

The **ULTIMATE** **FOAM INSULATION** *Buying Guide* **FOR** **POLE BARN**

You have the dream of an awesome pole barn where you can store your boat and work on cars, but now you have to figure out how to get there.

You may have several ideas of what you plan to use this space for, but what you really need to consider is keeping it a comfortable work environment all year long, no matter if it's the summer heat or dead of winter.

The right insulation will keep your pole barn a conditioned space to protect the items you're storing.

The "Ultimate Foam Insulation Buying Guide for Pole Barns" will answer your questions on how to insulate your pole barn, preventing air leaks, cost, and much more.

RetroFoam of Michigan has insulated our fair share of pole barns over the past 15 years, so

we can answer the questions you have and talk about the process of making your man cave a comfortable space to work in.

We are asked these questions about pole barns all the time, so this guide will cover all those questions and more. Our hope is you will read this guide and all of your pole barn insulation questions will be answered.

Ways to Insulate a Pole Barn

You've built the man cave you have always dreamed of and the last component to make it perfect is to insulate it.

If there is little to no insulation in your pole barn it can lead to a number of problems, including moisture, irregular temperature, and condensation. Any one of these problems can lead to catastrophic issues with the equipment or items you plan to store in the pole barn. This makes the right kind of insulation a must.

The biggest benefit of having a pole barn insulated is it will be more comfortable to be inside the structure. The pole barn will also be much less costly to heat and will help keep your boat, classic car, or machinery in a climate-controlled environment.

The most common insulation materials used in the pole barn are foam boards, fiberglass, and spray foam. Now let's take a look at each material's pros and cons.

Foam Board Pole Barn Insulation Pros and Cons

Foam boards are rigid panels of foam insulation that can be used to insulate the exposed walls of your pole barn. It is offered in a variety of thickness, lengths, and facings to better fit your project.

Some brands of foam board have a white foil vapor barrier on each side that works to keep water from traveling into the walls of the pole barn and keeps any mold from deteriorating the structure.

Pros: Rigid foam board insulation products limit moisture buildup and mildew growth in the pole barn.

The installation of foam boards can be a Do-It-Yourself project for the experienced handyman.

Cons: The joints between sheets and boards must be taped or caulked to prevent air flow into the pole barn making proper installation important and timely.

Expanded polystyrene boards have air bubbles that can stop heat transfer, but can collect moisture making it ineffective for preventing mold and mildew-growth.

Fiberglass Pole Barn Insulation

Fiberglass insulation is made from extremely fine glass fibers that reinforce plastic.

Fiberglass is a traditional form of insulation material used in homes and in pole barns because it is inexpensive and can be installed as a DIY project by an experienced homeowner.

Pros: Fiberglass insulation is inexpensive compared to other materials used in pole barn insulation.

Fiberglass can't completely stop the transfer of hot and cold air, but it can slow the air by trapping it in the material.

Cons: The material does not stop moisture from getting into the pole barn, thus promoting the growth of mold and mildew.

While fiberglass can slow the transfer of cold and hot air, it is still air permeable which means it does nothing to prevent warm, humid interior air from making contact with the pole barn walls which leads to moisture problems.



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Spray Foam Pole Barn Insulation

Spray foam insulation is an insulation and air barrier that will seal your pole barn's walls and ceiling against air movement.

Depending on whether the walls will be covered or exposed will determine if open cell or closed cell spray foam will be used. If the walls are left exposed, closed cell spray foam should be used because it is more durable.

Open cell spray foam is usually used on the ceiling. More on open and closed cell foam in just a bit.

Pros: Spray foam creates an air seal that can help to make the pole barn weather conditioned while having the ability to regulate the temperature and humidity levels.

Spray foam is a great option for the pole barn ceiling as well as it provides a complete air seal of the structure when the walls are done as well.

Spray foam insulation isn't a food source for pests that can make their way into your pole barn.

Cons: Spray foam insulation is more expensive material compared to other types of insulation used in the pole barn.

An experienced contractor would have to install the spray foam insulation in the pole barn, because to be done correctly it is too complex for a DIY project.

Certain brands of spray foam have a slight odor when installed. It is important to know which brand your contractor is installing in your pole barn.

Choosing the Best Insulation for Your Pole Barn

If your goal is to create a comfortable and energy efficient working environment, as well as a safe and healthy space for storage, then a superior insulating material is needed to create an air barrier.

Spray foam insulation is the superior material when this is your end goal.

Spray Foam Insulation Types – Open Cell vs Closed Cell

At this point you have read the benefits of having spray foam insulation in your pole barn, but now it's time to learn about open cell spray foam and closed cell spray foam so you know which is the best option.

While open cell and closed cell are both spray foam insulations, there are differences between the two as far as how they are applied and how they work in general.

Let's take a look at both spray foams so you can figure out which is best for your pole barn.

Open Cell and Closed Cell Composition

Open cell spray foam is lightweight, pliable and easy to work with, whereas closed cell foam is rigid and very dense.

Closed cell's rigid structure and durability makes it ideal for the exposed walls of your pole barn because it is less likely to be damaged if it is bumped by machinery or tools.

How Much Do Open Cell and Closed Cell Spray Foams Expand?

Open cell spray foam has a very high expansion rate, sometimes as much as 100 times over. This makes it an ideal option because it gets into all the nooks and crannies.

Closed cell spray foam has very minimal expansion when applied.

What are the Blowing Agents for Open Cell and Closed Cell Spray Foams?

Open cell spray foam is typically applied using water as its blowing agent.

Closed cell spray foam uses a chemical agent that can give off a temporary odor with some brands.

OPEN CELL VERSUS CLOSED CELL

SPRAY FOAM INSULATION COMPARISON CHART

COMPOSITION

EXPANDING

BLOWING AGENT

MOISTURE PERMEABILITY

SOUND DAMPENING

AIR SEAL

R VALUE PER INCH

COST

OPEN CELL

Light

High

Water

Yes

Yes

Yes

R

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CLOSED CELL

Dense

Minimal

Chemical

NA

Minimal

Yes

RR

\$\$

What is the Moisture Permeability of Open Cell and Closed Cell Spray Foams?

Open cell spray foam is inherently moisture permeable, meaning it allows water to pass through it.

Closed cell spray foam insulation is 100 percent moisture impermeable, which means it doesn't allow any water to pass through it. While the moisture impermeable option might seem better, if a leak were to occur the closed cell would conceal the leak until the water builds up somewhere else.

Open cell would become discolored and let you know immediately where the leak was, and you could repair it. This is why open cell is a great option for pole barn ceilings.

What are the Sound Dampening Qualities for Open Cell and Closed Cell Spray Foams?

If you're working in your pole barn with heavy machinery, you'll want to keep the noise down as much as possible if you don't want to get in trouble with your spouse.

The thicker, softer material of open cell spray foam reduces sound waves much better than the tight, dense closed cell spray foam.

Does Open Cell and Closed Cell Spray Foams Create an Air Seal?

Both open cell and closed cell spray foams provide an air seal which is going to help eliminate drafts, heat loss, and moisture from getting into your pole barn.

That air seal can only be achieved with a minimum recommended thickness of 2 inches of closed cell and 3 inches of open cell.

Preventing Air Leakage with Foam Insulation

The Pole Barn Company said the longevity of spray foam insulation and its effectiveness as a solid barrier from outside air makes it a prime choice for pole barn insulation.

Insulating your pole barn with spray foam will ensure the structure lasts and will also help regulate the temperature inside while saving you money on monthly energy bills if you heat and cool the building.

When insulating the pole barn, it's best to spray the walls and the underside of the roof to completely seal the structure from air leakage.

Foam insulation is a great insulator that will seal the building to reduce air leakage and will help the structure maintain a constant temperature all year long.

Air leakage isn't the only problem you can encounter in your pole barn with a lesser insulation material. Some of the common problems you can face in your pole barn include:

Condensation in the pole barn.

Condensation happens when warm, moist air makes contact with a cold surface. Installing foam insulation, a vapor barrier, and ensuring you have proper ventilation are all important aspects of condensation control.

Poor or no insulation in the pole barn can damage the metal.

Traditional insulation, like fiberglass, or no insulation at all can actually cause moisture to get into the pole barn leading to the metal rusting and wood rotting. Using a closed cell spray foam insulation can help make the pole barn more structurally sound and can prevent water leaks.

Difficulty maintaining a regular temperature.

Metal conducts both heat and cold, which means your pole barn will feel just like it does outside if there is no insulation. Foam insulation creates an air barrier that will keep those cold or hot temperatures outside where they belong. The material will also keep your heated or cool air from escaping.

Water leaks into the structure.

Water leaking into the pole barn is bad not just for the structure, but whatever you are storing inside. After you fix the leak, installing closed cell spray foam can limit the number of leaks drastically because the material doesn't allow water to pass through it. With that being said, spray foam is not recommended or rated as a water sealant, any leaks must be repaired as discovered.

The Installation Process

You've had your estimate and an installation date has been chosen. Now it's time to take a look at the installation process.

Anything you have in the pole barn must be moved either outside or to the center of the structure and away from the walls before the installation. The crews may need room to bring in and setup scaffolding, especially in buildings with taller walls to reach the ceiling.

On the day of insulation, crews will tape plastic over any windows and doors. Next, they will suit up and begin applying the spray foam to the walls and/or ceiling.

In most cases it is possible to also insulate the overhead door of the pole barn using the closed cell foam. This material is used on the

door because it doesn't expand very much. The crews will cut some of the angles off to make sure the door will open and close. This will add a lot of weight to the door and is usually quite costly, so it may not be advised to insulate the door.

How Long Does it Take to Insulate a Pole Barn?

The time to insulate a pole barn can vary depending on what areas you're having insulated and the size of the structure.

A very large structure could take two days, or it could take two crews one day to finish.

Can Just the Ceiling or Just the Walls of the Pole Barn be Insulated?

Yes, just the ceiling or just the walls of a pole barn can be insulated, but in most situations it makes more sense to insulate both areas.

Because pole barns have very thin walls and if they are metal, that metal is a conductor for heat and cold. So, when it's cold outside, it will radiate that coldness inside and when it's hot outside, it will radiate the heat.

Without insulation the building is going to get either very hot or very cold. Insulating the entire pole barn will create an air seal to keep the outside air from getting inside and the treated air from leaking out.

Cost to Insulate a Pole Barn

Pole barns come in a variety of shapes and sizes.

Since there is a variety, that means the price range can be pretty wide.

Some pole barns could be a 10-foot by 20-foot structure that acts as a second garage, while others could be a 50-foot by 200-foot workshop or warehouse a person is running a business out of.

The projected cost to insulate a typical pole barn could vary between \$8,000 and \$20,000 or more depending on the size of

the structure and the area that needs to be insulated.

What Factors Determine the Cost to Insulate a Pole Barn?

The biggest factors in determining the cost of insulating a pole barn is the size of the area to be insulated and the material to be used.

As the owner, you must decide if you want open cell or closed cell spray foam. As discussed previously, that will depend on whether your walls are covered or exposed.

A good contractor will recommend open cell spray foam for the ceiling and for the walls if they are enclosed. If the walls are exposed, closed cell is the better option.

Closed cell spray foam tends to be more expensive than open cell, so that is another factor in determining cost.

A brand new pole barn may cost less to insulate since there could be less prep work, whereas an existing structure filled with equipment and belongings may increase the prep time to complete the job.

WANT TO LEARN MORE ABOUT INSULATING YOUR POLE BARN?
LEARN MORE AT [RETROFOAMOFMICHIGAN.COM/POLEBARN](https://retrofoamofmichigan.com/polebarn)





Hiring an Insulation Contractor

Hiring a good contractor is a big job, and there is the possibility if you hire the wrong person your dream pole barn project could become a nightmare.

There are a number of things that could go wrong if the contractor isn't licensed or doesn't carry insurance, so there are several things you should ask and consider when hiring the right contractor for the job.

Make sure to go through the vetting process. It's important to know what questions to ask when you are courting a potential contractor. You should ask how long they have been insulating pole barns. The other important question to ask is how long have they been using the material they plan on installing in your pole barn.

The contractor should know about the products they use and even the ones they don't. Any good insulation contractor should be able to explain the different types of insulation materials that could be used and why they are using the product they are recommending. A good example of a bad contractor is one that can't tell you the difference between closed cell and open cell spray foam insulations.

Beware of closed cell only contractors. These contractors target pole barns and pitch closed cell only for the entire structure. A good contractor will come in and assess what your actual insulation needs are without only pushing one material.

Ensure they are a licensed contractor. It is important when choosing a contractor to ensure they are licensed in the state they are working in. A contractor doing work in Michigan is required by law to be licensed in this state. If the contractor isn't licensed,

then it could end up costing you money. When applying for a license, a contractor is required to show proof of insurance. We will get more into why insurance is important in the next tip.

Is the contractor insured and do they offer a lifetime warranty? Insurance and warranties are two other large things you need to worry about when choosing a contractor. Accidents happen, and general liability insurance will protect you if an accident occurs or property is damaged. A lifetime warranty is important because it will cover the life of the product, so if there is an issue further down the road the contractor will fix the issues without further cost to you.

How experienced is the contractor? When sitting down with a contractor you will want to ask them how long they have been installing the insulation material you want installed in your pole barn and if that is their expertise. There are some contractors that do a little bit of everything – roofing, siding, windows, gutters, and everything under the sun. While the contractor may know how to do all of these things, this doesn't mean they are a master of any of it. An insulation contractor is a specialized contractor who installs thermal insulation and specializes in one type of insulation, according to Energy Star.

Are they trying to oversell you? It is important that you are wary of estimators who work for contractors that are pushy and trying to oversell you. The best insulation estimators come out to your pole barn with the intention of solving your problems, not pushing you into work you don't need to have done.

Next Steps

Were all of your questions about pole barn insulation answered? If you would like to learn more about the benefits of foam insulation you can continue your research in the learning center on our website.

Our learning center is loaded with even more information about the installation process, cost, and dozens of questions from people looking to insulate their pole barns and homes. Every piece of information you could ever want to know can be found there.

retrofoamofmichigan.com/learningcenter



Working with RetroFoam of Michigan – Why Us?

Our mission is to WOW homeowners with an unheard-of contractor experience to achieve maximum comfort and energy efficiency through the means of environmentally friendly foam insulation.

Choosing the right insulation for your pole barn can be a big decision, so here are just a few of the reasons you should consider working with RetroFoam of Michigan:

- 1. We specialize in foam insulation.** We have insulated thousands of pole barns across the Mitten. RetroFoam of Michigan only offers foam insulation because it is a superior insulating material.
- 2. We are experienced.** We ensure our employees are highly skilled and experienced in installing foam insulation. We don't use subcontractors, so we can guarantee the quality of the work that will be done.
- 3. We offer a lifetime warranty.** RetroFoam of Michigan offers a lifetime warranty on both the material we use and the workmanship of the install.
- 4. We are licensed and insured.** RetroFoam of Michigan is a licensed builder in the state of Michigan and carries liability insurance.
- 5. We are not pushy sales people.** We don't use high pressure sales tactics or haggling. Many contractors have a reputation for high pressure sales tactics to get you to buy on the spot. We don't like this tactic and we know you don't either. Our goal is to evaluate your pole barn and determine if foam insulation is a good fit for your project, then leave you with the facts and answer any questions you may have.



Request Your Free Estimate

If you live in Michigan's lower peninsula and you're ready to take the next step and schedule a free estimate, give us a call at 866-900-3626 or fill out the form on our website at RetroFoamofMichigan.com