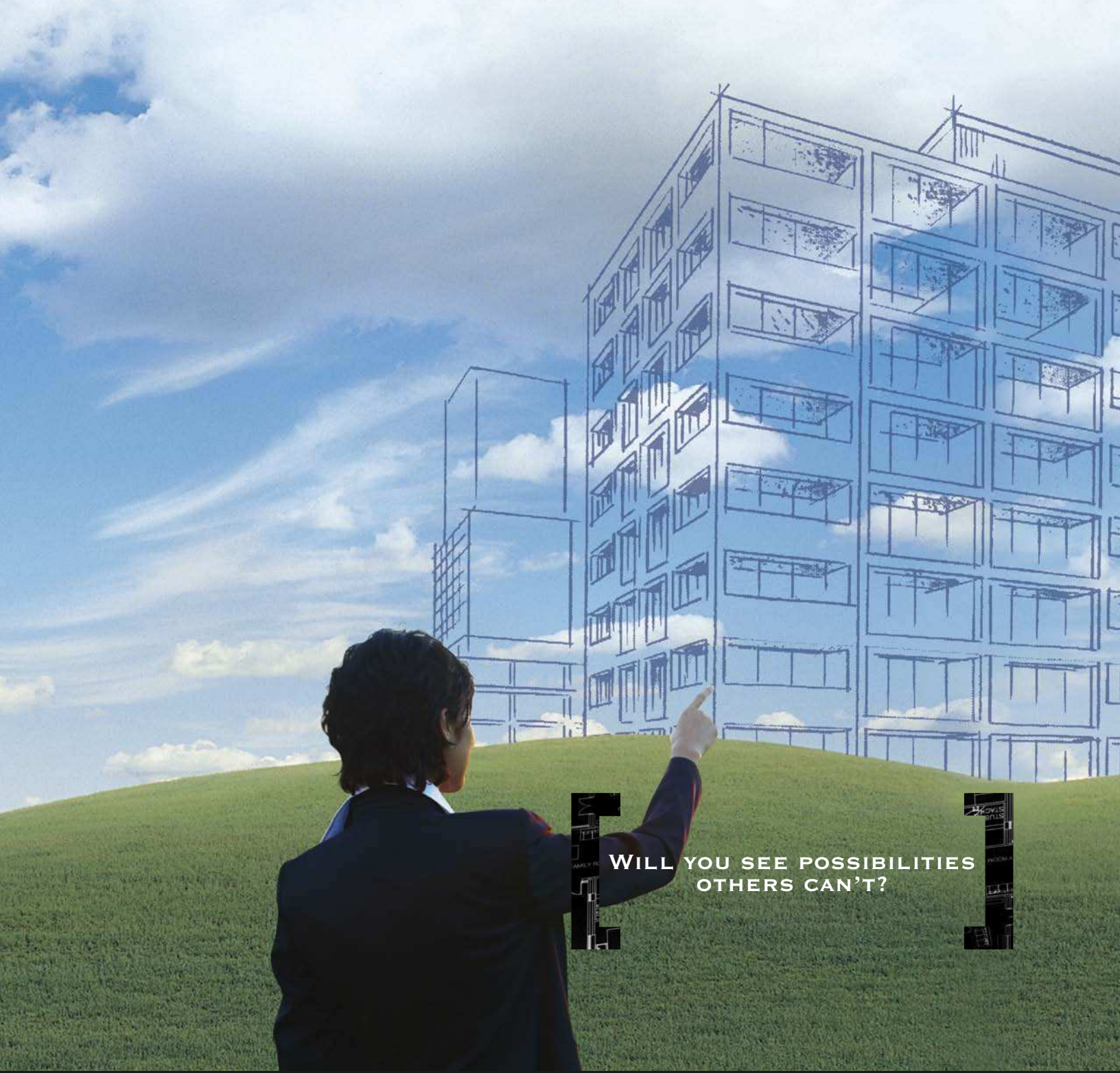
ENERGY-EFFICIENT SOLUTIONS . THERMAX™ WALL SYSTEM . COMMERCIAL BUILDINGS

"'Think simple' as my old master used to say – meaning reduce the whole of its parts into the simplest terms, getting back to first principles."

– FRANK LLOYD WRIGHT

Will you take a different approach?

ADDRESSING CLIMATE CHANGE IS ONE OF THE MOST



URGENT ENVIRONMENTAL ISSUES THE WORLD FACES.

Buildings are a major contributor to man-made greenhouse gas (GHG) emissions.

SOURCE: 2030, INC. / ARCHITECTURE 2030

Improved building insulation systems are one of the few strategies available that reduce energy consumption and greenhouse gas emissions and have a positive economic payback.*

As the world's attention becomes more focused on global warming, architects are challenged to meet increasingly stringent energy efficiency standards. How will you meet those requirements while maintaining the integrity of your creative vision?

Dow offers a simple solution: the THERMAX™ Wall System. This groundbreaking approach combines three simple parts into a system that achieves exceptional results.

MAKE YOUR MARK.
MAKE A DIFFERENCE.

*A cost curve for greenhouse gas reduction (The McKinsey Quarterly, 2007 Number 1); Vattenfall global cost curve

TO HELP SOLVE THE WORLD'S ENERGY AND CLIMATE CHALLENGES.

Consider the Total Wall

ACHIEVE EFFICIENCY AT EVERY LEVEL

The THERMAX™ Wall System is more than an insulated wall – it's a systematic approach to achieving efficiency at every level: simplified design, streamlined construction and optimized energy consumption for a reduced carbon footprint. Dow's three-in-one system with insulation, air barrier and flashings meets all applicable IBC and ASHRAE requirements.

Providing humanity with a sustainable energy supply while addressing climate change is one of the most urgent environmental issues our society faces.

Achieve continuous insulation with THERMAX™ (ci) Exterior Insulation.

Create an effective air barrier with STYROFOAM™ Brand Spray Polyurethane Foam (CM Series).

ACHIEVE EFFICIENCY AT EVERY LEVEL.

Raise the Standard

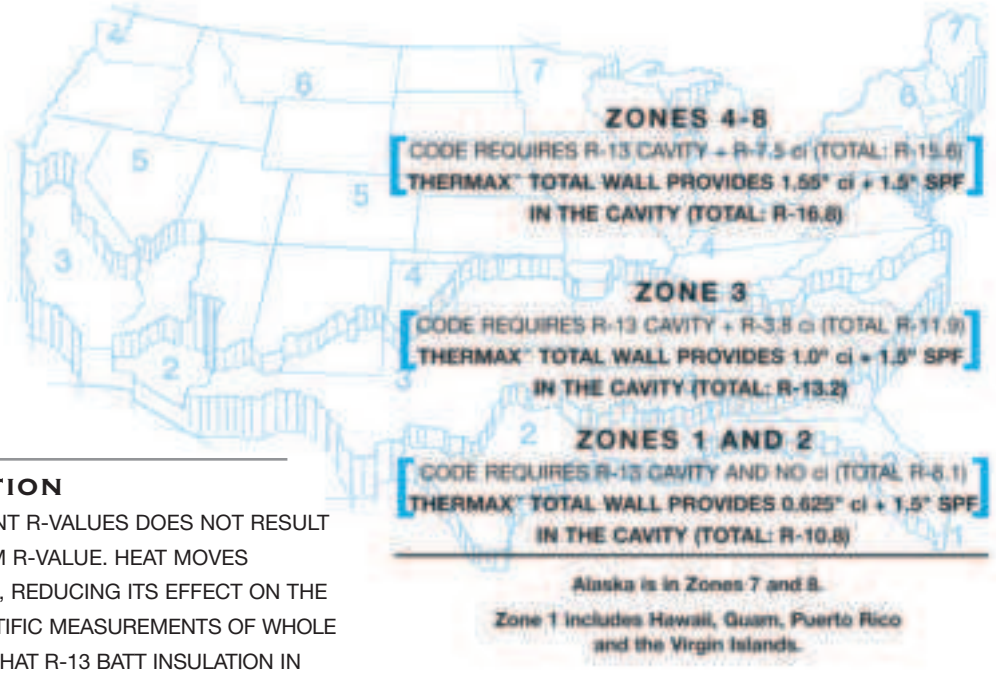
LEAVE OUT THE BATT INSULATION

Steel transfers heat amazingly fast – up to 300 times faster than wood studs. This attribute allows steel studs to conduct heat around batt cavity insulation, reducing the effective R-value of the wall to less than half of the rated R-value of the batt insulation. The ASHRAE prescriptive continuous insulation requirements for steel-framed, above-grade walls recognize this phenomenon, and in most climate zones, call for a layer of continuous insulation (ci) to be added to the assembly to help stop the steel thermal shorts that can decrease the energy efficiency of the wall system.

In six out of eight U.S. climate zones, continuous insulation is no longer simply a value-added option, it's required, according to ASHRAE 90.1-2007. And although the requirements reference using batt insulation to achieve minimum R-values, they now recognize the value of continuous insulation. What's more, design professionals across the country are beginning to realize that continuous insulation alone can achieve specified R-values and optimum moisture control. See Figure 1.

Protect against moisture penetration with WEATHERMATE™ Flashings.

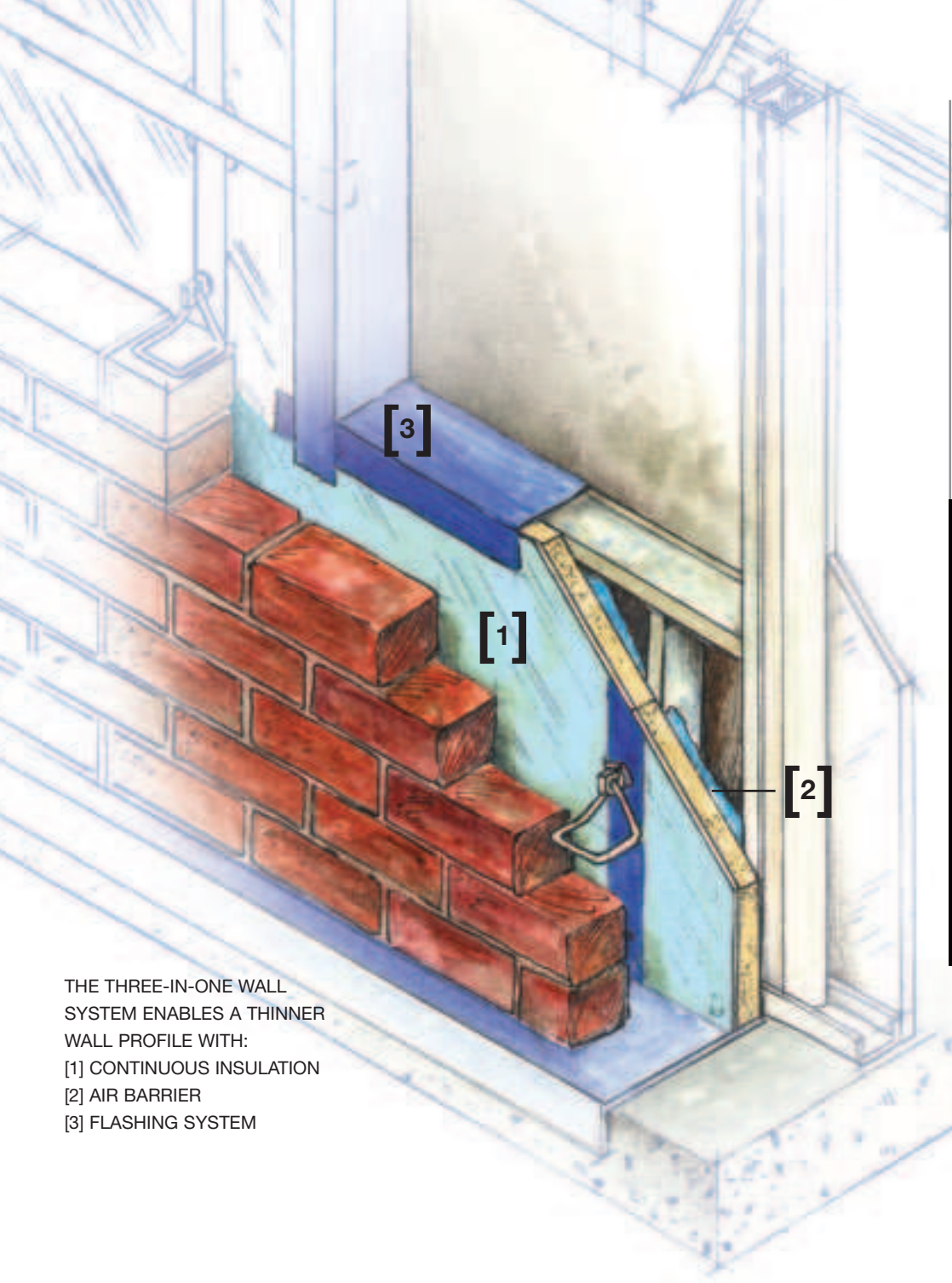
FIGURE 1: A CLIMATE OF CHANGE – FOR THE BETTER

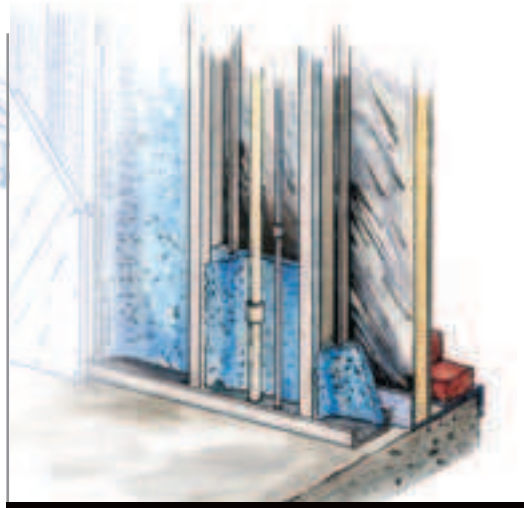


Minimum R-values according to ASHRAE prescriptive continuous insulation requirements. • ASHRAE 90.1-2007 Energy Standard for Buildings Except Low-Rise Residential Buildings • U.S. Department of Energy climate zones

Not Simple Addition

ADDING TOGETHER COMPONENT R-VALUES DOES NOT RESULT IN AN ACCURATE WALL SYSTEM R-VALUE. HEAT MOVES AROUND THE BATT INSULATION, REDUCING ITS EFFECT ON THE OVERALL WALL SYSTEM. SCIENTIFIC MEASUREMENTS OF WHOLE WALL SYSTEMS HAVE SHOWN THAT R-13 BATT INSULATION IN 16" O.C. WALLS ADDS ONLY R-5.3 TO THE ASSEMBLY. AND R-15 BATTS ADD JUST R-5.7 TO THE WALL ASSEMBLY. INSULATION NEEDS TO BE ADDED TO THE RIGHT PLACE IN THE WALL IF IT IS TO HAVE A SIGNIFICANT EFFECT ON ITS ENERGY PERFORMANCE.





Wall Profile

- Simplified System
- High Energy Efficiency
- Enhanced Moisture Control
- Reduced Scheduling Time
- Code Approved

THE THREE-IN-ONE WALL SYSTEM ENABLES A THINNER WALL PROFILE WITH:
[1] CONTINUOUS INSULATION
[2] AIR BARRIER
[3] FLASHING SYSTEM

SIMPLIFY THE WALL PROFILE.

"Exterior gypsum sheathing is so labor intensive. With THERMAX™ (ci) Exterior Insulation, we're able to cut labor cost tremendously – from one week down to just two days. Installing wall ties is much easier, as well, because of the ease of cutting THERMAX (ci) Exterior Insulation."

JERRY DAVIS, CB RICHARD ELLIS
MIDLAND, MICH.

[1] Continuous Insulation

THERMAX™ (ci) Exterior Insulation minimizes thermal shorts and moderates the temperature of the wall cavity, reducing the potential for dew point condensation, mold and mildew. An integral, durable acrylic-coated aluminum facer provides a drainage plane and water-resistive barrier, eliminating the extra step of installing a membrane or building wrap. And since the building is closed in faster, scheduling time is reduced. THERMAX™ (ci) Exterior Insulation can remain uncovered up to six months.

Featuring a distinct free-rise technology for better product consistency, durability and fire performance than generic polyisocyanurate insulations, THERMAX™ (ci) Exterior Insulation is backed by more than 30 years of proven performance in exposed interior applications. It provides one of the highest R-values available (R-6.5 at one inch), for long-term thermal performance.

A HEAVY-DUTY LIGHTWEIGHT

THERMAX™ (ci) EXTERIOR INSULATION WEIGHS JUST 12 POUNDS PER BOARD, WHILE EXTERIOR GYPSUM WEIGHS 80 POUNDS PER BOARD.

EXCEED ASHRAE 90.1-2007 PRESCRIPTIVE REQUIREMENTS FOR CONTINUOUS INSULATION (ci).

[2] Air Barrier

Applying closed-cell STYROFOAM™ Brand SPF (CM Series) on the interior of the steel stud walls effectively blocks air infiltration by filling gaps, cracks and penetrations. The spray foam also provides additional insulation.

[3] Flashing System

WEATHERMATE™ Flashings help protect the wall assembly from moisture entry at windows, doors and other thru-wall penetrations, including between sheathing joints. Dow's butyl-based flashing products are engineered for outstanding adhesion, and maximum quality and performance over a wide temperature range.

The THERMAX™ Wall System results in a tighter, more efficient wall assembly, which reduces fuel consumption and greenhouse gas emissions.

System Passes the Test: NFPA 285-[06]

The THERMAX™ Wall System meets IBC requirements (Section 2603.5), which require that all foam plastics used in non-combustible construction pass the fire performance evaluation NFPA 285-[06].

"With the THERMAX™ Wall System, we don't just design for the environment – we're designing a more responsible building for today and for the future."

VICTOR SAROKI, FAIA
VICTOR SAROKI & ASSOCIATES ARCHITECTS PC
BIRMINGHAM, MICH.

DESIGN MORE RESPONSIBLE BUILDINGS.

Dow's vision on overall sustainability is reflected in our 2015 Sustainability Goals – a public commitment that we hold ourselves accountable in the pursuit of solutions to the climate change, energy and other pressing world challenges.

How Dow is Making a Difference

On a global scale, Dow has reduced its energy intensity (the amount of energy measured in Btu per pound of product required to create a unit of gross domestic product [GDP]) by 22 percent during 1995-2005. By 2015, Dow intends to reduce its energy intensity an additional 25 percent.

PLAN IT FOR THE PLANET.

"The THERMAX™ Wall System helped our project earn significant LEED credits. More important, we're projecting 30 percent to 40 percent energy savings in the first year over the original design."

STEVE MARSZALEK
MOSHER, DOLAN, CATALDO & KELLY COMMERCIAL
BIRMINGHAM, MICH.

LEED

The THERMAX™ Wall System can help design professionals achieve credits in the U.S. Green Building Council's Leadership in Energy & Environmental Design (LEED) program. Relevant credits include, but may not be limited to:

- EA Prerequisite 2 (Minimum Energy Performance)
- EA 1 (Optimize Energy Performance)
- EQ 7.1 (Thermal Comfort: Designs)
- ID 1.1 to 1.4 (Innovation in Design)

FOR MORE INFORMATION ON LEED, VISIT WWW.USGBC.ORG.

Plan it for the Planet

The THERMAX™ Wall System goes beyond meeting standards to optimizing performance. It's about achieving simplicity of design and efficiency of effort. Realizing synergies of form and function. And marrying your visionary designs with the needs of our world. With the THERMAX™ Wall System, you have the opportunity to make a real difference in reducing greenhouse gas emissions and contributing to a more sustainable future.

CONTRIBUTE TO A MORE SUSTAINABLE FUTURE.

Visit www.thermaxwallsystem.com to learn more about the THERMAX™ Wall System – a radically different way to design for a better planet.

For Technical Information: 1-866-583-BLUE (2583) . For Sales Information: 1-800-232-2436
THE DOW CHEMICAL COMPANY . Dow Building Solutions . 200 Larkin . Midland, MI 48674 . www.thermaxwallsystem`.com

CAUTION: This product 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. For more information, consult MSDS and/or call Dow at 1-866-583-BLUE (2583). In an emergency, call 1-989-636-4400.

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

STYROFOAM™ Brand Spray Polyurethane Foam contains isocyanate, hydrofluorocarbon blowing agent and polyol. Read the instructions and Material Safety Data Sheet carefully before use. Wear protective clothing, gloves, goggles and proper respiratory protection. Supplied air or an approved air-purifying respirator equipped with an organic vapor sorbent and a particle filter is required to maintain exposure levels below ACGIH, OSHA, WEEL or other applicable limits. Provide adequate ventilation. Contents under pressure. STYROFOAM™ Brand SPF should be installed by a trained SPF applicator.

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.

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