



DuPont™ Thermax™ Insulation

A bright idea for insulating tilt-up panels

A bright building environment can increase productivity – and save energy dollars, too!



Description

Today's commercial building owners face demands and pressures at every turn. Tenants want the "best" in their commercial space, but at a reasonable price. Longterm leasing contracts, complete with rising energy costs and price uncertainty, put pressure on operating profits. Many forward-thinking companies have discovered that a properly designed and operated facility can contribute to bottomline goals by reducing operating costs and improving productivity.

Efficient by Design

One step toward achieving a well designed commercial facility is to install **DuPont™ Thermax™ insulation** on the interior. Ideal for insulating concrete tilt-up panels, **Thermax™ Heavy Duty** and **Thermax™ Light Duty** products combine energy efficiency, moisture resistance and aesthetic value in an easy-to-install package. And because they contain excellent fire-resistant properties, **Thermax™ insulation** products can be used without a separate thermal barrier when installed in accordance with governing building codes. **Thermax™ insulation** products feature an energy-efficient glass-fiber-reinforced polyisocyanurate core sandwiched between facers that contribute to durability, moisture resistance and easy maintenance.

The polyisocyanurate core is available in a range of thicknesses. It delivers an R-value** among the highest available – 6.5 at one inch. And the glass-fiber reinforcement adds fire performance and dimensional stability.

On **Thermax™ Heavy Duty** and **Thermax™ Light Duty** products, one of the facers is radiant-barrier-quality aluminum. Designed for installation adjacent to an appropriate dead air space, this facer enhances the system's R-value by creating a reflective air space. The other facer on each product is an embossed white thermoset-coated aluminum sheet. Installed toward the interior, this facer provides a clean-looking surface that can be pressure-washed for easy maintenance. And the white color provides a light reflectance of 65 percent, reducing light energy costs and enhancing the interior working environment.

The strong aluminum facers and high compressive strength help **Thermax™ insulation** resist compression that can compromise the overall insulation value. In addition, the high product strength adds to job site durability, both during and after installation.



* For use on walls only

** R means resistance to heat flow. The higher the R-value, the greater the insulating power.
R-value determined by ASTM C518.

Installed With Ease

DuPont™ Thermax™ insulation installs quickly and easily on concrete tilt-up panel walls. The insulation is mechanically fastened to the concrete panels with one of DuPont's PVC joint closure systems (see Figure 1) or other fastening system.* In some cases, tape is used over the seams for a fresh, clean look. Regardless of the fastening system, the insulation can be mechanically fastened to just about any type of wall substrate, with or without adhesives. As an added benefit, a separate vapor retarder is typically not required. Closed-cell Thermax™ insulation, with its aluminum facer's very low perm rating, in conjunction with the joint treatment helps prevent moisture condensation within and behind the system. A bead (3/8" minimum) of sealant or polyurethane caulking behind the board against the concrete surface at the top, middle and bottom will help reduce any condensation from forming behind the back of the Thermax™ insulation and concrete substrate.

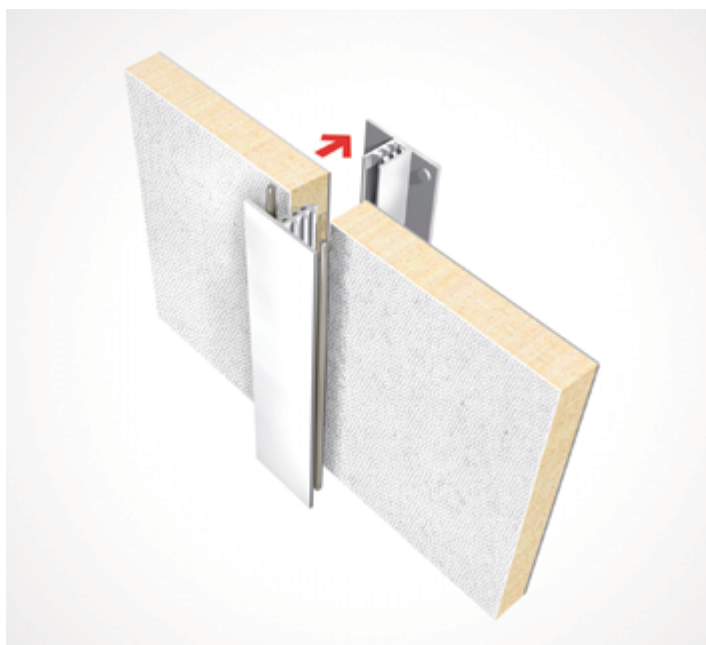


Figure 1. Thermax™ Insulation with Male/Female "T" Flex joing closure

A Bright Future

With long-term energy efficiency and low maintenance, Thermax™ insulation offers commercial building owners a bright future. Whether you are a contractor, specifier, building owner or a combination of all three, consider Thermax™ insulation for insulating concrete tilt-up panels. Thermax™ insulation with a PVC joint closure system delivers high performance year after year.

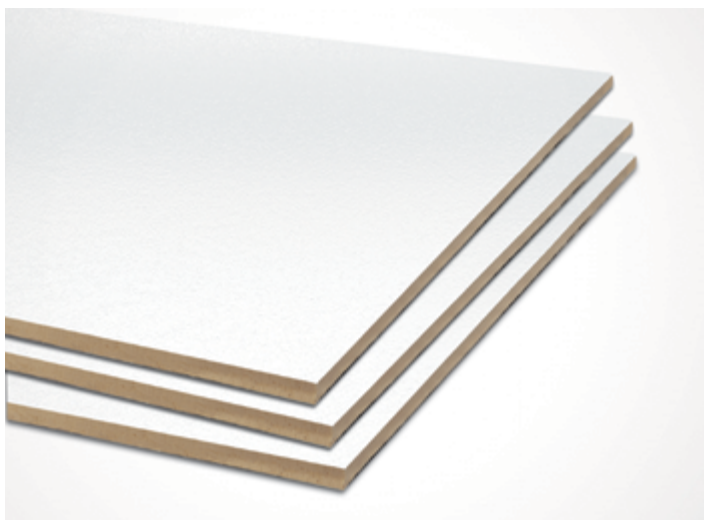
Case Studies

DuPont's customers are successfully using Thermax™ insulation on the interior of tilt-up panels.

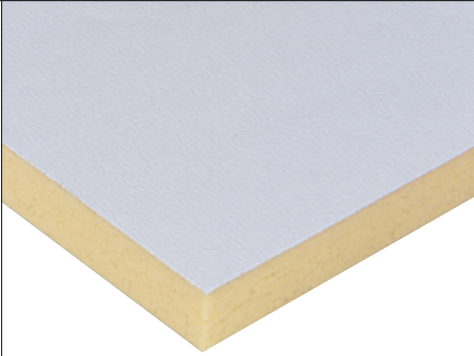
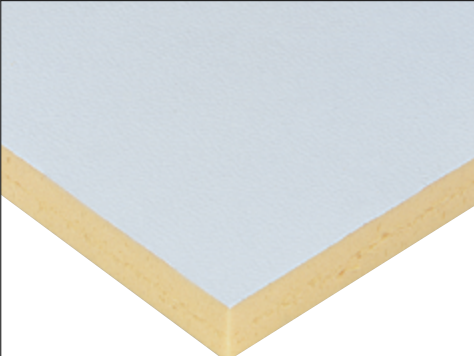
Central Insulation Systems (CIS), based in Cincinnati, Ohio, developed an interior insulation system using Thermax™ insulation with a PVC joint closure system. According to Jim Gross, project manager and estimator at CIS, the company has used the system on commercial buildings throughout the United States.

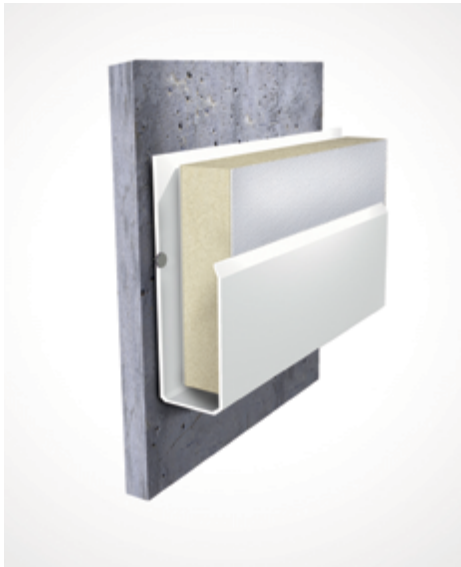
"We have been selling and installing this attractive and energy-efficient system since 1986 and have an extensive client base that uses this system exclusively," Jim says. "We can erect the interior finish quickly, keeping tenants and building owners happy. Our customers also appreciate the added benefits Thermax™ insulation brings, such as durability, light reflectivity and a cleanable surface."

Prompted by its own success with PVC joint closures, CIS joined forces with Victory Bear-Fukuvi USA Inc., a producer of innovative extruded high-impact, shatter-resistant PVC for construction. With the support of Ken Lange, sales representative at Victory Bear, CIS developed PVC interlocking channels co-extruded with a softer PVC on the edges that contact the Thermax™ insulation. This forms a better seal with the insulation. Jim says his customers appreciate the aesthetics of the professionally detailed white fastening strips and the clean white interior. The closure systems proved so effective, they have become an integral part of DuPont's offering of Thermax™ products and accessories.



Choose the Right Thermax™ insulation for Your Application

	Thermax™ Heavy Duty Insulation	Thermax™ Light Duty Insulation
Finished Surface	 3.4 mil embossed white acrylic-coated aluminum sheet on one side and 1.25 mil embossed aluminum on the other	 1.25 mil embossed white acrylic-coated aluminum sheet on one side and 1.25 mil embossed aluminum on the other
Impact Resistance (Janka Ball)	Moderate 40 lbs	Light 8.0 lbs
Pressure Washability	2,000 psi with any spray tip greater than 15°, 3' min. distance from any surface	1,000 psi with any spray tip greater than 15°, 3' min. distance from any surface
Bird Attack Resistance	High	High
Strength, Modulus of Rupture (1" of Product, MD)	145 psi	74 psi
Elasticity, Modulus of Elasticity (1" of Product, MD)	3,430 psi	2,500 psi
Flame Spread/Smoke Developed per UL 723 and ASTM E84	All Thermax™ products are rated Class A	



Another success story comes from one of Central Insulation Systems' clients. James N. Gray Company (JNG), an engineering, design and construction firm with offices throughout the United States and Japan, uses the system in many of the large distribution centers it builds every year.

Greg Stratton, design manager at JNG in Lexington, KY, says, "The white facers provide the light reflectivity we need, and the high R-value meets our insulation requirements for the exterior wall systems. We use either the self-impaling fasteners or fasteners and mastic, depending on the substrate application. The mechanical fasteners deliver a uniformity of attachment and better adherence than some other systems.



"In all the years we have used the **Thermax™ insulation** with mechanical fastening system, we have not had any callbacks."

* If the building is Factory Mutual (FM) insured, follow the FM required fastening patterns as tested in the most current FM 4880 Approval Guide - contact the DuPont Building Knowledge Center for additional fastening pattern requirements.

For an energy-efficient, low maintenance interior, build your success on **Thermax™ insulation**.



**For more information visit us at
thermaxwallssystem.com
or call 1-866-583-2583**

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Thermax™ products should be used only in strict accordance with product application instructions. Thermax™ products, when used in a building containing combustible materials, may contribute to the spread of fire.

CAUTION: When cured, these products are combustible and will burn if exposed to open flame or sparks from high-energy sources. Do not expose to temperatures above 240°F (116°C). For more information, consult (Material) Safety Data Sheet ((M)SDS) call DuPont 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. When air sealing buildings, ensure that combustion appliances, such as furnaces, water heaters, wood burning stoves, gas stoves and gas dryers are properly vented to the outside. See website: <http://www.epa.gov/iaq/homes/hip-ventilation.html>. In Canada visit: <http://archive.nrc-cnrc.gc.ca/eng/ibp/irc/bsi/83-house-ventilation.html>.

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

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