or masonry constructions.

CI MAX™

Insulation for Exposed Interior Use

Masonry/Concrete Ceilings

1. Fasten CI Max insulation boards to the interior of the ceiling using power-driven masonry nails with 1½-inch minimum metal washers or caps, or other suitable masonry fastener.
2. Space fasteners approximately 24 inches on center across the short board dimension and 48 inches on center across the long board dimension
3. Butt board edges together tightly and carefully fit around penetrations.

CI Max foam sheathing may be installed and left exposed without joint treatment.

1. Install wood or pressure-treated wood furring strips, preferably spaced not more than 24 inches on center. Furring strips may be installed with power-driven masonry nails.
2. Install CI Max board over furring strips. Butt board edges together tightly, align seams over furring strips, and carefully fit around openings and penetrations. CI Max foam sheathing may be installed and left exposed without joint treatment. However, tape may be installed to reduce the air leakage of the wall system using aluminum or white foil tape that must have a flame spread of 25 or less and a smoke developed index of 450 or less.
3. Fasten insulation boards to the furring strips using screws or roofing nails with a 1½-inch minimum metal washer as described in Table 1 above. Alternate fasteners may be used, with the type and length as recommended by their manufacturer for securing foam plastic insulating sheathing.
4. Fasteners should be spaced 24 inches on center across the short board dimension and 48 inches on center across the long board dimension along each furring strip. Drive fasteners so the plate or washer is tight and flush with the board surface but do not countersink.

Framed Ceilings

1. Fasten CI Max insulation boards to the interior of the ceiling framing using #6 screws or nails with 1½-inch minimum metal washers or caps as described in Table II. Alternate fasteners may be used, with the type and length as recommended by their manufacturer for securing foam plastic insulating sheathing.
2. Space fasteners approximately 16 inches on center around the perimeter and in the field of each board. (16 or 24 inches on center across framing, depending on framing spacing.)
3. Use maximum board lengths to minimize number of joints. Locate joints square to framing and center end joints over framing. Provide additional framing as necessary. It is not necessary to stagger board joints. See Figure 5.
4. Butt board edges together tightly and carefully fit around openings and penetrations.
5. Drive fasteners so the stress plate is tight and flush with the board surface but do not countersink.
6. CI Max sheathing may be installed and left exposed without joint treatment. However, tape may be installed to reduce air leakage using aluminum or white foil tape that must have a flame spread of 25 or less and a smoke developed index of 450 or less.

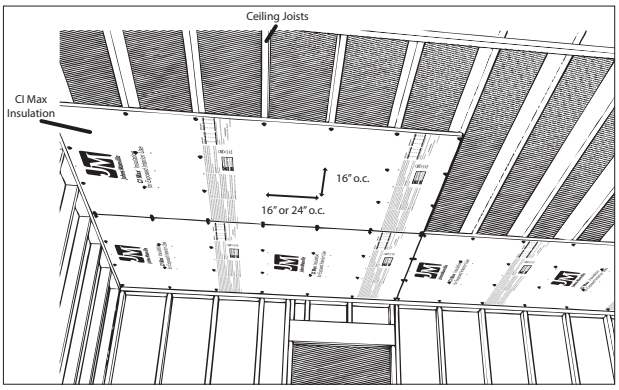


Figure 5. CI Max insulation installed over framed ceiling

Building Code Compliance and Fire Hazard Classification

CI Max Insulation for Exposed Interior Use

ICC (2012)	Flame Spread*	Smoke Development*
IBC Section 2603.5 IBC Section 2603 IRC Section R316	4" thick (102 mm), 25 or less	4" thick (102 mm), 450 or less

**Per ASTM E84.*

Available Forms*

Specification Compliance	R-value** (hr·ft2 • °F/Btu)	RSI-value (m2 • °K/Watts)	Thickness (in)	Thickness (mm)
ASTM C1289 CI Max Insulation Type 1 Class 1	25.0	4.40	4.00	102
	22.8	4.01	3.50	89
	19.5	3.43	3.00	76
	16.3	2.87	2.50	64
	13.0	2.29	2.00	51
	10.0	1.73	1.55	38
	6.5	1.14	1.00	25
	5.0	0.88	0.77	19
	3.3	0.58	0.5	12.7

**Consult your local sales representative or product availability chart for other available sizes and R-values. Upon special request, JM will provide boards scored to 16" (406 mm) or 24" (610 mm) widths for easy application in cavity walls. Standard product lengths include 8 and 9 ft. (2,440 and 2,740 mm).*

***R-value determined by ASTM C518 at 75°F mean temperature and ASTM C1289.*

Visit our website at **JM.com** or call **1-800-654-3103** | **Building Insulation Division** P.O. Box 5108 | Denver, CO 80217-5108

BID-0138 02/14