Homeowners / Home Buyers

We'll change the way you think about insulation and your home

ICYNENE™

HEALTHIER, QUIETER, MORE ENERGY EFFICIENT®

Icynene® Insulation

The right choice for your home

In our complex world, is there is an insulation material designed to meet the needs, challenges, and concerns of today's homeowners?

Icynene. The best insulation for protecting what matters most – your family and your home.

Not long ago, very little thought was given to the type of insulation installed in homes. But, families today have concerns that weren't even issues when conventional insulation was developed: uncertain energy costs, unwanted noise, allergies, asthma and mold. Times and attitudes are changing. Homeowners, like you, are beginning to appreciate the increasingly important role insulation can play in their lives.

People consider their homes as a safe haven – a place where they can escape the noise and pollution of modern everyday life. Consequently, insulation must play multiple roles. No longer there just to insulate, today's insulation must protect a home by providing a Healthier, Quieter, More Energy Efficient® environment.

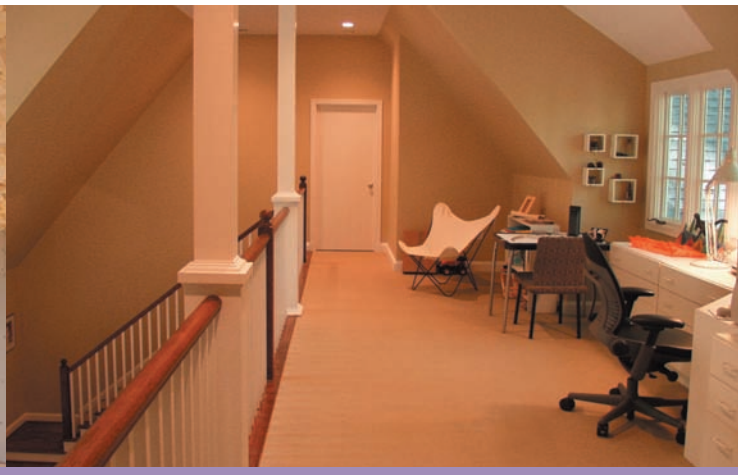
What's more, today's insulation should address a real threat to occupant comfort and health – that real threat is air leakage. It has been documented that enough air escapes from a typical house every day to fill two Goodyear blimps (www.urbanoptions.org). And, extra insulation means little without an effective air barrier! Unlike conventional insulation, Icynene products are insulation and air barrier materials – a powerful combination that delivers increased comfort and durability in your home along with greater energy savings.

Air leakage – a problem shared by new and old homes alike

This may come as a surprise to you, but many insulation products are not classified as air barrier materials and as such have certain limitations.

What do we mean by air leakage? Conventional, air-permeable fiber insulation, regardless of R-value, will have its performance compromised by any gaps and seams around framing materials where air can get in and out. This can lead to costly energy loss, transfer of airborne pollutants and pollens into your home and possible airborne moisture problems. When warm outside air meets cool air-conditioned inside air, or when heated air inside meets cold outside air, condensation, moisture build-up, and a host of other problems can occur such as the growth of mold or mildew.

Thermal performance, health issues, noise control, and a home's structural soundness – all are negatively affected by air leakage.



Glossary of Terms

Air Barrier System
The assembly of components used in building construction to create a plane of air tightness throughout the building envelope and to control air leakage.

Air Permeance
Measures the rate at which the insulation material controls air leakage.

Building Envelope
The external elements (walls, floors, ceiling, roof, window and doors) of a building that enclose conditioned space; the building shell.

Conventional, Air-Permeable Insulation
Fiberglass, cellulose and rockwool (blown-in and batts).

Global Warming Potential (GWP)
GWP is a measure of the potential of substances to heat up the atmosphere. All measures of GWP are given relative to carbon dioxide, the most well-known gas with global warming potential, which has a GWP of 1.

Heat Loss
Heat that is lost from a building through air leakage, conduction and radiation. To maintain a steady interior temperature, heat losses must be offset by a combination of heat gains and heat contributed by a heating system.

Infiltration
Uncontrolled leakage of air into a building through cracks around doors, windows, electrical outlets and at structural points.

Low Emitting Materials
Products that have been certified by the manufacturer and an independent laboratory to meet the Collaborative for High Performance Schools (CHPS) Low-Emitting Materials criteria – Section 01350 – for use in a typical classroom as described in a CA Department of Health Services (CDHS) Standard Practice.

R-Value
The numeric value given to insulation material based on its resistance to heat flow. R-value is measured in a controlled laboratory setting and does not evaluate the material's performance as part of the complete system within the building envelope.

Vapor Permeance
Measures the rate per unit area at which the insulation material diffuses moisture.

What can a homeowner do?

Not only do Icynene products work as insulation, they also work as effective air barrier materials to optimize airtightness. Unlike conventional insulation products that allow air to move in and out of your home, Icynene foam insulation is applied as a liquid and expands, sealing all gaps and crevices that can compromise airtightness. Icynene insulates and seals cavities of any shape, providing a continuous, protective barrier that virtually eliminates air leakage.

The secret to Icynene is the way it seals

Icynene insulations work like a high-performance blanket because, just like your favorite outdoor sportswear, they are windproof. Thanks to the air sealing capabilities, Icynene insulation minimizes both airflow and airborne moisture build-up to help maintain a comfortable and dry building envelope. The result? A healthier, longer-lasting home.

By sealing the building envelope like no conventional insulation can, Icynene products deliver the kind of benefits today's homeowners are looking for:

1. Improved Indoor Air Quality (IAQ)

With asthma rates on the rise, as a homeowner you can take comfort in knowing that Icynene insulation products are classified as Low Emitting Materials that contribute to a better indoor environment for you and your family.

Icynene products reduce random air leakage and limit the penetration of outdoor allergens and pollutants. Combined with proper mechanical ventilation, Icynene insulation is the ideal base for a healthy home.

Because Icynene products are 100% water-blown, containing no HFCs or PBDEs, they provide an ideal base for a healthy indoor environment.

3. Increased sound control

Traffic, neighborhood activities, and plumbing runs can be the sources of annoying sounds – the unwanted noises that can invade living spaces, hindering comfort and enjoyment. These sounds most commonly travel through the air. By sealing the building envelope, Icynene effectively minimizes airborne sounds. Icynene is suitable for dampening noises from home theaters, playrooms, and plumbing runs.

Quieter

2. Effective Moisture Management

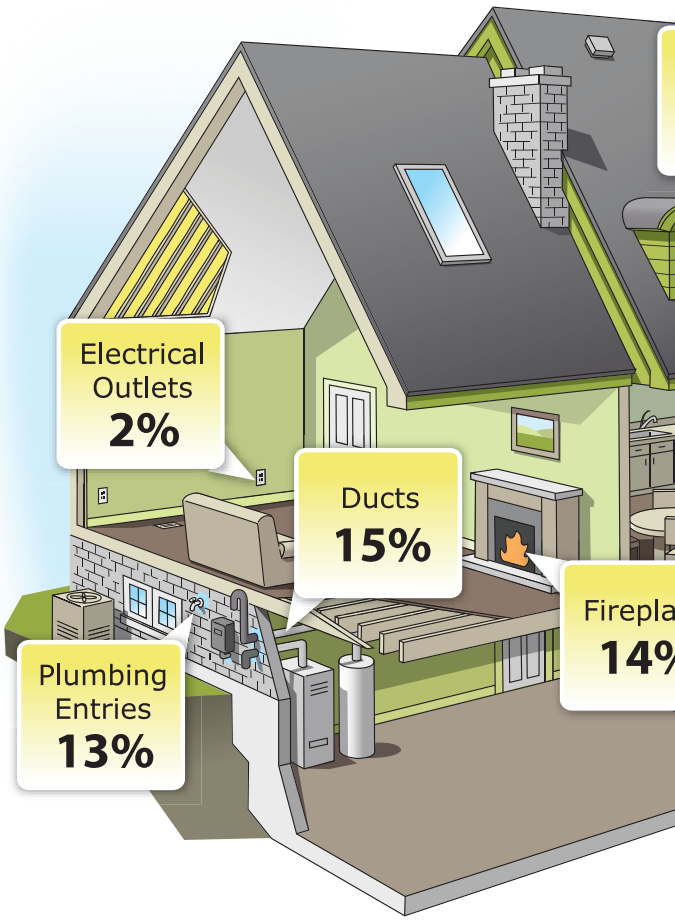
Icynene insulation delivers advanced moisture management by forming an air seal to minimize air movement. By minimizing air transported moisture through the building envelope, Icynene helps to prevent condensation and the resulting potential for mold growth within walls and ceilings.

Icynene Low Density Foams (LD-C-50™ and LD-R-50™) have an open-celled structure for superior breathability, allowing them to dry and remain unaffected by minor wetting so they can continue to operate at peak performance levels. This helps in the identification and diagnosis of leaks and in protecting roof decks from sustained wetting/conditions that can lead to rot. It is also helpful in drying moisture trapped in adjoining materials. Wood framing and fresh concrete, for example, can have vast amounts of moisture trapped in their pores. A "breathable" insulation such as LD-R-50™ or LD-C-50™ allows these materials to dry over time helping to minimize the potential for damage.

For areas that require insulation with a lower vapor permeance, Icynene's Medium Density products are available.

Healthier

Major Sources of Air L



Air leakage can account for up to 40% of the energy lost in your home. Explore your Icynene insulation options to reduce air leakage from these major sources. Icynene's superior air-sealing capabilities can protect homeowners by creating a Healthier, Quieter, More Energy Efficient® living environment.

4. Maximum energy conservation

According to the U.S. Department of Energy, up to 40% of the energy lost by a home happens through uncontrolled air leakage. When air leaks into or out of a home, the furnace or air conditioner must work harder to maintain the desired indoor temperature, wasting energy and money. Air leaks are a big energy waster and it can be difficult to stop all air leaks with conventional insulation, particularly in hard to insulate areas such as arches and domed or vaulted ceilings.

More Energy Efficient

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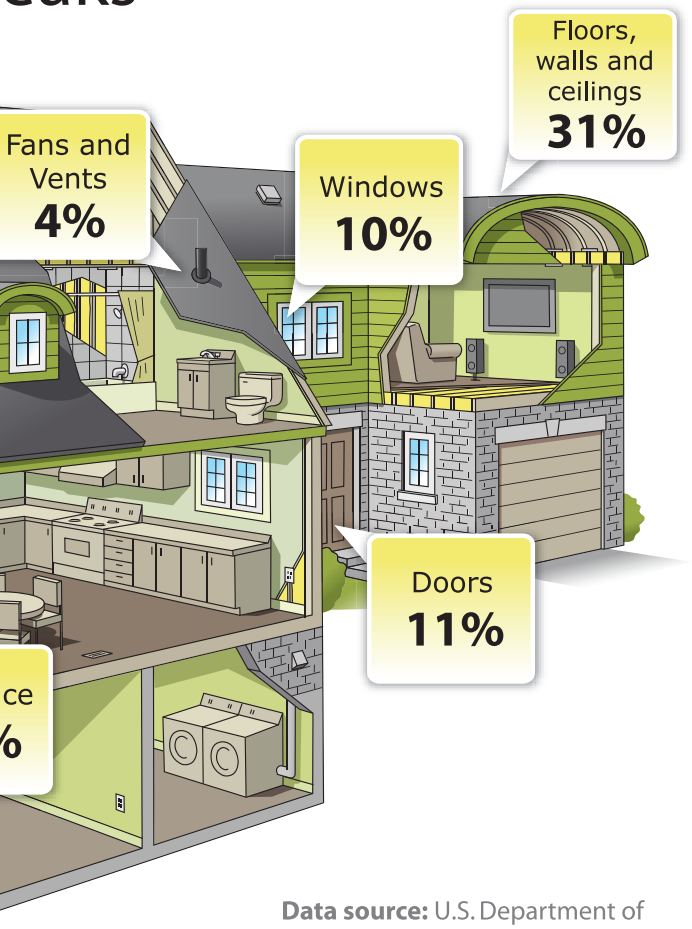

Data source: U.S. Department of Energy Savers - Stopping Air Leaks
Image source: InsulationSmart.com

Icynene can deliver a continuous air barrier to seal against energy-robbing air leakage. Icynene does not sag or settle. In addition to the immediate monthly energy savings of up to 50% that can be generated by a tighter building envelope, smaller (less expensive) heating and cooling equipment can be installed to save more energy and money. And federal or municipal energy efficiency incentives or rebates provide homeowners with even more opportunity to save.

Go Green with Icynene

Homeowners today are increasingly aware that the choices they make impact their health, safety, comfort and pocketbook as well as the welfare of their community and the natural environment. Homeowners understand that a green home equates to a safe, durable, healthy and efficient home.

When used in place of conventional, air-permeable insulation, Icynene can not only reduce energy consumption by up to 50% but also the related greenhouse gas emissions. With the average American household producing 41,500 lbs of greenhouse gas emissions/year (Environmental Protection Agency), using Icynene can make a significant difference to the environment.

Green

Icynene products feature 100% water-blown technology. This technology utilizes a blowing agent that has the lowest Global Warming Potential (GWP) value of 1. All measures of GWP are given relative to carbon dioxide, which has a GWP of 1. An alternative to the water-blown technology is the use of synthetic blowing agents. Icynene as a company has chosen not to use synthetic blowing agents, some of which have high GWP of 950. Icynene believes that being a good corporate neighbor and a responsible steward of the world's resources means providing innovative solutions that help address issues such as global warming.

And Icynene products are proven to enhance the comfort of your living environment. That's why they are the insulation of choice for high profile projects such as the **American Lung Association's national demonstration Health House®, EarthCraft House™, Build for the Cure, and *This Old House®'s* Carlisle renovation project.**

Ideal for new home and remodeling projects

In spray form, Icynene products are ideal for new homes and renovation projects where the interior surfaces of walls, ceilings and floors are exposed. By permanently adhering to the construction material, Icynene minimizes air leakage, especially in those problem areas such as crawlspaces, rim joists and around doors and windows.

Perfect for walls (new or existing), ceilings, floors, basements, and every other nook and cranny found in homes. Additionally, oddly shaped structures, such as bay windows, dormers, cathedral ceilings, arches, and other architectural features are easily insulated and sealed with Icynene.

Is R-Value the Only Way to Evaluate Insulation?

For years, the performance of insulation has been gauged by its R-Value alone. The general rule of thumb has been the higher the R-Value, the more effective the insulation. The truth is higher R-Value doesn't mean better consumer value unless air leakage is controlled.

So what is the most effective way to insulate a building?

1. Continuous Air Sealing to Control Air Leakage:

Computer simulations such as REM design and DOE4 prove that air sealing the building envelope will out-perform a building with excessive air leakage and higher R-value. Insulation that bonds to framing and sheathing helps minimize leaks and forms an integral part of an effective air barrier system.

2. Remember the Law of Diminishing Returns:

It's important to have a reasonable amount of R-value in the building envelope. However, the more you insulate a building, the more difficult it is to save energy by increasing R-value alone. The first few inches of insulation will always be the most effective in terms of saving energy. Moving from R-10 to R-15 saves less energy than moving from R-5 to R-10.

And no other family of insulation materials delivers the full proven solution like Icynene.

We're changing the way you think about insulation.

Ask for Icynene by name

Homeowners are more involved in decision-making and specifying because they are better educated about green building issues, such as energy efficiency and home health. Your decision to go with foam insulation is the right one. Just be sure you purchase the right foam insulation. Don't be misled into thinking all foam insulation products are equal. Settle for nothing less than Icynene – the proven foam insulation that delivers the performance features homeowners need for comfortable, healthy living. Icynene is committed to producing high-performance insulation products. To demonstrate this commitment, Icynene products are backed by a limited lifetime warranty.

Icynene – The best of all worlds

In a perfect world, fuel costs would be going down instead of up. Air quality would be getting better instead of worse. Asthma and allergy rates would be declining instead of the other way around. Our cities would be quiet and peaceful, without construction noise.

We can't do much to change the world outside, but we can do something about the part of the world we can control – inside our homes.

Icynene products can provide:

- Up to 50% monthly energy savings;
- Improved indoor air quality;
- Increased comfort – draft-free;
- Moisture management;
- Enhanced sound control; and
- Increased value at resale.

Don't compromise the quality of your home, choose Icynene for better living.

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For more information on how insulation affects the homes we live in, visit Insulationsmart.com.

GreenSpec® LISTED
www.GreenSpec.com

For a full list of Icynene products and specifications, visit Icynene.com

U.S. GREEN BUILDING COUNCIL MEMBER®

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Homeowner Testimonials

- *With Icynene in our townhouse, our energy bills are 35% less than our neighbors who used fiberglass, and with the addition of an air filter, our son is having less asthma attacks. Icynene has really made the difference!*

  – Murray Clarke, Toronto, Canada

- *The attic of my cabana-style building would typically be about 150º in the summer. After re-insulating the underside of the roof deck with Icynene, the attic is no more than 1º-5º different than the inside of the building below.*

  – Bob Miller, Sarasota, Florida

- *We have a ceramic floor above the garage and in the winter, the floor would often be 18º colder than the room temperature. After removing the fiberglass and adding Icynene, the temperature difference is now less than 2º. And we no longer have frozen pipes!*

  – Todd & Jeri Scebold, Ames, Iowa

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

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