THERMAX™ insulation products used in exposed applications help safeguard metal building systems that have low humidity* against thermal loss, moisture buildup and even fire damage.

Use THERMAX products as a continuous insulation solution for exposed interior wall insulation applications in agricultural, commercial and industrial buildings such as factories, warehouses, agricultural structures, cold storage structures and similar facilities.

Installed perpendicular to framing, THERMAX products should span no fewer than three framing members with insulation board joints breaking over framing or meeting the roof edge (Figure 1).

PRODUC TS

THERMAX™ products are designed as an insulation and interior finish. The boards are closed-cell products that are highly resistant to heat flow. All THERMAX products feature a polyisocyanurate foam core with glass fiber reinforcement, and are surfaced with different solid aluminum foil facers. The reinforced core, plus chemical modifications, improves fire performance compared with other rigid insulation products and enhances dimensional stability.

The bonded aluminum foil facers serve as effective moisture vapor retarders. THERMAX™ Sheathing has pin hole free aluminum foil facers both sides, THERMAX™ Metal Building Boards have embossed aluminum facers both sides.

THERMAX™ Light Duty, THERMAX™ Heavy Duty, THERMAX™ Heavy Duty Plus and THERMAX™ White Finish insulation products have an embossed aluminum facer on one side with a white acrylic-coated aluminum facer on the other. This design creates an aesthetically appealing decorative effect.

The products listed here have varying thicknesses and facers, ideally suiting THERMAX products for meeting specific designs and requirements in the interior walls of metal buildings with low humidity.

ADVANTAGES

THERMAX™ products offer several advantages:
- Excellent insulation – high R-value (6.5 at 1”)
- Improved fire performance – THERMAX insulation can be left expose without the need for thermal varriers according to building codes. Additionally THERMAX insulation (FS/SD of 25/300) contributes minimally to the spread of flame and smoke
- Air Barrier Performance – THERMAX meets air barrier requirements when properly installed and sealed
- Continuous insulation solution
- Easy and fast installation

SECUREMENT

Install a minimum 1" thick board of THERMAX™ insulation perpendicular to framing, spanning at least three framing members. The maximum span is 5’.

Penetrate separate wood and metal framing 1" with a corrosion-resistant fastener and poly washer, such as Quik-Cap. When fastening to metal, Buildex Multi-Diameter Insulation Tekgs or equivalent (with minimum 1-1/4" poly washers) is advised (Figure 2).

Fasteners should be spaced 12" o.c. in three rows (of five fasteners) per 48" board width. See fastening pattern (Figure 3).

JOINT TREATMENT FOR MOISTURE CONTROL

Even in low-humidity buildings, condensation can build up when insulation joints are left exposed. The joint treatments described here can help control moisture buildup, airflow and heat flow for optimum building

<table>
<thead>
<tr>
<th>TABLE 1: THERMAX™ PRODUCT RECOMMENDATIONS(1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOARDS</td>
</tr>
<tr>
<td>THERMAX™ Sheathing</td>
</tr>
<tr>
<td>THERMAX™ Metal Building Board</td>
</tr>
<tr>
<td>THERMAX™ Light Duty</td>
</tr>
<tr>
<td>THERMAX™ Heavy Duty</td>
</tr>
<tr>
<td>THERMAX™ Heavy Duty Plus</td>
</tr>
<tr>
<td>THERMAX™ White Finish</td>
</tr>
</tbody>
</table>

(1) THERMAX™ Heavy Duty Plus is designed for use in walls only. Buildings in which humidity is less than 50 percent
pressed joints for 1", 1-1/2", 2" and 2-1/2" thicknesses (Figure 5). The Clip Strip must be caulked with a recommended sealant.** Apply continuous coverage of selected sealant to the single long flange of the Clip Strip; slide THERMAX™ insulation into place, ensuring good contact with sealant.

**To produce a continuous air- and moisture-vapor seal, use Vulkem 116, Sikaflex 201, Dow Corning 790 or equivalent sealant. Your Dow representative can recommend an appropriate sealant and adhesive for your application.

**Figure 5**

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**TABLE 2: RECOMMENDED FASTENER LENGTHS**

<table>
<thead>
<tr>
<th>BOARD THICKNESS, INCHES</th>
<th>FASTENER LENGTH, INCHES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2 to 5/8</td>
<td>1-7/16</td>
</tr>
<tr>
<td>3/4 to 1</td>
<td>1-7/8</td>
</tr>
<tr>
<td>1-1/8 to 1-1/2</td>
<td>2-3/8</td>
</tr>
<tr>
<td>1-5/8 to 2</td>
<td>3</td>
</tr>
<tr>
<td>2-1/4</td>
<td>3-1/4</td>
</tr>
<tr>
<td>2-1/2</td>
<td>3-1/2</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

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**WARNING:** Rigid foam insulation does not constitute a working walkable surface or qualify as a fall protection product. For more information, consult MSDS, call Dow at 1-866-583-BLUE (2583) or contact your local building inspector. In an emergency, call 1-989-636-4400 in the U.S. or 1-519-339-3711 in Canada.

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**TIP:** Ensure surface is clean and dry before applying tape.

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**GOOD SYSTEM**

Requires square edge boards

Leave square edge joints untreated. Tape the joint on the board’s front side with 3" THERMAX™ white foil or aluminum foil tape (Figure 4). Taping serves as protection against moisture penetration and gives the interior of the boards a continuous surface.

Note: When temperature difference between the inside and the outside of the building is greater than 30°F, condensation may occur.

**BEST SYSTEM**

Requires square edge boards

Install Clip Strip with sealant on exposed joints for 1", 1-1/2", 2" and 2-1/2" thicknesses (Figure 5). The Clip Strip must be caulked with a recommended sealant.** Apply continuous coverage of selected sealant to the single long flange of the Clip Strip; slide THERMAX™ insulation into place, ensuring good contact with sealant.

**Figure 5**

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**Performance Tests**

Factory Mutual (FMRC Standard 4880) – Subject to the conditions of approval as Class 1 wall and ceiling panels when installed as described in the current edition of the FMRC Approval Guide. FACTORY MUTUAL SYSTEM APPROVED.

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**Compliances**

- ASTM E2178 Standard Test Method for Air Permeance of Building Materials - leakage rates less than 0.001 L/s/m² at a test pressure of 75 Pa
- ASTM E283 Standard Test Method for Determining Rate of Air Leakage through Exterior Windows, Curtain Walls, and Doors under specified Pressure differences across the specimen. Results were <0.02 L/s/m²
- ASTM E2357 Standard Test Method for Determining Air Leakage of Air Barrier Assemblies - no leakage
- ASTM E331 Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference - no leakage
- International Residential Code 2006 (IRC) Section R314
- International Building Code 2006 (IBC) Section 2603
- ICC-ES NER-681
- THERMAX™ products are covered under Underwriters Laboratories Inc. (UL) files R5622, R8181 and R2637
- UL 1256 – Fire Test of Roof Deck Constructions, Roof Deck Construction No. 120 and No. 123
- UL 723 (ASTM E84) Surface Burning Characteristics of Building Materials
- The following designs are 1, 2, 3 or 4 hour wall rated assemblies as listed in the UL Fire Resistance Directory: U026, U326, U330, U354, U355, U424, U460, U902, U904, U905, U906, U907, V454, V482
- FMVSS No. 302 - Flammability of Interior Materials – Passenger Cars, Multipurpose Passenger Vehicles, Trucks and Buses (Docket No. 3-3; Notice 4)
- Miami-Dade NOA 08-0320.01 Interior Insulation on CMU Block

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**www.thermaxbydow.com**

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CAUTION: This product is combustible. Protect from high heat sources. A protective barrier or thermal barrier may be required as specified in the appropriate building code. For more information, consult MSDS, call Dow at 1-866-583-BLUE (2583) or contact your local building inspector. In an emergency, call 1-888-606-4400 in the U.S. or 1-519-339-3711 in Canada.

WARNING: Rigid foam insulation does not constitute a working walkable surface or qualify as a fall protection product. Building and/or construction practices unrelated to building materials could greatly affect moisture and the potential for mold formation. No material supplier including Dow can give assurance that mold will not develop in any specific system.