

DuPont™ Thermax™ Sheathing Interior Masonry Wall Insulation

Installation Procedures Including Concrete Tilt Up and CMU Block Walls

DuPont™ Thermax™ Sheathing is a nonstructural, rigid board insulation consisting of a glass-fiber-reinforced polyisocyanurate foam core laminated between pinhole-free aluminum foil facers. A unique free-rise manufacturing process produces the uniform, closed-cell core foam, which is exceptionally resistant to heat flow. The facers of **Thermax™ Sheathing** help provide an effective barrier to moisture.

Lightweight and easy to install, **Thermax™ Sheathing** is ideally suited for interior masonry wall applications, above or below grade. **Thermax™ Sheathing** is lightweight, easy to install and reduces thermal bridging and moisture migration in the building envelope. There are three methods that can be used to successfully install **Thermax™ Sheathing**. Each of them is outlined here, along with the benefits of each.)

General Information

- **Thermax™ Sheathing** can be left exposed without gypsum wallboard. **Thermax™ Sheathing** can also be installed vertically or horizontally.
- **Thermax™ Sheathing** and other combustible materials must be shielded and/or given proper clearance in a manner acceptable to building codes in areas immediately adjacent to or above combustion equipment (e.g., furnaces or chimneys) or other surfaces that could reach high temperatures.
- **Thermax™ Sheathing** may be left exposed in storage and utility areas such as crawl spaces, attics and basements. Install a code-approved finish where necessary to protect the insulation from damage or standing water.
- Follow local building code criteria for fire resistance in attached garages. Where insulated walls and/or ceilings separate the garage from a living space, frame walls should include a minimum of 1/2" gypsum applied to both sides; ceilings should be covered with 1/2" type X gypsum board.
- When installing **Thermax™ Sheathing**, boards must be fitted tightly together vertically and at right angles (90 degrees). See Figure 1. End-joint gaps greater than 1/8" should be filled with spray foam such as **Great Stuff Pro™ Gaps & Cracks Polyurethane Foam Sealant*** or equivalent to keep a continuous air infiltration barrier and to help ensure maximum thermal efficiency across the board joints.
- To increase the moisture effectiveness of the board joints, apply aluminum foil tape or equivalent over the sprayed board joints.

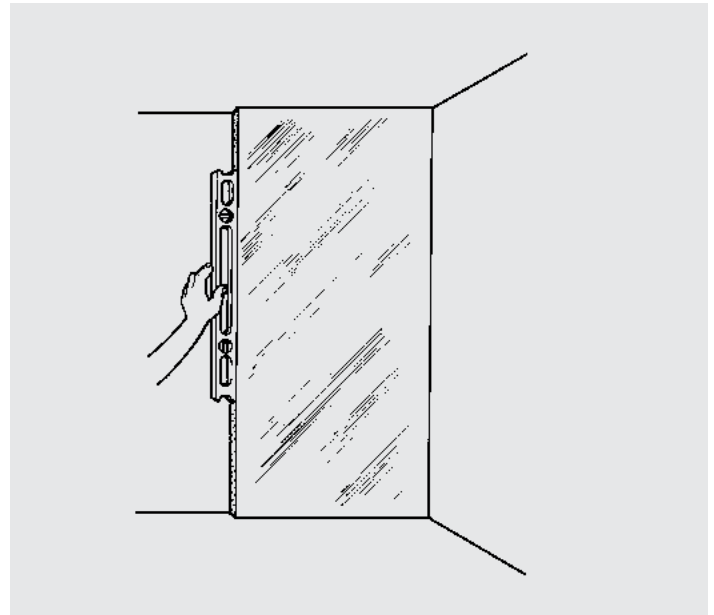


Figure 1.

Materials Checklist

To install **Thermax™ Sheathing**, you will need:

- Utility knife
- Straight edge
- Measuring tape
- Hammer
- Electric drill (for better and best practices)
- Pencil
- Aluminum foil tape
- Construction-grade adhesive
- Pressure-treated nailers
- Safety glasses
- Construction gloves

Optional Materials

(Based on preferred installation method).

- 1" x 3" or 3/4" furring strips (pressure-treated wood nailers, metal nailers, metal strips, metal hat channels or Z-furring strips) for good and better practices
- Wood or metal framing (for best practices)
- Masonry bits and screwdriver bits (for better and best practices)
- Masonry nails and screws, such as Hilti®, Stanley-Bostitch® or TapCon® (for better or best practices) (Olympic®, Trufast® and Buildex® can also provide good mechanical fasteners for concrete applications)
- Gypsum board (if desired)
- Outlet boxes (if desired)
- Electrical wire (if desired)
- Wire staples
- Caulking gun
- Polyisocyanurate-compatible polyurethane spray sealant, such as **Great Stuff Pro™ Polyurethane Foam Sealant***
- To increase thermal efficiency and cut down on air infiltration, fill areas behind plumbing (where **DuPont™ Thermax™ Sheathing** cannot be fitted) or around window and door frames with **Great Stuff Pro™ Polyurethane Foam Sealant** or equivalent.
- If fire blocking material or fire stop material is used (for example, between floors as required by local code), then sealant, caulking and/or spray foam must meet those criteria also. Check with sealant, caulking or spray foam supplier for specification for that particular area of installation only.

Sizes

Thicknesses and R-values for **Thermax™ Sheathing** are shown in Table 1. Not all sizes are available in all parts of the country. Other product sizes are available by custom order. Consult a DuPont representative for details.

Table 1: Thermax™ Sheathing

Nominal Foam Thickness, in.	R-Value ⁽¹⁾⁽²⁾
0.5	3.3
0.75	5.0
1.0	6.5
1.5	9.8
2.0	13.0

⁽¹⁾ R means resistance to heat flow. The higher the R-value, the greater the insulating power.

⁽²⁾ R-value determined by ASTM C518.

(Contact your DuPont Seller or Technical Service Group for information at different R-values)

Cutting

There are two ways to cut **Thermax™ Sheathing**. One way is to use a straight edge and a utility knife, making sure to cut all the way through the facing. Make sure the surface backing is safe to cut on. Or, **Thermax™ Sheathing** may be cut with a small handsaw. See Figures 2a and 2b. Safety precautions should be taken with either method.

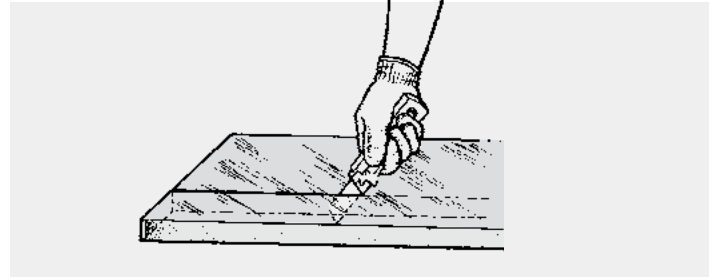


Figure 2a.

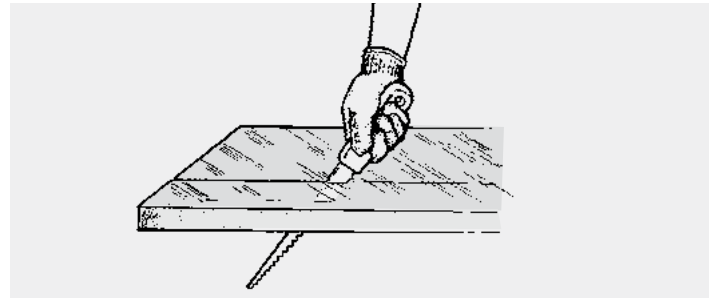


Figure 2b.

Installation

Good Method

Figure 3 shows a good method to install **Thermax™ Sheathing**.

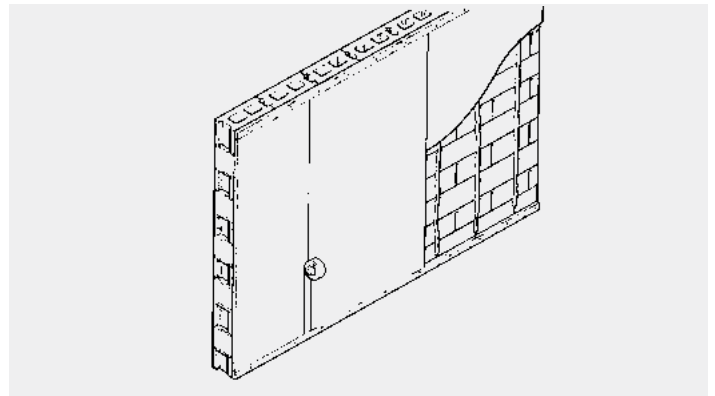


Figure 3.

1. Install furring strips (nailers), the same thickness as the **Thermax™ Sheathing** being installed, to the top and bottom of the wall.
2. Apply a compatible construction grade adhesive or **Enerbond™ Professional Foam Adhesive** from DuPont to the wall, following manufacturer instructions. **Thermax™ Sheathing** is then installed between the furring strips.

Note: Surface must be clean and dry before applying adhesives. Follow manufacturer's recommendations for adhering to concrete.

Note: Not for use on ceilings

- Cover seams between boards of **DuPont™ Thermax™ Sheathing** with aluminum foil tape or equivalent.
- If a finished wall is desired, gypsum wallboard or paneling can be installed by attaching to the furring strips (nailers) at the top and bottom. Baseboard and top molding can also be installed using mechanical fasteners.

Note: Always follow adhesive manufacturer instructions when applying adhesive for pressure needed to form bond (if required), proper cure times and recommended application temperatures.

Better Method

Figure 4 shows a better method to install **Thermax™ Sheathing**.

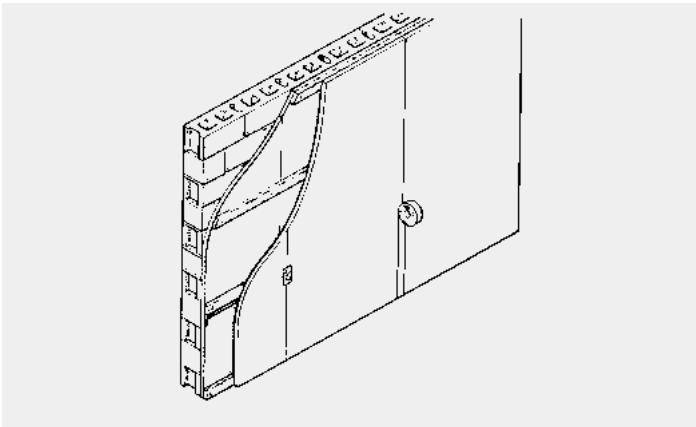


Figure 4.

- Apply a compatible construction grade adhesive or **Enerbond™ Professional Foam Adhesive** from DuPont to the wall, following manufacturer instructions. Adhere **Thermax™ Sheathing** directly to the wall to temporarily secure it until furring is attached.
- Cover seams between boards of **Thermax™ Sheathing** with aluminum foil tape or equivalent.
- Install 3/4" furring strips either 16" or 24" on center, vertically or horizontally, using mechanical fasteners. With electric drill and masonry bit, drill holes through the furring strips 1-1/2" into the block wall. See Figure 5. Concrete fasteners should be longer than the insulation board thickness. (To secure strips to wall, use three or four screws per 8' length.)

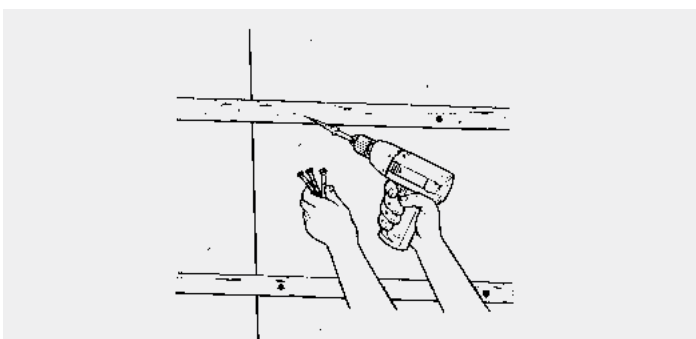


Figure 5.

- Install any electrical boxes to the furring strips.

- Gypsum wallboard or paneling may be nailed to the furring strips with fasteners short enough not to penetrate through to the insulating sheathing. The space between the insulation and gypsum wallboard can create a reflective dead air space, adding an R-value of 2.8 at no additional cost, or the space can be used as a raceway for wiring.

Best Method

Figure 6 shows the best method to install **Thermax™ Sheathing**. It shares all the benefits of the better method, but eliminates the penetration of thermal-transmitting metal fasteners through the insulating sheathing.

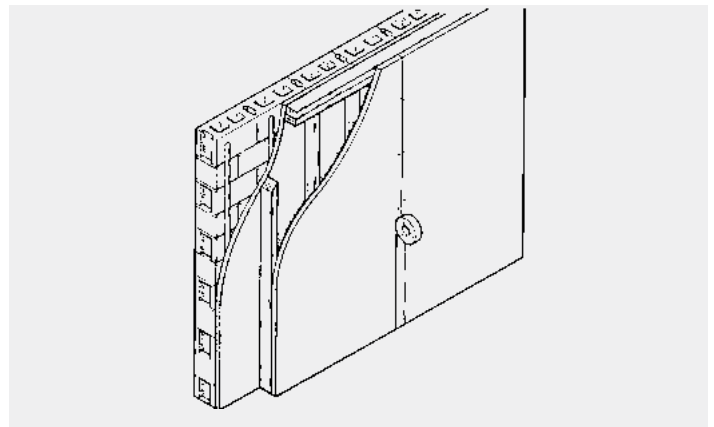


Figure 6.

- Apply a compatible construction grade adhesive or **Enerbond™ Professional Foam Adhesive** from DuPont to the wall, following manufacturer instructions. Adhere **Thermax™ Sheathing** directly to the wall to temporarily secure the boards until the furring framework is installed.
- Cover seams between boards of **Thermax™ Sheathing** with aluminum foil tape or equivalent.
- Construct a wood or metal framework with either 16" or 24" on center studs. Fasten the framework directly to the ceiling joists or flooring with mechanical fasteners.
- Install any electrical boxes directly to the studs.
- Gypsum wallboard or paneling may be nailed to the studs with fasteners short enough not to penetrate through to the insulating sheathing. The space between the insulation and gypsum wallboard can create a reflective dead air space, adding an R-value of 2.8 at no additional cost, or the space can be used as a raceway for wiring. For commercial applications, a **Thermax™ Sheathing** product is available, with a white embossed aluminum facer for exposed use. Please consult your DuPont representative for additional information.

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Measuring For Exact Fit

Therma^x™ Sheathing can be installed in tight spaces, even if the wall is uneven.

1. Position insulation board squarely against corner, overlapping the inside edge of the last board installed (Figure 7).

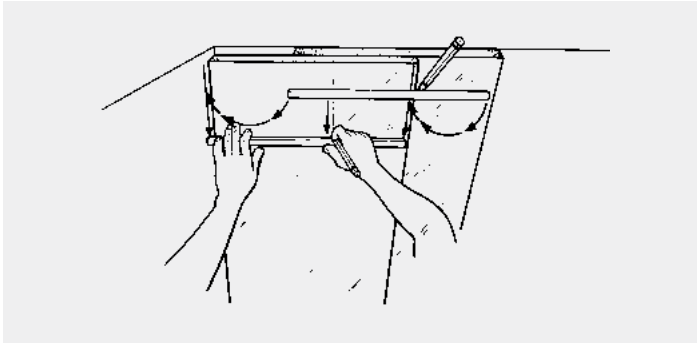


Figure 7.

2. Using a 2'-long stick, measure from the outside edge of the last board installed to the outside edge of the new board (distance 'A'). Mark 'A' on stick.
3. Place stick against wall. With a pencil at 'A,' move it down the board to be cut.
4. Cut board at marked line.
5. Install overlap piece.



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DuPont™ Styrofoam™ Brand Extruded Polystyrene Foam Insulation is combustible. Protect from high heat sources. A protective barrier or thermal barrier may be required as specified in the appropriate building code. Therma^x™ Polyisocyanurate Sheathing 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 barrier.

Great Stuff Pro™ Insulating Foam Sealant contains isocyanate and a flammable blowing agent. Read the label and Material Safety Data Sheet carefully before use. Eliminate all sources of ignition before use. Wear gloves, and safety glasses or goggles. Provide adequate ventilation or wear proper respiratory protection. Contents under pressure.

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WARNING: Rigid foam insulation does not constitute a working walkable surface or qualify as a fall protection product.

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