

Design Professionals



We'll change the way you think about



The Icynene Insulation System[®]
Healthier, Quieter, More Energy Efficient[®]

A photograph of two men in business attire (light blue shirts and dark trousers) standing in a modern office environment, looking at and pointing to architectural plans on a table. The background features large windows with a grid pattern, suggesting a high-rise building. The lighting is bright and natural, coming from the windows.

The Icynene Insulation System®
Design without Compromise



How do you bring into harmony the competing design requirements of performance, affordability, sustainability and creativity?

Icynene® – The only insulation system that works with you and your designs.

Areas or shapes that would be difficult or impossible to insulate with conventional insulation are easily handled with Icynene®. The Icynene Insulation System® makes complex detailing a breeze. Cathedral ceilings, steel structures, domed ceilings, arches and other unusual shapes do not impede the performance of this proven insulation and air barrier system. And, since Icynene® expands to 100 times its initial volume in seconds, it seals all cavities, crevices and voids to deliver a perfect fit for walls, attics, ceilings and floors.

Express your architectural inspiration with an insulation that provides a custom fit for any design plan. With the flexibility and adaptability offered by Icynene®, you have the freedom to satisfy the aesthetic and functional needs of every client. This is because Icynene® doesn't only raise the roof for design possibilities, it also addresses today's most critical issue involving the use of insulation to help achieve sustainable design.





Air Leakage – Putting Building Designs and Occupants at Risk

Not only is air leakage a major cause of moisture buildup in a structure, it leads to a host of other problems: uneven thermal performance issues, including "cold floor syndrome" in areas located over unconditioned spaces, like an office above the garage; health issues related to mold and poor indoor air quality; noise control and structural durability. All are negatively affected by air leakage.

Consider these facts:

- Air leakage accounts for 99% of moisture movement in a structure, which can result in mold growth and adverse health effects for occupants
- Air leakage can account for as much as 40% of a structure's energy loss
- 90% of all building failures in the U.S. are related to moisture

Clearly, controlling air leakage is key to maintaining a healthy, sustainable structure. Insulation that fails to prevent air leakage fails to do its job. Period.

The Best Way to Control Air Leakage? Create a Complete Seal

Conventional insulation leaves gaps and seams where air can move through the building envelope. Only a complete insulation and air barrier system such as

The Icynene Insulation System® can effectively minimize air leakage by sealing the building envelope to create a uniform, seamless barrier for optimal airtightness.

Icynene® softly expands to conform to the shape of the structure and cover every inch of its surface, leaving no crack or crevice susceptible to air infiltration. The result? A continuous, protective barrier that virtually eliminates air leakage to deliver all the benefits of sustainable building.

Three significant opportunities for design professionals, facility managers and their clients are emerging from sustainable, or *Green*, building:

1) A Comfortable, Healthier Indoor Environment

The increasing incidence of mold and moisture intrusion – two major causes of building failure – has spawned thousands of property damage cases now pending in the courts. The implications can be seen in rising insurance premiums and new damage exclusions. With increasing moisture problems surfacing in buildings, Icynene® is an essential component of any moisture management program

Healthier

because it minimizes airborne moisture transport that may contribute to subsequent mold and mildew problems.

Minimize the Triggers of Asthma and Allergies

For asthma sufferers, poor indoor air quality can aggravate their condition. And, with asthma rates increasing by 160% over the past 15 years [source: *aerias.org*], Green Building is becoming a more favorable option for most of your clients. 100% water-blown, Icynene® contains no HCFCs, HFAs, HFCs or formaldehyde, reducing the number of indoor pollutants to help those suffering from allergies and asthma breathe easier. It works to keep harmful allergens and pollutants outside so that, when combined with proper mechanical ventilation, occupants have more control over the indoor air they breathe. This high-performance insulation is designed to create a more comfortable environment for the building's occupants by sealing the envelope like no conventional insulation can.

Noise Control

Improvements to the indoor environment also include the comfort that comes from having more control over unwanted sounds. Since Icynene® minimizes air-flow through walls, floors and ceilings, airborne sounds

remain outside. Whether noise pollution originates from traffic and airplanes, or from home theaters and playrooms, Icynene® air-seals to reduce these unwanted noises. And, because it seals plenum and plumbing spaces, Icynene® quiets plumbing runs in the walls, ceilings and floors.

2) Maximum Energy Efficiency

Icynene® not only insulates, but also seals the building envelope to significantly reduce energy bills. Its air-sealing properties allow the building to operate more efficiently, therefore requiring smaller HVAC equipment. Heating and cooling costs can be cut by up to 50% versus conventional insulation.

More Energy Efficient

Quieter





3) Extended Building Life

Many buildings designed within the last decade have already experienced major failures due to water damage and air leakage across the building envelope, which can cause condensation and mold growth. As an effective air barrier, Icynene® can significantly reduce random air leakage and the potential for these moisture-related problems. With today's 'closed' buildings, consisting of sealed windows and an increased reliance on high efficiency HVAC systems, insulation must serve multiple roles. Beyond providing a thermal barrier, insulation today must provide air leakage control as well.

This is why Icynene® is becoming the industry standard for providing maximum building envelope performance

Green

as it delivers the solutions to optimizing energy efficiency, extending building life and creating a more comfortable, healthier indoor environment.

Conventional Insulation Just Doesn't Cut It Anymore

Insulation that just insulates is not enough. The challenges you face as an architect are formidable. Whether you design contemporary or traditional, single-family custom homes, schools, healthcare facilities, or retail businesses, your clients expect a healthy, high-performance building that ensures consistent, controlled indoor comfort year-round. Designing better buildings means creating a draft-free, noise-free and pollution-free environment... with air that is healthy to breathe.

Fortunately, Icynene® enables you to design buildings that are energy efficient, healthy and more durable.

The Icynene Insulation System® Supports Your Reputation and Your Business

Reputation is the #1 factor that contributes to any business' growth potential. Obviously, it pays to have a reputation of designing consistent quality buildings. Icynene® is a product that will add value to your designs.

As a product with significant environmental benefits, Icynene® can assist building owners in obtaining LEED certification. And, more consumers are willing to pay extra for options that result in better quality buildings and the associated awareness for their environmental efforts.

Your company's reputation also benefits when you specify trusted and proven products that are recognized by such well-known and highly-regarded organizations as Building Science Corporation, Building America, Florida Solar Energy Council (FSEC), and IBACOS – all of which have used Icynene® and

documented its contribution to environmental stewardship, energy savings and better quality buildings.

Why Icynene®?

- It takes the shape of any structure so that you can unleash your creativity
- It does not shrink, sag or settle
- It is safer for the building's occupants, promoting healthier, pollution-free indoor air
- It helps prevent movement of airborne moisture across the building envelope - one of the main causes of mold
- It achieves optimal airtightness for significant energy savings

Choose Icynene®. Design without compromise.



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To request a free copy of Icynene's Architect Resource Binder
call 1-800-758-7325, ext. 246



Icynene is a proud participant in the AIA CEU program. Please call to arrange a presentation at your firm. Or, you may obtain Learning Units online by visiting ronblank.com/icy07a.htm to learn more about minimizing air leakage and improving building performance.



The Icynene Insulation System® is featured in

- **The Fine, Performing & Communications Arts High School** (LEED-Registered)
- **Science Museum of Minnesota**, Environmental Experiment Center
- **American Lung Association** – Health House National Demonstration Home (Florida, Washington, Oregon, Iowa, Michigan, and Minnesota)
- **Bob Vila's dotCOM dreamHome**
- **Award-winning "Green Home" for Cutting Edge Design** (Green Homes for Chicago Award)
–Architecture firm: Sean Garrett Architecture

Product Approvals

- ICC (BOCA, SBCCI, ICBO), CCMC, ITS/Warnock Hersey

Affiliations

- NAHB, NCHI, AIBD, AIA CEU Provider, EEBA

Technical Data

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|------------------------------------|---|
| • Density (ASTM D 1622) | 0.5 lb/ cf |
| • Thermal Performance (ASTM C 518) | R-3.6 per inch |
| • Air Permeance (ASTM E 283) | 0.0049L/s-m2 @75 Pa for 5.25" |
| • Flame Spread (ASTM E 84) | <20 |
| • Smoke Development (ASTM E 84) | <400 |
| • Fuel Contribution (ASTM E 84) | zero |
| • Oxygen Index (ASTM D 2863) | 23 |
| • Vapor Permeance (ASTM E 96) | 10 perms or 565 ng/(Pa.s.m2) @ 5" thick |
| • STC (ASTM E 90) | 37 2"x4" wood stud wall assembly |
| • NRC (ASTM C 423) | 70 2"x4" wood stud wall assembly |

Product Testing

- ASTM E 119/ CAN4-S101-M89: 1 hour fire rated wall assemblies
- ASTM E 119: 1 hour fire rated floor ceiling assemblies

- Icynene® is not a food source for mold based on testing by Texas Tech University
- Icynene® meets ALA Health House®, EarthCraft™ and Energy Star® energy efficiency standards
- Icynene® is the only insulation certified by the Envirodesic™ Certification Program as a building material that promotes Maximum Indoor Air Quality™ and sustainability
- Icynene® contains no HCFCs, HFAs, HFCs, HCs, formaldehyde or VOCs
- Icynene® does not cause corrosion

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For more information, visit Icynene.com or call us at 1-800-758-7325

