



## InsulStar® High Performance Insulation

An Environmentally-Friendly Closed-Cell, Spray-In-Place Insulation That Controls Moisture and Air Infiltration While Providing Energy Savings and a New Level of Comfort.

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An Environmentally-Friendly Closed-Cell, Spray-In-Place Insulation That Controls Moisture and Air Infiltration While Providing Energy Savings and a New Level of Comfort.

InsulStar is the most energy-efficient, environmentally friendly, closed-cell spray-in-place polyurethane insulation system available. It is formulated from renewable agricultural resources and is completely non-toxic. It saves the homeowner up to 60% on energy costs compared to other common types of insulation. It stops air leakage into and out of your home, reduces noise, and blocks dust, pollen and other airborne pollutants for a more comfortable environment.



^ Harsh winters are no problem with InsulStar.



< InsulStar is perfect for unique architectural designs, large attics, crawlspaces and other hard-to-insulate areas.



## The Problem

More and more, builders and homeowners are coming to understand that without an effective air and moisture barrier, a home is subject to water damage and air leaks that cause condensation and mold growth. The results can damage the structure and reduce the life of a building, in addition to making the occupants uncomfortable and costing them money in higher energy costs.

## The Solution

InsulStar is a 2 lb/ft<sup>3</sup> density, closed-cell polyurethane foam insulation that is applied as a liquid to the wall, ceiling, attic, or floors. The liquid reacts, expands, and cures in-place, forming a fully-adhered, seamless insulating and air blocking membrane. InsulStar offers exceptional insulating power that can reduce energy costs by up to 60%. InsulStar also forms an air barrier that seals the walls to prevent air penetration and block outside noise pollution, giving you a quieter home. The closed-cell structure of InsulStar blocks air movement and has a low permeance, which controls moisture vapor movement, eliminating the need for an additional vapor barrier. When moisture vapor is controlled, condensation will not occur, thus eliminating the water to support mold growth. Additionally, InsulStar is blended with an anti-microbial to inhibit mold, mildew and bacterial growth.



## The End Result –

### Superior Wall Insulation Offering High Performance and Exceptional Value

By designing and building a highly energy-efficient, low maintenance home, the reduction in energy demands for heating and cooling will lower demand on utility companies for the life of house. With InsulStar you can insulate directly to the roof deck, bringing all of the space under the roof into use. By putting HVAC ductwork in conditioned space, energy waste from leakage is eliminated. The additional conditioned space can then be utilized for computer rooms, bonus rooms, playrooms, or closet space. Previously wasted attic areas become valuable living space for very little cost, while adding tremendous retail market value to the house. Add up the benefits and it's easy to see that InsulStar is the high performance insulation you've been looking for.

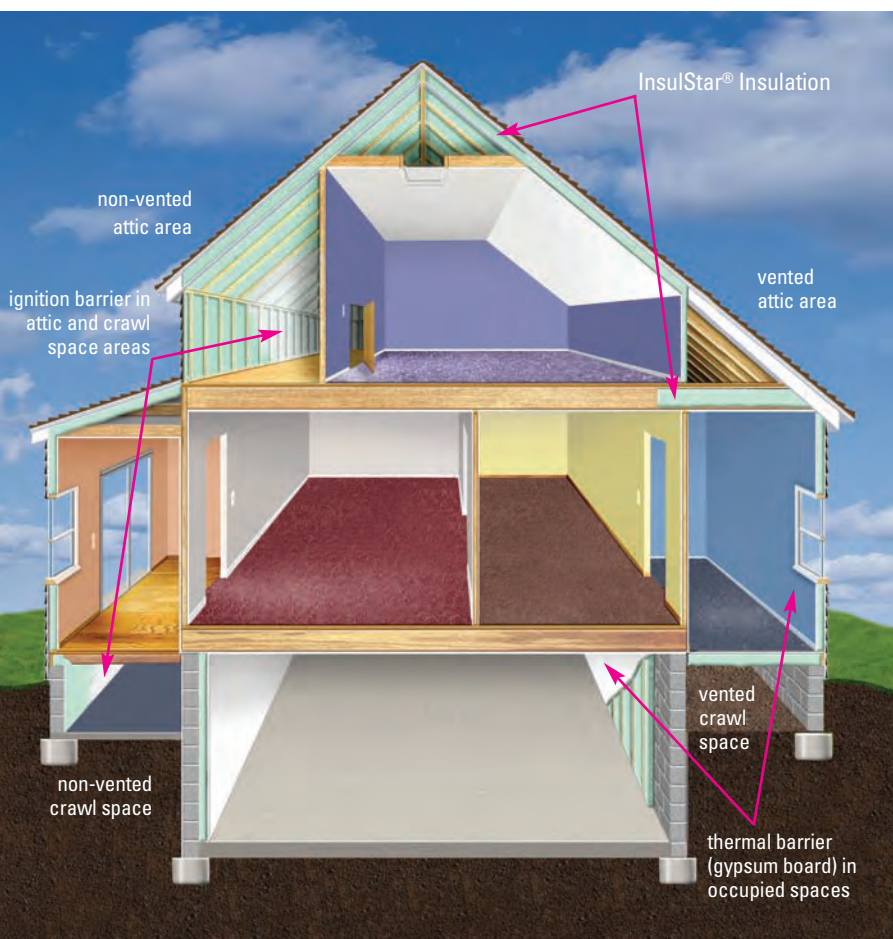


< InsulStar improves indoor air quality by keeping out dust and pollutants and inhibiting mold and mildew.



# How InsulStar® Closed-Cell Insulation Works

InsulStar foam insulation is a two-part liquid formulated from renewable agricultural resources that is sprayed in place by specially trained Gold Star<sup>SM</sup> contractors. This liquid quickly expands, filling all gaps and voids, and cures to form a fully adhered, solid, monolithic insulation envelope that is a highly effective air barrier and moisture vapor retarder. InsulStar's high R-value allows designers to reduce the depth of exterior walls and still obtain high energy efficiency. This means more living space in your home. By simply changing the exterior walls from 2" x 6" studs to 2" x 4" studs, a 2,500 sq. ft house gains almost 6 square feet of living space – reducing the wood required and saving two trees.



## InsulStar Polyurethane Foam Typical Physical Properties\*

<b>Description:</b>	<b>Closed-cell spray polyurethane foam</b>
<b>Closed-cell content:</b>	<b>Greater than 90%</b>
<b>Density:</b>	<b>2.0 lb./ft.<sup>3</sup> nominal</b>
<b>Compressive strength:</b>	<b>25 psi nominal</b>
<b>Vapor retarder:</b>	<b>Class II @ 2"</b>
<b>R-value:</b>	<b>R-13 at 2 inches nominal</b>
<b>Anti-bacterial:</b>	<b>Yes</b>
<b>Flame spread:</b>	<b>&lt;25 (ASTM E84)</b>
<b>Smoke development:</b>	<b>&lt;450 (ASTM E84)</b>

\* Physical properties may change based on job specifications.

## BUILDER BENEFITS

InsulStar high performance spray foam insulation is the highest quality spray foam technology on the market today.

- **Adaptable** to uniquely shaped, hard-to-insulate designs.
- **Easy to install** so you finish a job under budget and ahead of schedule.
- **Creates a fully adhered and monolithic membrane** for seamless insulation envelope.
- **Watertight** within seconds of being applied.
- **Environmentally friendly**, using no harmful ozone-depleting chemicals – NCFI was awarded the EPA (Environmental Protection Agency) Stratospheric Ozone Protection Award.
- **Can be applied to the underside of roof decks** to form conditioned or cathedralized attic areas.
- **Normally unusable attic area can be "harvested"** by converting it into usable living space.
- **Crawl space insulation may be installed in a non-vented configuration** for greater energy savings.
- **Building code compliant and warranted** for the life of the house.
- **Installed by trained and highly experienced Gold Star<sup>SM</sup> contractors.**

Note: Building codes require various insulation systems to be covered by an ignition barrier in attics and crawl spaces and by a thermal barrier (such as gypsum board) in occupied spaces. Your Gold Star<sup>SM</sup> contractors can advise you on proper installation.

## HOMEOWNER BENEFITS

InsulStar high performance spray foam insulation can save homeowners money while making their home healthier and more comfortable.

- **Save up to 60%** on your monthly energy bills.
- **Provides superior R-value** greater than 6 per inch, reducing both heating and cooling costs.
- **Creates an air barrier** that eliminates leaks and energy loss.
- **Provides a vapor retarder** that controls moisture problems.
- **Specially formulated** to inhibit mold, mildew and bacterial growth.\*
- **Improves indoor air quality** by keeping out dust and pollutants.
- **Reduces your energy consumption**, lessening your environmental impact.
- **Provides consistent room temperatures** – no drafts, no cold or hot spots.
- **Reduces outside noise** by creating a seamless, airtight insulated barrier.
- **Never settles, shrinks, compresses or sags**, maintaining its insulation efficiency for the life of the home.
- **Strengthens walls and increases overall structural integrity** by adhering and bonding to the wall surface.
- **Dampproofs** by creating a seamless membrane between the inner and outer walls.
- **Proven insulating power** – spray polyurethane foam systems have been applied successfully for over 35 years.

\* InsulStar insulation systems are formulated with an anti-microbial ingredient to inhibit the growth of molds that may affect this product. The anti-microbial properties do not protect occupants of spaces insulated with InsulStar insulation from potential deleterious effects of molds, mold spores, or disease organisms that may be present in the environment.



## The Enviro-Friendly Solution!

Using less energy helps the environment. InsulStar can help cut your energy use by up to 60% and reduce your carbon footprint. NCFI, maker of InsulStar, is an Energy Star partner, member of the US Green Building Council, and winner of an award from the Environmental Protection Agency for protecting the ozone. See the other side to learn why InsulStar is among the "greenest" of all insulations.



## EPA Stratospheric Ozone Award Winner



## Enviro-Friendly InsulStar:

- **Contains up to 20% renewable agricultural products**, including sugar cane, sugar beets, and corn. NCFI has formulated spray polyurethane foams containing sucrose-based, agriculturally derived ingredients since the mid-1960's.
- **Provides a higher R-value than conventional insulation**, lowering monthly energy bills by up to 60%.
- **Reduces energy consumption**, lessening your environmental impact and carbon footprint.
- **Helps improve indoor air quality**, because it keeps out dust and pollutants and is specially formulated to inhibit mold, mildew and bacterial growth.
- **Requires less lumber**, because InsulStar requires only 2x4 studs, not the 2x6 studs needed to fit batt insulation. Building a typical house in the US with 2x4 studs instead of 2x6s saves an average of two to three trees.
- **Promotes a sustainable design**, because it never settles, shrinks, compresses or sags, maintaining its insulation efficiency for the life of the structure.
- **Odorless and non-toxic.**
- **Contains no ozone-depleting chemicals.** NCFI is the winner of an EPA Stratospheric Ozone & Climate Protection Award for extraordinary accomplishments and significant contributions to protect the environment.
- **Reduces the amount of waste and debris that go into landfills.** It strengthens walls and increases overall structural integrity by adhering and bonding to the wall surface, so buildings last longer and don't need to be replaced as often.

## **NCFI – An Innovative Leader for Five Decades.**

Since 1964, NCFI has been an industry leader and innovator of spray foam insulation and roofing systems solutions. NCFI's superior insulation and roofing technologies not only help families and commercial businesses save on heating and cooling costs, they have helped secure homes and commercial facilities against some of nature's harshest forces such as hurricanes. Additionally, we sell and service the equipment that enables these applications, assuring end users of a single, reliable support resource for their foam-in-place operations.

## **Highest Product Quality Available.**

We start with the finest raw materials from proven, reliable sources to develop our high-quality, advanced spray polyurethane foam and premium acrylic coatings. Our high performance products must pass an array of quality control measures before ever reaching the job site. All ingredients are accurately weighed and blended for optimum performance for you. All systems are quality control tested for conformity to NCFI specifications. Our spray polyurethane foam is shipped from our manufacturing facilities to meet your special project requirements.

## **The Best Trained Applicators In The Business.**

Before becoming a Gold Star Applicator, NCFI provides a comprehensive training program so contractors can meet and exceed the customer's needs. Our hands-on training covers all technical aspects of accurately applying spray polyurethane foam and how to properly operate spraying equipment with step-by-step procedures, parts information, and troubleshooting guides. NCFI's experienced staff can show contractors the most efficient way to apply our high-quality spray polyurethane foam and premium coatings to provide a high performance solution. Beyond product and equipment training, NCFI offers on-site technical representatives to help explore the best approach to solving your unique construction problems.



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A whole new comfort level, for you and for the world.