## harmoni insulation

# ► **ICYNENE** The Evolution of Insulation





**IT'S TRUE** insulating with Icynene spray foam insulation is a bigger initial investment than conventional insulations.







**BUT IT'S ALSO TRUE** that you'll start saving even more on your utility bills than you would by installing conventional insulation.

Invest now to start saving even more right away.

Here's why...

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#### All Insulation Materials are NOT created equal

lcynene		Conventional Insulation	
Icynene	Benefits	Fibreglass and Rockwool	Cellulose
Sponge Cake	Feels like	Scratchy wool	Paper Litter
<ul> <li>✓</li> </ul>	Meets Air Barrier Requirements		
<ul> <li>✓</li> </ul>	Fills Spaces		~
<ul> <li>✓</li> </ul>	Not a Food Source for Mould	V	
	No Sagging		
~	Won't Wick Water		





Purpose of insulation is to resist **heat flow** in or out of a space.

Keep a warm house warm in the winter, and a cool house cool in the summer.



Lower heating costs.

Heat stays outside.

Lower cooling costs.

#### FOR GREATER COMFORT

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#### **Major Types of Heat Flow**



#### Conduction

Heat flows **through** certain material better than others.





## Air Leakage and **Convection**

Heat flows, or leaks **out** through open spaces.







A woollen jumper warms the body when it is cold out.

Wool provides good thermal resistance.

But it doesn't help keep you warm if the wind is blowing and flowing right through.

A windcheater will be more effective in keeping you warm.

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#### Thermal Resistance and Lambda

The Lambda Value  $(\lambda)$  of an insulation evaluates its heat resistance and conductivity in controlled laboratory conditions.



#### The Lambda Value ( $\lambda$ ) does not

consider air movement through or around the material once it is installed in your home.







**Lambda Value** ( $\lambda$ ) does not solve everything when it comes to evaluating the effectiveness of insulation without airtightness.

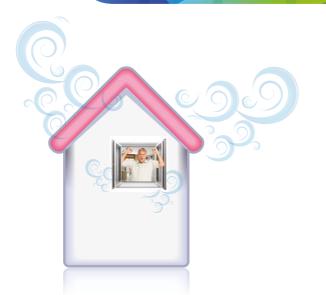


Heat leaks out in winter.

Energy is wasted. Higher heating costs. Heat leaks in, in summer.

Discomfort and wasted energy. Higher cooling costs.

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Air leakage can account for up to 40% in energy losses. Imagine the effect it would have on your heating and cooling bills if you had an open window all year round ...

WHAT A NIGHTMARE!





#### **Insulation Effectiveness Comparison**

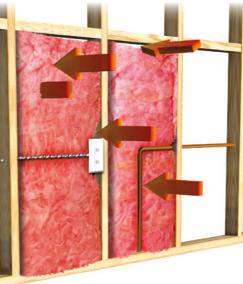
	Conduction (Lambda Value)	Convection (Airtightness)
Icynene Spray Foam Insulation	~	
Fibreglass		×
Cellulose		×

Only Icynene spray foam insulation protects against the single biggest source of heat flow: air leakage (convection) because it forms an effective air barrier.

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#### **Traditional Insulation** installed in walls

Without an air barrier, air can flow right through all the tiny cracks



Older insulation can settle and sag creating gaps and cold spots

Space around electrical outlets improperly stuffed with insulation

Compressed insulation reduces Lambda Value

Uninsulated areas around windows and doors

## Thermal Resistance is compromised

But with Icynene spray foam insulation, gaps and sagging are never an issue.





#### **Traditional Insulation** installed in attics

Air escapes from ducts and exits through roof Insulation loses contact with framing creating gaps heated/cooled air escapes

Moisture accumulated in the fibre reduces the thermal resistance Moisture is a primary cause of mould

With Icynene, risks of moisture and mould are minimised.

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SPRAY FOAM

#### Never loses its shape, remains flexible

Unlike conventional insulation materials Icynene fills cracks, gaps and crevices on installation.

Icynene won't compress, sag or settle over time.

Icynene creates an air barrier to virtually eliminate leaks, which can account for up to 40% of the energy cost to heat and cool your home.







**Controls Moisture** 



Icynene spray foam insulation controls airborne moisture and related mold issues for a healthier environment inside your home.

Icynene is open-celled which allows water to drain and dry quicker.

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#### Acoustic performance quality

Open-celled Icynene spray foam insulation has excellent mid-range sound barrier qualities making your home quieter.



Icynene contributes to a cozier environment and quieter quality of life.







Suitability of open-cell and closed-cell spray foam	Icynene	Icynene
Remains soft/flexible to expand & contract during normal structural shifting	<ul> <li>✓</li> </ul>	×
Allows moisture to escape, for example in case of leakage or condensation	~	×
Not a food source for mould	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>
Controls airborne moisture flow	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>
Controls flanking sounds	<ul> <li>✓</li> </ul>	×
Air Barrier	<ul> <li>✓</li> </ul>	V
Blowing Agent	Water	Water
Air-filled cells	Yes	Yes

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## Why is Icynene considered a healthy product? A reduced carbon footprint.

- Icynene does not contain harmful gases, unlike other polyurethane foams.
- Icynene does not contain formaldehyde or toxic substances.
- Icynene H<sub>2</sub>FOAM Lite is very light and never settles.
  - Icynene does not absorb moisture unlike traditional insulation.
  - Icynene does not degrade with moisture and expands up to 100 times its size to insulate all areas.
  - Icynene H<sub>2</sub>FOAM Forte is the world's first water-blown closedcell medium-density spray foam.

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#### What Happens Next?







#### **The Contract**

Let's review the Icynene contract to start the installation process.

#### The Day Before Installation

As this is a construction process, certain precautionary measures are needed. Cover personal portable belongings, (i.e. treadmills). Pull furniture/belongings away from walls in rooms or areas to be worked on.

#### Installation Day and the Day After

Icynene installers wearing protective clothing and equipment will arrive and begin setting up. As with any construction process, safety procedures require that the home is unoccupied by family, including pets, during installation and for a period of 24 hours after to allow foam to set and application odors to dissipate. For better comfort and energy efficiency, we recommend having an heating and cooling expert re-assess your heating, cooling and ventilation needs after the Icynene installation.

ACHIEVE SUBSTANTIAL HEATING AND COOLING SAVINGS •
 FEEL THE DIFFERENCE IN A MORE COMFORTABLE LIVING ENVIRONMENT •

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### WE'RE ACCREDITED & TRUSTWORTHY

