

the world's
best insulation®



INSULATION
COMPARISON
CHART



ABOUT GREENSTAR PANELS

Greenstar Panels was created with people—and pets—in mind. We want our customers to breathe clean air and stay healthy. For years we have bore witness to the adverse effects caused by other types of insulation, and so we decided to do something about it. This is the reason why Greenstar Panels exist. We insulate your home and buildings without fuss. Thank you for taking the time to let us come into your home/building today to talk to you about our great product. We truly do believe that it is the World's Best Insulation!™

*Created and made right here in the
Sunshine State.*

INSULATION COMPARISON CHART

MATERIALS

GREENSTAR PANELS	OPEN-CELL SPRAY FOAM	CLOSED-CELL SPRAY FOAM	FIBERGLASS
<p>Manufactured from 11lbs density EPS foam (100% recyclable Expanded Polystyrene) with a foil facing reflective skin surface on front and back.</p>	<p>-Also known as 'half-pound foam made from raw biological materials, carbon dioxide or water.'</p> <p>-Requires a vapor retarder (like gypsum wallboard).</p>	<p>-Also known as 'closed-two pound foam made from raw biological materials.' Closed-cell foam is a vapor retarder.</p> <p>-The blowing agents in most types of closed-cell spray polyurethane which are Hydrofluorocarbons (HFCs), a type of greenhouse gas, which cause harm to the ozone layer, and have been proven to contribute to global warming. In fact, the United Nations arrived at a decision to phase out HFC's from use.</p>	<p>A type of fiber primarily composed of glass, used in a wide variety of applications, and predominantly employed as a residential and commercial thermal insulator. In homes it can come in various hues and is commonly found in blanket form, called batts. It also comes in bags as loose fill that can be blown into attic.</p>
			

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R-VALUE BENEFITS, NON-BENEFITS & HEALTH RISK

R-Value is an insulating material's resistance to conductive heat flow. The higher the R-value, the greater the insulating effectiveness. Installing insulation with a higher R-value in your home adds to the resistance of heat. New homes being constructed in Florida are now required to have R38 installed when homes are built. Utility companies provide energy audits in Florida, and these companies recommend that you bring your attic insulation to an R38 to help cut electric costs. Depending on your utility company, there are energy incentives out there to help you cover the cost for your insulation

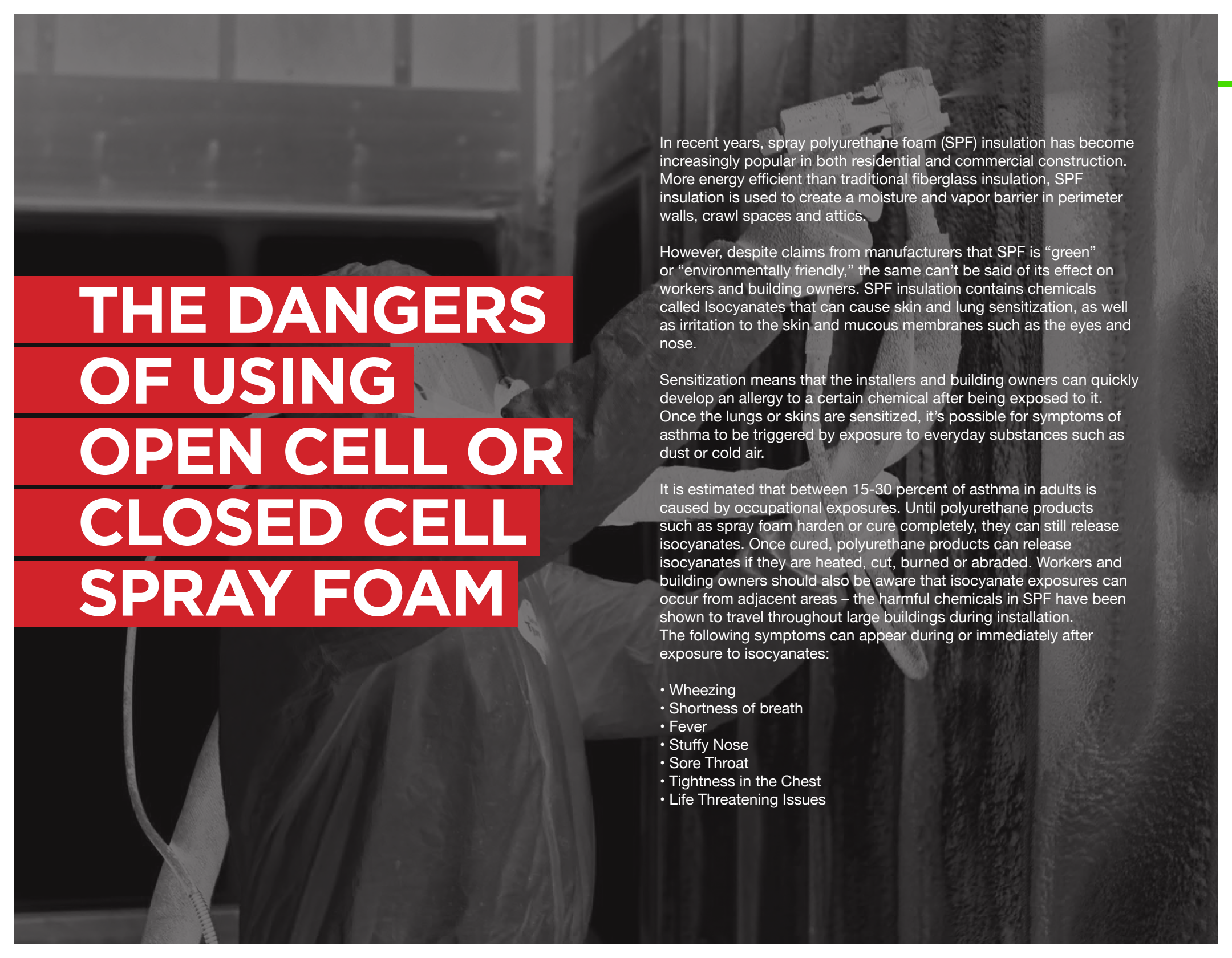
GREENSTAR PANELS	OPEN-CELL SPRAY FOAM	CLOSED-CELL SPRAY FOAM	FIBERGLASS
<p>2" Panel is R38 1.5" Panel is R30</p> <p>Panels are not directly installed against roof in attic—which keeps shingles cooler and extends their life. Homeowner will experience comfort and energy efficiency after panels are installed. Greenstar Panels is the only insulation system to incorporate protection from all types of heat transfer.</p> <ol style="list-style-type: none"> 1. An air gap between the panel and roof works like a double pane glass and can even vent away hot air. 2. Radiant barriers reflect 97% of radiant heat. 3. 2" of EPS prevents heat transfer by conduction. Most other insulation products only address conductive heat. 	<p>6" Gives R19-22</p> <p>Works well to insulate Home, but eventually the problems with open - cell spray foam will outweigh its effectiveness.</p> <p>Product sprayed directly next to roof in attic space and traps heat against the roof causing shingles to deteriorate faster. Some shingle manufacturers and property insurance companies will not cover roof damage claims with spray foam under roof.</p> <p>Not all homes sprayed with spray foam will be energy efficient and comfortable due to inconsistencies in the installation process.</p> <ol style="list-style-type: none"> 1. Sometimes spray not thick enough. 2. Installer missed air leakage sites. 3. Spray foam installers didn't understand the building envelop and sprayed too little or too much. 	<p>3" Gives R19-22 6" Gives R-38</p> <p>Homes sprayed with closed-cell spray foam will be more energy efficient than those sprayed with open-cell spray foam. It provides higher R-value per inch than Open-Cell spray foam.</p> <p>Product can work well to insulate home. In time, however, the problems with spray foam outweigh the positives. Due to its density and glue-like tenacity, Closed-Cell spray foam can add structural strength to walls. However, it can be a detriment in the attic space, because it is sprayed directly against the roof and causes shingles to heat, and therefore deteriorate faster.</p> <p>Note: Some shingle manufacturers and property insurance companies will not cover roof damage claims with spray foam.</p>	<p>12" Batt Gives R-38</p> <p>Fiberglass insulation is inexpensive. Sometimes supplied as material in sealed batts, covered in plastic film (perforated polyethylene or polypropylene)—specifically to avoid issues with breathing in the fibers. When people talk about indoor air quality, they are often referring to factors like mold, mildew, fumes, dust, household products, pesticides, asbestos, and outdoor air pollution that gets into the home. Something far more dangerous, however, would be breathing in airborne fiberglass in the form of small particles, and most of us do it at least once a day. Sometimes what we think is dust on our furniture is in fact airborne fiberglass blown through our A/C. This can turn your home into what is called a sick home or SBS Building Syndrome.</p>

INSULATION COMPARISON CHART

R-VALUE BENEFITS, NON-BENEFITS & HEALTH RISK

continued

GREENSTAR PANELS	OPEN-CELL SPRAY FOAM	CLOSED-CELL SPRAY FOAM	FIBERGLASS
<p>Greenstar Panels are thoroughly tested to be safe, non-toxic, and non-corrosive. They are also mold-resistant.</p> <p>Greenstar Panels are manufactured in a controlled environment where product is not exposed to variable temperatures or harmful toxins.</p> <p>Greenstar Panels were created with both residential and commercial building owners in mind, with the intent of providing them with a product that is safe, has a lifetime warranty, and will protect your pets and loved ones.</p> <p>Greenstar Panels are composed of the materials similar to styrofoam cups and plates, so they are very safe and will last forever (never degrade).</p>	<p>4. Spray foam can contract, and in time, pull away from framing.</p> <p>5. In humid climates, it retains moisture—like a sponge—against the roof, causing the roof to rot and creating mold.</p> <p>6. Installers are required to wear hazmat suit to prevent exposure (to the Spray foam).</p> <p>7. Application temperatures are critical for proper curing. UL listing is not available.</p> <p>The links below provide documented facts about the side effects of using spray foam insulation.</p> <p>What can happen if it's not installed correctly (CBC Marketplace)</p> <p>Action 9 Investigates hidden dangers in some homes</p>	<p>Because of the installer process, Not all homes sprayed with spray foam will be energy efficient and comfortable.</p> <p>1. Sometimes spray is not thick enough.</p> <p>2. Installer missed some of the air leakage sites.</p> <p>3. Spray foam installers didn't understand the building envelope and applied too little or too much.</p> <p>4. Spray foam can contract, and in time, pull away from framing.</p> <p>5. Installers are required to wear hazmat suit to prevent exposure (to the Spray foam).</p>	<p><i>Side Effect Symptoms</i></p> <p><i>Difficulty breathing</i> <i>Heavy feeling in lungs</i> <i>Lungs aching</i> <i>Coughing</i> <i>Numbness of the skin</i> <i>Raw sore feeling in nose throat, sinuses and airways</i> <i>Nose running or Stuffy Nose</i> <i>Nose Bleeds</i> <i>Sneezing</i> <i>Pressure in gums making top teeth feel loose</i> <i>Pressure in eyes</i> <i>Burning and watering of the eyes</i> <i>Itching</i> <i>Nausea & Stomach</i> <i>Upset</i> <i>Gas Reflux</i> <i>Irritable bowels</i> <i>Abdominal pain</i> <i>Leg Cramps and Headaches</i> <i>Dizziness</i> <i>Fatigue</i> <i>Insomnia</i> <i>Ache in Ears</i> <i>Lymph Nodes Swelling</i> <i>Cramps</i> <i>Heart Palpitations</i> <i>Kidney Problems</i> <i>Anxiety</i> <i>Difficulty Concentrating</i></p> <p>The Health Coach</p>



THE DANGERS OF USING OPEN CELL OR CLOSED CELL SPRAY FOAM

In recent years, spray polyurethane foam (SPF) insulation has become increasingly popular in both residential and commercial construction. More energy efficient than traditional fiberglass insulation, SPF insulation is used to create a moisture and vapor barrier in perimeter walls, crawl spaces and attics.

However, despite claims from manufacturers that SPF is “green” or “environmentally friendly,” the same can’t be said of its effect on workers and building owners. SPF insulation contains chemicals called Isocyanates that can cause skin and lung sensitization, as well as irritation to the skin and mucous membranes such as the eyes and nose.

Sensitization means that the installers and building owners can quickly develop an allergy to a certain chemical after being exposed to it. Once the lungs or skins are sensitized, it’s possible for symptoms of asthma to be triggered by exposure to everyday substances such as dust or cold air.

It is estimated that between 15-30 percent of asthma in adults is caused by occupational exposures. Until polyurethane products such as spray foam harden or cure completely, they can still release isocyanates. Once cured, polyurethane products can release isocyanates if they are heated, cut, burned or abraded. Workers and building owners should also be aware that isocyanate exposures can occur from adjacent areas – the harmful chemicals in SPF have been shown to travel throughout large buildings during installation.

The following symptoms can appear during or immediately after exposure to isocyanates:

- Wheezing
- Shortness of breath
- Fever
- Stuffy Nose
- Sore Throat
- Tightness in the Chest
- Life Threatening Issues

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PEST CONTROL, PET SAFETY, FIRE RATING, & UL LISTING

	GREENSTAR PANELS	OPEN-CELL SPRAY FOAM	CLOSED-CELL SPRAY FOAM	FIBERGLASS
PEST CONTROL	Contain Boric Acid which keeps pest out.	Insects, such as carpenter ants and termites, have been known to eat spray foam.	Insects, such as carpenter ants and termites, have been known to eat spray foam.	Insects, such as carpenter ants and termites, have been known to eat fiberglass.
PET SAFETY	Greenstar Panels give your pets clean air to breath.	All of the adverse effects from Open-Cell spray foam can affect animals as well, causing them to become very sick. This can have life-threatening consequences.	All of the adverse effects from Closed-Cell spray foam can affect animals as well, causing them to become very sick. This can have life-threatening consequences.	Fiberglass is the perfect place for squirrels, mice, and other small animals to burrow and make a family of their own.
FIRE RATING	Greenstar Panels are Class A Fire Rated	Open-Cell spray foam requires adding a flame retardant—or a 15-minute barrier, such as drywall. Both add to cost of installation.	Closed-Cell spray foam requires adding a flame retardant—or a 15-minute barrier, such as drywall. Both add to cost of installation.	All the side effects from Fiberglass can make your pets sick, and can cause life threatening consequences.
UL LISTING <small>"UNDERWRITERS LABORATORIES", A SAFETY & CONSULTING CERTIFICATION COMPANY.</small>	Greenstar Panels are UL Listed and an approved insulation product for safety. Manufactured in controlled environment following strict specifications.	Open-Cell spray foam is not UL Listed and approved because it is manufactured on site. Variables affecting product performance can include temperature, mixture rate, application rate and curing rate.	Closed-Cell spray foam is not UL Listed and approved because it is manufactured on site. Variables affecting product performance can include temperature, mixture rate, application rate and curing rate.	Check out these websites for documented cases of fiberglass poisoning in animals. <u>Fiberglass Poisoning</u> <u>Breathing in Fiberglass</u>



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