SECRETS TO MAKING YOUR HOME

COMFORTABLE

& ENERGY EFFICIENT!

- Rooms too hot?
- AC runs too much?
- Rodent damage?
- Noisy neighbors?

SHAWN MANSUR

Table of Contents

Dear Friend,

Many of our best clients come to us because of an uncomfortable room in their homes. Or because their attic insulation is insufficient. But what they don't realize is...

There Is An Epidemic Of Hidden Property Damage In Austin Area Home Attics!

This report reveals little-known secrets every Austin homeowner must know. Why? I believe that if a home is sick, it is only a matter of time until the people are sick too!

My mission has always been to Change Lives.

I've been obsessed with insulation since I was a kid in the 1980s (yes, I'm weird). I believed I could change lives with insulation.

I was wrong.

We used to do what our competitors did. We let our clients tell us what they thought should be done to fix their homes. Mostly it was…

”Putting Lipstick On A Pig!"

Not effective.

The lack of life-changing results was depressing. In my journey toward changing lives, I connected with a mentor Larry Janesky. He has over 30 patents in the industry.

Larry transformed my understanding of building science, the home as a system, and the proven solution to achieve life-changing results without fail.

It is not about insulation. It is about cleansing homes.

Once Stellrr started cleansing homes, we began to see dramatic results. I finally feel like we are achieving my mission of

"Changing Lives, Cleansing Homes."

Unlike the competition, Stellrr avoids putting lipstick on a pig. We put our signature on all our work. It must be done right. In 30 years, when Billy Bob goes to check your attic and sees that Stellrr did the work. We want Billy to be impressed and refer his friends.

We are Cleansers. We believe the home should be self-cleansing, creating a low-maintenance, healthy space for the people & the planet. We believe the foundation for saving the planet starts at home. I hope you will join the movement.

By the end of this report, you will be able to see the big picture.

Then, the next step would be to get a Diagnostic Consult for a work proposal from your Solutions Specialist.

I look forward to serving you.

With gratitude,

Shawn Mansur, Founder & Author

Exactly What You Need To Know Before Hiring An Insulation Contractor

The insulation installation business is one of a few industries that are not well-regulated. The state of Texas does not require any licensing. The industry has a shallow barrier to entry, so anyone can call themselves a “professional” insulation installer with no legitimacy behind the claim.

These people come to your house and work on one of the most significant and vital energy savings and comfort systems in your building. The aftermath of their work can be very dangerous to the occupants if the “pro” fails to install their solution properly, use the equipment correctly, and how ensure your family’s safety after the installer is gone.

It seems like every month, there is a new nightmare story in the headlines about crimes being committed, about customers being sold more than they need, and exposes on the Bait-and-Switch insulation companies preying on consumers with deep discount offers to get their foot in the door and then perform hard sell tactics on unsuspecting consumers into large bills the consumer feels must pay.

When you search companies’ websites in Google, you can’t tell who the great insulation contractors in Austin, TX are or the ones you should avoid. Top-notch companies try hard to distinguish themselves from the fly-by-night scammers who use dangerous procedures, hard-sell tactics, and dishonest employees.

Insulation Industry Secrets and Lies

Many insulation contractors make confusing and misleading claims about what they do.

This guide will help you avoid choosing the WRONG insulation company that will cost you money, time, and stress. It pays to learn some basic insulation facts first.

The “Secrets To Making Your Home Comfortable & Energy Efficient” will help you learn everything necessary about properly installing insulation, so you can have peace of mind knowing that you get value for the money you invest in your building.

You will discover insider information on:

- How to avoid three insulation installer rip-offs
- Five costly misconceptions about insulation installation
- Which insulation materials and methods are best
- Don’t make these five mistakes to hiring an installer
- The importance of value and price
- Four steps to a safe, quiet, and comfortable building
- What to expect from a good insulation contractor

This report was designed to help you understand the insulation installation industry to make a wise choice.

We are passionate about the insulation industry and have dedicated our business to teaching consumers. If you have any questions on insulation, please don’t hesitate to contact us at (512) 520-0044.

How to Avoid Three Insulation Installer Rip-offs

1. Their price is TOO cheap

Everyone loves a discount, but when something sounds too good to be true, it often is. Some insulation companies advertise their deeply discounted prices as misleading advertising. Their offer to you is incredibly inexpensive, and once they enter your home, they pressure you into paying hidden fees to fix the insulation problem. It is comparable to buying a car and having the salesman say it costs extra for seats and a steering wheel.

A standard scheme is quoting low prices per board foot. They say $1.50 per board foot for 1 inch of closed cell. However, they only install 1/2 or 3/4 of an inch when they apply it. This is standard practice and often happens accidentally with companies that don't have stellar quality control processes. You pay for insulation you never get and will never know because their work is covered up.

Selecting the correct insulation solution and installing it properly takes time and the right resources. Expect to pay a reasonable price for quality work. If a deal seems too good to be true, call another company. Otherwise, you may pay much more to get the job redone the right way.

2. “Our materials have the best R-values.”

This statement is made on many websites and in-home estimates with installers. Remember: The best insulation materials for you are the ones that achieve your goal!

For example, the standard comparison measurement for insulation is the R-value. The problem is that the US Department of Energy says that sealing a building can save up to 50% on HVAC bills.

Popular high R-Value insulation materials like fiberglass and cellulose are poor air sealers. If the insulation material doesn’t air-seal your building, thousands of dollars will fly out of your roof and walls.

Plus, air leaks will occur if the insulation is not perfectly installed. Air leaks significantly reduce the R-value effectiveness of most insulators. Then the air leaks bring moisture into the space and further reduce effectiveness and increasing mold growth.

So before hiring an insulation contractor, identify your objectives and select the materials and installer who best reaches your goals.

Technology in the insulation business constantly evolves, so materials or systems they were trained on a few years ago might have been improved upon in today’s world. It is beneficial to work with an insulation contractor that always keeps itself on the cutting edge of technology and doesn’t simply make broad claims about having the “best” insulation and technology in town.

3. Bait and Switch

This is a huge problem. The scam usually works a few ways, depending on what material is installed.

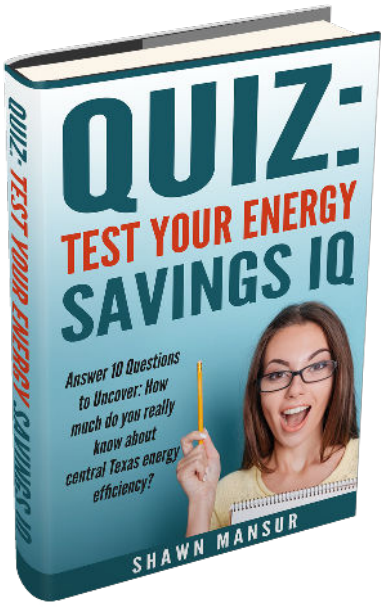
First, let's talk about fluffing with blown-in cellulose or fiberglass insulation. The technician uses an excessive air setting on the machine to fluff the insulation. This results in 12 inches of insulation settling down to 6 inches in a few months.

Avoid any installer trying to sell you a certain number of inches of blown insulation or a specific R-value. Find a contractor who will perform the installation based on the number of bags installed.

When you find a "Bag Count" installer, here is how to keep them honest. Don't let them sell you 60 bags and only install 40. Count the number of bags on the truck before and after the installation. If they cannot use all the bags you ordered, make sure your bill is reduced.

On the other hand, many spray foam installers claim to add the required fire-retardant layers when doing the project. But often, they skip the fire-retardant step to save time and money. Their contract with unsuspecting clients says fire-retardant installed, but they cut corners to save $0.25 per board foot. They put you at a safety and legal risk. Plus, building inspectors often do not catch the problem.

Five Costly Misconceptions On Installing Insulation



1. Anybody can install it; it's easy

Many people have the attitude of doing it themselves to save money which is savvy for many energy efficiency projects and some insulation jobs.

There is more to properly insulating a home than just renting a machine and blowing insulation into your attic. A correctly insulated space will be inspected for issues like air-sealing, soffit blocking, old insulation removal, fire hazards, and much more.

Insulation is not about choosing the right product; it is about installing it correctly. Yes, the right product counts, but doing 5% of an area wrong can significantly reduce the effectiveness of the insulation. Sometimes, a mistake on 5% of the job can require the entire project to be ripped out and redone. These are the "horror stories" you hear about on the news.

So when you think it will be expensive to hire a professional to install your insulation correctly, you may be right. However, it won't be nearly as expensive as having the job redone.

2. The only reason to insulate your house is to lower energy bills.

Improving the insulation in your home can save you big bucks on your energy bills. This means the insulation pays for itself in time and makes you money in the long run.

However, there are several other important reasons to insulate your home better.

A. Added comfort by keeping surfaces warmer, balancing air circulation, eliminating hot spots in rooms, and cutting drafts in the home. Insulation also reduces outside noise.

B. Make the home healthier. Good ventilation that is sealed from the outside improves indoor air quality. That means less pollen and other allergy particulates floating in your home. Plus, a well-insulated and sealed home works as a pest deterrent.

C. Reduce your environmental impact, and do your part in preserving the planet for future generations.

3. All insulation installer’s solutions are the same

Not all insulation methods are created equal! Standard practices among installers result in the insulation:

- not being thick enough
- not sufficiently covering all nooks and crannies
- either too little or too much insulation installed
- insulation contracting and pulling away from the building’s frame

The company will often try to sell you on whichever type of insulation they need to get rid of. Or they may be a weekend warrior with low-quality equipment that prevents them from doing the job efficiently. In the insulation business, the performance of the applicator makes a big difference, and you want someone who is on top of their game.

4. Having the correct equipment means your insulation will be installed properly

Many companies have the right tools, but not all companies train their employees on the best ways to install insulation for maximum effectiveness. Installers may make costly mistakes or perform unnecessary services that can add hundreds of dollars to your final bill.

You would avoid taking your vehicle to a poorly trained mechanic, so why risk the insulation and health of your home with an installer who has poor training?

It is vital to work with a company specializing in insulation and have their technicians receive certifications from top-rated organizations like SPFA or independent testing and training organizations.

A sting produced by CBC News revealed how homeowners are forced out of their homes for months due to health hazards from insulation install mistakes. One of the homeowners had to have the entire roof demolished from their home and rebuilt to fix the problem. Trying to save a few bucks is not worth the risk.

5. I should choose the lowest price option

I have seen dozens of problems resulting from individuals choosing the lowest bid option for insulation companies. I am frequently called afterward to fix what the other guys messed up. The individual pays twice instead of having it done right the first time.

Please AVOID hiring an insulation company that offers steep discounts or meager prices. Two common issues are:

1. The company doesn't have the right expertise to diagnose the problem correctly and ends up prescribing a solution that only fixes part of the problem, leaving a costly mess behind

2. The advertised price is the"foot in the door" cost. After the installer is in your home, it suddenly turns out that you have all sorts of other fees required for proper insulation installation.

To ensure none of these things happen when you hire a pro, thoroughly investigate what the price includes and the practices the company uses to install your insulation.

Which Insulation Material And Methods Are Best?

There is no right or wrong popular insulation material, but only which material will work with your budget. Each method has different advantages; you must decide which best aligns with your values.

For example, closed-cell spray foam has the highest R-value, which will reduce your energy usage. However, cellulose is made up of 85% recycled material. Cellulose doesn't perform as well, but it is a greener material.

Fiberglass Insulation

Glass wool is known as fiberglass. It was invented in 1933 by Games Slayter while he worked at Owens Glass (now known as Owens Corning).

It is manufactured by combining sand and recycled glass at a temperature of 1,450 degrees Celsius. The glass produced is converted into fibers, similar to cotton candy.

It is a material that can irritate the eyes, skin, and lungs. It is relatively good at resisting mold. However, pests enjoy nesting and living in fiberglass.

Batt Fiberglass Insulation

Typically known as “the pink stuff,” rolls of fiberglass (batts) have been widely used in production (cookie cutter) home building. It is the cheapest option for a builder when there is not much concern about the performance of the home. While builders install fiberglass, you won’t find a builder putting fiberglass in their own home.

Blown Fiberglass Insulation

This method of using fiberglass is better than batts because it can fill around pipes, wires, and in smaller corners. Blown fiberglass costs more to install than batts because of the insulation blowing truck needed. Blowing fiberglass does settle, but it overcomes the gaps and cracks issue present with batts.

Cellulose Insulation

The use of cellulose insulation dates back to 1772 when US President Thomas Jefferson installed it in his Monticello plantation house. The origin of the word cellulose is French. Cellulose is for living cells, and glucose is for sugar. It is made out of recycled newspaper and fire retardant.

It is gray in color because cellulose is manufactured by shredding discarded newspapers. The paper is then treated with boric acid as a fire retardant. Boric acid can be found in its natural state around volcanos in Italy and Nevada. It is a common ingredient in natural skin ointments and insect repellent.

Cellulose is popular among homeowners because

- Superior fire retardant properties
- Anti-microbial properties
- Boric is a pest detourant
- 85% recycled content (more than any other insulation)

Installers don’t like installing cellulose because

- It is much slower than blowing fiberglass
- Takes up more room in the installer’s rig
- Creates more dust in the attic than fiberglass
- They don’t get rebates from OwensCorning

Blown Cellulose Insulation

Cellulose is installed in new and existing buildings.

1. Loose fill is most used for adding insulation to an older building's attic.
2. Blown cellulose can be retrofitted into existing walls by drilling 2-inch holes between wall studs and filling the wall cavity with the material.
3. Another everyday use is in new homes where netting is stapled to the studs and cellulose blown to fill the cavity.

Wall Spray Cellulose Insulation

“Moist sprayed” cellulose is used in new building construction on the walls.

The material has water added when passing through the blower gun, so it sticks to the wall without a temporary retainer. It packs much denser and becomes rigid enough that excess is sawed off and reused.

The advantage of moist spray is that it is a much better seal against air infiltration and prevents settling issues.

With wall spray cellulose, the walls must remain open (before being covered or sheetrocked) for at least 24 hours until the materials have reached a maximum of 25% moisture.

Spray Foam

Spray foam was invented in 1937 by Otto Bayer when he successfully synthesized polyurethane foam by mixing wet chemicals to create dry foam.

It was not until 1979 that spray foam was used as building insulation. Today NASA insulates the space shuttle and fuel tanks with closed-cell spray foam to strengthen the shuttle and protect it from heat.

Different types of spray foam are used as a seamless flat roof coating for raising concrete slabs, wall cavities, and attics.

Spray foam is made by mixing two liquids, isocyanate, and polyol resin, in a spray gun's tip.

It expands in seconds to 30-100 times its liquid size.

According to the US Department of Energy, 40% of a building’s energy escapes from air infiltration via windows, walls, and doorways. Spray foam is a stronger air infiltration minimizer and thermal insulator than any other popular insulation material.

Foam blocks all three types of heat transfer:

1. **Conductive.** Heat flow through a material to a lower or higher temperature area.
2. **Radiant.** Heat in the form of light warms a surface and is transferred to other materials.
3. **Convective.** Geat is transferred via air or water, blocked by building air sealing a building.

Spray foam is non-toxic after it is cured, which (when sprayed properly) only takes a few minutes.

However, buildings should not be inhabited for 24-48 hours after installation because of vapors still inside the air-tight building envelope.

For this reason, applicators wear full-face respiratory protection systems just like professional painters do when spray painting.

Open Cell

It is primarily used in homes, walls, attics, and basements. The foam reduces air and noise penetration. It is good but not as strong as...

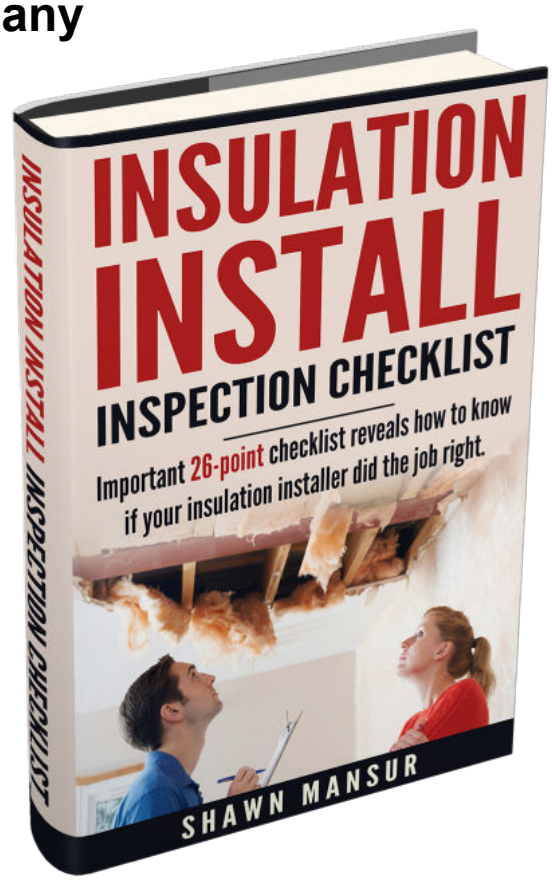
Closed Cell

It is the ultimate insulator. It is typically used in commercial, industrial, and agricultural environments. Closed-cell foam is used for commercial flat roof coatings and concrete foundation raising.

This foam generally weighs 2 pounds per board foot (12” x 12” x 1”) which is four times heavier than open-cell foam. Closed cells strengthen significantly and are waterproof inside barns and on flat roofs.

Five Common Insulation Installation Mistakes and How to Avoid Them

1. Choosing an insulation company based on brands offered



Sure, the company you work with must have great brands. Yet, the company's applicators need the right skills to diagnose and fix your thermal barrier system properly.

Most companies install "all brands," but few companies invest the energy and time necessary in helping their installers be able to quickly and efficiently do the job right (at an honest price).

Be sure to hire an insulation company that is adequately trained.

2. Choosing the cheapest option

When an insulation company charges less than others, it can signify numbers problems.

This may be a “bait and switch” tactic to hook you in at a cheap price before stating in person that it will cost significantly more to do the job correctly.

It can also mean a poorly-trained installer working on your home’s insulation system with outdated practices.

Last, they may use cheap insulation that won’t last or could even further damage your home. Be sure your insulation pro doesn’t have prices too good to be true.

3. Choosing an insulation company with no guarantee of their service

Does it say good things about a company that does not stand behind its workmanship? If you are looking at working with an insulation pro that does not offer a guarantee on their service, look elsewhere.

Reputable insulation companies will offer some form of guarantee on their service. It may be a guarantee only that the insulation offers a specific R-value, or it may be a satisfaction guarantee on the whole service with a money-back guarantee if you aren’t happy.

Don’t forget to check out the company’s guarantee and refund policy before hiring.

4. Choosing an insulation company without hearing other people's feedback about them

Any decent insulation company should be able to provide testimonials from happy clients who used their services in the past. You should be wary of hiring a company that doesn't have references. If they don't have legitimate raving reviews, it could mean:

1. They are new in the business and don't have happy clients yet. Do you want them to learn how to install insulation on YOUR time, money, and precious home?

2. They are too lazy to have worked their client base to find people who want to praise them. If they cut corners in this area, what corners will they cut when properly fixing your home?

3. They are not good at what they do and don't have happy clients willing to vouch for them because they are unsatisfied. You should walk away.

5. Choosing an insulation company that does not have accreditation

When hiring an insulation company, you want to verify that their installers are certified by independent testing and training organizations.

The National Insulation Association (NIA) is the primary regulatory and certifying organization for insulation companies of all types.

To be certified, the applicators must undergo formal training and pass examinations. NIA installers are experts who deliver results and have high ethical standards you can trust.

Avoid companies who do not have accreditation because they likely do not entirely understand what they are doing or are not a legitimate business period.

Quotes: Value vs. Price

Price is what you pay. Value is what you get. The difference is essential.

There are various insulation installation methods, providers, manufacturers, and prices. As your home is perhaps the most significant investment you will make, it pays to invest in quality insulation.

But that does not mean you should pay a lot for it. It would help if you got excellent value for your money and only paid for what you needed or wanted. You should not pay for unnecessary add-ons. In other words, don’t fall for the lowest price quote over the phone.

Do not expect the insulation company to provide an exact price quote on the phone. Honest and reputable insulation companies rarely have an out-of-the-box price because there are several variables on what could be wrong that must be seen in person. Insulation installation is usually priced by the material, the volume of material installed, plus labor and difficulty of the job. If you’d like to know the exact cost, you need to know the exact material, volume needed, and how much time is required to do the work.

Other variables that affect the price include:

- The pitch of the roof. Will scaffolding have to be built and/or moved? Some structures are more challenging to insulate than others.

- Are the applicators having to remove insulation from an old home or scrub excess off the studs in a new home? Homes that haven't been appropriately insulated will have more items needing correction.

- The amount of stuff stored in the attic makes it inaccessible for the tech. In many cases, if you move your things stored in the attic out of the way, you save money.

- Are you converting a vented attic into a closed, sealed space? You will need an HVAC unit with 90% or higher efficiency installed.

- Do you have recessed lighting in the ceiling? These require extra steps to insulate and seal. What other areas need to be sealed; walls, vents, fans, chases, fireplace, doors?

- To protect yourself, it is wise to review this guide to understand the difference between a company offering great value for a reasonable price versus a low price with terrible value.

Nine Reasons Why You Want an Efficient, Comfortable, Safe, Insulated Building

As you can see from reading this guide, there are many things to consider when deciding on insulation. No doubt, some items I have shared with you may be discouraging about even hiring anyone at all.

So let's talk positively about why you want to fix or upgrade your building's insulation. Here are a few reasons:

1. Safety for the kids, pets, and family. If your building is 10+ years old, it is not up to current building codes and is missing lifesaving safety features, including fire retardant.

2. Avoid polluting the environment with unnecessary energy usage.

3. Feel healthier by reducing allergens and viruses entering your home.

4. Sleep with more peace from outside noise-blocking capabilities of insulation.

5. Enjoy the pleasure of more comfortable rooms with balanced air circulation and no more hot/cold spots.

6. Safer intrusion-resistant technology to protect your family from pests.

7. Save money. By cutting your energy bills, the insulation will pay for itself. Then it will start earning you the money you can set aside or spend on simple pleasures.

8. Increase your home's value and make money. According to Remodeling Magazine's Cost vs. Value Report improving insulation in your home increases your home's value by 117%. However, a bathroom remodels only returns 57.8% of every dollar invested.

9. Feel great about your home's energy performance (your neighbors will envy you).

If these nine reasons to fix or upgrade your insulation haven't convinced you to take action, I never will compel you to move forward. But if you are getting excited, keep reading because the next section is essential.

Four Steps to an Efficient, Safe, and Comfortable Insulated Building

1. Commit to yourself to get your insulation upgraded.

Installing insulation is something that many people put off over and over again. But every day we delay, it shortens the time we can enjoy the convenience of an efficiently performing home. We spend another day worried about when it will contribute to other things breaking in the home.

2. List your insulation goal.

Do you want more insulation in the attic or an efficient air-sealed building envelope that raises the value of your home? A cheap fix will keep you going, but you will want to find a thorough, reputable company to get honest work done.

3. Ask the insulation company questions.

Be sure to ask the following questions when interviewing companies:

- How do you assess what the problems are?
- What will the outcome be for my building envelope?
- Do you offer any guarantees?
- Can I see a list of references?

- What training do your applicators have?
- Which local trade associations are you a member of?
- What is the charge if you come out if I'm not satisfied?
- Do you have a physical office address in Austin?
- What if I don't need all the materials I paid for?

When you get the answers to these questions first, you will be in the right position to receive good value for the money you invest and be pleased with the results.

4. Get your quote in writing.

After you have chosen an insulation pro that appears to be the best fit for your needs, ask for a written quote to help ensure that both of you are on the same page regarding the materials, labor, and condition of your building's insulation.

When you follow these four steps, you can rest assured that you will receive the best possible results when choosing an insulation company for your home or business.

What to Expect from a Good Insulation Company

When you know the right questions to ask, you will be better at avoiding problems.

Here is what you should expect:

- **No hidden costs.** Expect itemized costs for the service and exact prices in writing BEFORE the applicator begins each portion of the service to be provided. Do not feel pressured to accept more services than you request.

- **Client satisfaction.** Insulation pros should offer workmanship guarantees in writing.

- **Full audit.** Before the insulation pro begins any work, they should perform a full written audit of your home's energy performance to identify the problem areas you know of any lurking dangers. They should provide you with a summary and written quote before work begins. Ensure that all work to be done is in the initial quote so you are not signing an "open work order" where they can add things in without your per-item permission.

- **Ratings & reviews.** An insulation company should have a long list of excellent ratings and reviews from verified third-party organizations.

- **Proper Insurance & credentials.** Letting a worker into your home without proper insurance and credentials is a huge liability if they get hurt. It is also a liability if you get hurt from their work and cannot recoup damages.

- **A physical business address in Austin** indicates that they are a local company, not a national call center that dispatches technicians to every construction job.

- **Company information on their truck and rigs.** Companies that fail to identify themselves on their work truck may be fly-by-night contractors. Also, if they don't have "insulation" in their name, this may indicate a general handyman who is the Jack of all trades and the master of none.

- **Clean up.** It is good to work with a company that cleans up when done because it indicates that they follow through and complete everything correctly.

- **Clean, organized trucks and uniformed techs.** If the company does not look professional in person, you should have doubts about the quality of their work.

The best tip of all on what to expect is this. Expect to trust what your intuition or gut is telling you about a company.

Anybody can get their act together to appear good company, but your sense of something being wrong is probably proper. Trust yourself, not the salesman.

INSULATION PRICE COMPARISON REPORT

Find out how much it costs to install spray foam, cellulose, or fiberglass insulation in your walls, attic, floor and more! Research study reveals what you can expect to pay based on 761 recent central Texas projects.

SHAWN MANSUR

2023 Insulation Cost Report

Stellrr sponsored an independent research group to determine the average investment of having insulation installed in the geographically specific area of Central TX. The research group acquired quotes from 43 companies that install insulation in the central Texas hill country. Quotes contained pricing for each type of insulation on various residential, commercial, and industrial projects.

The researchers also called upon 761 people with insulation installed in the last 12-24 months to determine what people paid. They also noticed that the installation price is going up along with the increased demand due to the growth of the ATX metro and the city's green initiatives.

Meeting Installation Cost Minimums

On almost every project, it was found that people were required to meet at least a $1,500 minimum, and many of the professional insulation companies required a $3,000 minimum.

The minimum means that if you only need someone to come out and install a few square feet of insulation, you are still looking at $1,000+ for the pros to come and do it. With that minimum in mind, you may find more areas for the contractor to improve.

For example, if you have a little insulation blown into a wall, you might as well also have them upgrade your attic insulation simultaneously. That way, you get more insulation for your money.

Here are the survey results of insulation price ranges by type of materials.

Spray Foam Insulation Cost

Foam is a popular type of insulation. Why? Because it seals air leaks and fills all the nooks, crannies, and gaps in walls where other types of insulation fail.

There are two primary types of polyurethane foam: open-cell and closed-cell. Open cell has an R-value of R3.7 - R4.1. Closed cell insulates R6.7 - 7.2. Foam requires significantly less space in your building than blown cellulose and fiberglass.

Calculating the price of Foam

The foam installation cost is calculated using the **board foot**, which measures 12” wide x 12” long x 1” thick.

To determine how much you need, multiply the space you want to be insulated by the depth of those inches. Measured as: square foot x inches deep = board feet needed. For example, 2,500 bd. ft. of space at 0.50 = $1,250.

- Open-cell ranges from **$0.55 to $0.85 per board foot.**
- Closed-cell ranges from **$2.00 to $3.45 per board foot.**

Don’t forget attic insulation spray foam cost need to include the roof pitch. When estimating attic insulation cost for having insulation applied to the roof deck, you have to factor in the roof pitch.

Here is what that means:

Let's say the pitch of your roof is 5/12, and your square attic footage is 1,000. Then you would do 1,000 x 1.08 (the factor for a 5/12 roof pitch) to get the actual number of square feet on the roof deck. You can learn more about roof pitch factoring here.

How much polyurethane do you need to get the right R-value?

- If you have 2×4 wall cavities, you can fill the cavity with open-cell foam for about R-13. You would require 4-board feet per square foot of wall space.

- If you have 2×6 wall cavities, open cell foam gets you about R-20. You would need six board feet per square foot of wall space.

- With closed cell foam, you are at about R-6.7 at 1 inch, R-14 at 2 inches, R-20 at 3 inches, and R-27 at 4 inches.

Blown Insulation Cost

Attic blown installation cost around Central Texas:

- $0.19 per board foot (12″x12″x1″). Easy access, open blow TruSoft Cellulose is R-3.7 per inch. Energy Star Recommends R-60. The code minimum required is R-49.

Drill and Fill Cellulose

- Dense packing existing walls is $4.50 – $9.00 per sq ft.
- Dense packing a garage ceiling is $9 – $12 per sq ft.
- Dense packing a cathedral ceiling is $9 – $11 per sq ft.
- Dense packing a cantilever is about $20 / sq ft.

Fiberglass Batt Cost

Fiberglass batts are just about the cheapest option to insulate a building when the wall cavities are open, like an attic. However, fiberglass batts are one of the poorest air sealers. Fiberglass batts cost between $1.10 and $3.50 per square foot.

Radiant Barrier Cost

This method reflects heat away from the building's roof, similar to aluminum foil. It only insulates against one of the three types of heat transfer, so it is always used in conjunction with an R-value insulator like fiberglass, cellulose, or foam.

The cost of radiant barriers is by the square foot and ranges from $1.75 for a traditional foil barrier up to $2.75 for a SunChuter Radiant Barrier.

HEALTH RISK WARNING:

Working in a 130-150 degree attic for more than 30 minutes can cause serious health risks, including heat stroke.

You will need proper nutrition, water, and breaks to avoid a trip to the ER. Also, don't do it alone. You will need help nearby in case of an emergency. Also, your phone will not likely work after so many minutes because of the extreme heat. So have another method of communication with you in case you need 911.

Pricing by Location in the Home

The research team broke down the costs so you can know the specific project area's average price. An average home in the ATX area is 2,500 square feet, and the ones built after the 1980s tend to be two stories. Here is what we found:

Wall Insulation Cost

Many existing buildings are poorly insulated, and the most feasible method for insulating drywalled walls is with blown-in cellulose. A 2.5-inch hole is cut in the wall in each stud bay, insulation is dense-packed, and the hole is closed. Most recently averaged about $4.5 – $9 per square foot for cellulose and blown rock wool quite a bit higher.

Roof Deck - Spray Foam Insulation Cost

If a vented attic is becoming a sealed attic, you must ensure the proper steps are taken to ensure your HVAC and Water Heater have the proper ventilation. This is a problem Stellrr fixes every day with ventilation ducting and the building of ventilated attic utility closets.

Before insulating the roof deck, all existing insulation must be removed, which costs between $2.00 and $4.00 per sq ft. Insulating the roof deck with open-cell at R-25 is about $4.15 per sq ft. When measuring, include the roof pitch and gable walls for accurate attic insulation spray foam cost.

Garage Door Insulation Cost

A garage door will cost around $400 per car (1 car, 2 car, 3 car), for foam board insulation.

Crawl Space Insulation Cost

Vented crawl spaces cost about $3.97/sq ft for R13 closed cell foam installed on the underside of the floor decking. However, a much brighter option is to create a sealed crawlspace with insulation on the crawlspace walls and a CleanSpace liner on the floor. This will cost $4.15/sq ft of walls, plus $5 – $7/sq ft of floor space, depending on the type of moisture barrier installed.

Attic Floor Joist Insulation Cost

Blowing fire and pest-resistant TruSoft Cellulose on the attic floor costs about $0.19/ board foot (12″x12″x1″). We recommend 16 board feet per square foot to achieve R-60. R-60 is the Energy Star recommended level. R-49 is the code required minimum standard. Of course, insulating without air sealing is Malpractice. Air sealing costs $1.35 – $3.21/sq ft

Rebates and Savings

Improving your building’s energy performance will save you money on bills. If done right and to the extent required, you may qualify for government tax credits and rebates. Check out your city’s website for complete details. Local Energy companies have several rebates, but you must qualify, and rebate opportunities expire generally; they are just a few cents per sq ft of insulation.

Prescriptive vs. Performance Code Compliance

Prescriptive code *is exactly as the code book is written. Example: R-49 blown attic insulation. R-15+2 in 2x4 walls.*

Performance code *is the R-value required to "meet or exceed" the results produced by Prescriptive code materials. Example: R-25 open-cell roof foam. R-13 open-cell walls.*

Requirements	IECC & Texas	Austin E Code
Wall insulation	R13	R19, 15+2, 13+3
Attic & roof insulation	R38	R49 (R25 spray foam)
Floor insulation	R13	R13
Fenestration U-factor	0.4	0.35
Envelope leakage testing	5ACH@50pa	5ACH@50pa
Duct leakage testing	4cfm/100sqft CFA	4cfm/100sqft CFA
Roof radiant barrier	No	Yes
Envelope-mechanical efficiency tradeoff	No	Yes
Energy Rating Index (ERI)	52	59

401 Congress Ave #1540
Austin, Texas
78701 USA

512-520-0044
www.stellrr.com

stellrr INSULATION
Experience Stellrr Performance

Here is what you need to know to be code compliant.

To have proper insulation, the building enclosure must be air-sealed and insulated at the ceiling and walls (in most cases, floors except for slab foundations) with contiguous and continuous application. You should be able to visually follow up and down the ceiling (or the roof line), exterior walls, and a majority of non-slab floors and see uninterrupted coverage.

That includes the knee walls inside attics, exterior walls at showers and tubs, the entire wall area under staircases, and the outside walls on exterior chases for duct chases (not at an interior wall) or fireplace flues. Special care needs to be taken when it comes to living space floors over garages (which are notorious for being uncomfortable and neglected).

Although the truss/joist might be much wider than the insulation that is installed, it is essential for the insulation to be touching the under-surface of the subfloor that is above for it to be effective. Another area often ignored that needs to be insulated in a two-story home is the space between the rim joist's joist ends.

The ENERGY STAR "Grade I" definition must be met. It limits compressions, voids, and gaps to under 2% overall. That is particularly hard when there are outlet and switch boxes, electrical wire, plumbing pipes, and other obstacles inside the cavities of the building of the enclosure plane that have to be insulated.

Installing batt insulation is very difficult to do without compressing it or making cuts around the obstacles while attempting to make sure the insulation and air barriers are in contact with each other and the cavities are filled so that a good thermal blanket is made.

Insulation installed on an attic's floor (loose-filled, blown) is not encased on the top side. Therefore, the application depth must meet the installation depth required for the kind of product used to achieve the appropriate R-value. In very cold climates, air movement going through loose-fill insulation can be a problem (particularly with fiberglass, since it is lighter than cellulose is), which can cause a loss of R-value. However, in Central Texas, it isn’t considered to be a severe problem.

“Total fill” or spray insulation systems comply automatically with Grade I requirements when they fill a 2×4-depth wall cavity. They include systems like fiberglass blown-in and damp blown blankets, in addition to all spray foam applications. Before damp-applied cellulose installations can be encased with air barriers, they must first dry.

There are two kinds of polyurethane foam. For residential construction, “open-cell” is most commonly used. This kind of foam lets water passes through. This makes it easy to identify any roof leaks that occur. In commercial construction, “closed-cell” foam is more commonly used. However, it is used in homes as well. Water is not allowed to pass through with this kind of foam.

Polyurethane spray foam insulation installed at the roof and/or walls acts as its own air barrier. Therefore no supplemental materials are needed to encase it.

When the foam is left exposed inside an attic, a special coating or ignition barrier might be needed, especially if a water heater and/or air handler is present or when the space is going to be used for storage. For whatever foam you plan on using, check to see its installation requirements.

Rigid foam-board sheathing with an R-value of R-2 can be added to a wall's exterior to reduce thermal bridging. If metal framing is being used, this is required.

Air barriers must be stapled onto the framing members on the outside perimeter and taped at all the seams.

QUIZ:

TEST YOUR ENERGY SAVINGS IQ

Answer 10 Questions to Uncover: How much do you really know about central Texas energy efficiency?

SHAWN MANSUR

Home Comfort & Energy Savings QUIZ

1. The average Austin, TX, area family spends how much each year on home utility bills?

A. $6,000

B. $3,500

C. $2,200

D. $1,000

2. The typical American household saves how much on energy bills after simple efficiency improvements?

A. 0-20%

B. 20-40%

C. 40-60%

D. 60-80%

3. Which home systems use the most energy in central Texas homes?

A. Water heating

B. Appliances

C. Electronics & lights

D. Cooling and heating

4. Where does the majority of Air Conditioning escape from your home?

A. Walls

B. Floor

C. Roof

D. Window/Door

5. How does your home energy use compare to the pollution of the average Austin personal car?

A. Home pollutes 1/2 as much as your car

B. Home creates the same amount of pollution as a car

C. Home pollutes Twice as much as your car

D. My home causes pollution?

6. Which best describes your home?

A. Comfy, no drafts

B. Minor drafts around doors

C. Major drafts by windows, drafty rooms, cold floors

D. Moisture on windows, mildew, and damp crawlspace

E. Two or three of the above

7. Controlling condensation in your home is accomplished by which actions?

A. Regular fresh air ventilation

B. Proper insulation and air sealing

C. Shutting bathroom doors when showering

D. Drying clothes outside or the laundry door closed

E. All of the above controls condensation

8. How much money can you save on energy by using a LED light bulb?

A. Nothing

B. $10 per year

C. $30-$60 over the life of the bulb

D. $120 per bulb

9. What home maintenance action is most important to energy efficiency and safety?

A. Turn up the AC in hot months when not home and the heater down in winter

B. Ensure furniture is not blocking floor vents, heaters

C. Every 1-3 months, replace or clean all air filters and vents in the HVAC system

D. All of the above maintenance items

10. Which choice is the most effective energy-saving investment?

A. Seal all the air leaks on windows, doors, and baseboards with caulk or weatherstripping

B. Have the attic, walls, floor, and ducts insulated adequately to current building codes

C. Turn off the AC and heater when you are not in the building

Quiz Answer Key

1. The average Austin TX, area family spends $2,200 yearly on home utility bills. Nationwide home energy usage accounts for 22.5% of the total energy expenditure.

2. Air sealing drafts in a building can reduce energy consumption by 5-30%. Properly insulating the building can have up to a 50% reduction in consumption. A building performance audit locates problem areas. Some issues are easily fixed, while others may require professional services.

3. Cooling and heating Texas buildings represent 48% of the energy usage, according to a Residential Energy Consumption study. In contrast, appliances and electronics represent about 20% of energy consumption. Lighting uses 10% on average. Most heating and cooling escapes the building due to poor insulation and air sealing.

4. Poor insulation and air sealing contribute to each area's leaks. Here is how much energy is lost from each area:

- **40% Attic** (A Priority)
- **12% HVAC Ducts** (A Priority)
- 12% Floor (B Priority)
- **10% Windows** (C Priority)
- **8% Walls** (C Priority)
- 8% Doors (C Priority)
- 8% Plumbing Entries
- 2% Electrical Outlets

Insulating your roof alone can reduce energy consumption by up to 40%. Building Performance Audits help uncover problem areas specific to your building.

5. The average Austin area home produces double your car's pollution. Do your part in protecting the environment by air-sealing and properly insulating your home.

6. Under-insulated, improperly air-sealed homes suffer from drafts and excess moisture.

7. All options help control condensation, which protects you from a moldy disaster.

8. Super energy efficient bulbs can last ten times longer than incandescent bulbs. They can produce the same light as an incandescent bulb while using 80-90% less energy. This means that over the lifetime of the bulb, each one can save you $30-$60 in energy costs. Plus, if the electricity you use is created from coal, each CFL reduces carbon dioxide pollution over its life by about 1,300 pounds.

9. Preventing a fire by keeping belongings away from floor heaters is the best safety solution. However, the best maintenance you can do is replace air filters regularly to keep the HVAC from working harder than it has to. Plus, it is wise to avoid heating or cooling your building when not in use.

10. Having your building correctly insulated makes your building more comfortable and addresses the leading cost of energy waste. A thorough building performance audit will evaluate your insulation, air leaks, HVAC system, and more. After a diagnostic, you will know what needs fixing.

INSULATION INSTALL

INSPECTION CHECKLIST

Important 26-point checklist reveals how to know if your insulation installer did the job right.

SHAWN MANSUR

How to Know If Your Installer Did The Job Right

As a homeowner, knowing if the insulation installer did the job right can be a real challenge. You don't know what to look for. Often you cannot see much of what was done because things get covered over by insulation.

This inspection point list will help you evaluate the work done by the installer.

This guide does not ensure that the installer follows the building codes, as they vary from city to city. Also, this guide cannot verify that mistakes were not made in the installation.

However, it will be an excellent reference for inspecting your insulation installation.

Wall Area Inspection

1. **Cavity Fill.** The insulation should fill all regular and small cavities completely. No material separating the sides and no gaps on the bottom or top. The sprayed foam should not pull away from the framing. If it does, then the framing was not appropriately heated before installation.

2. **Electric Wires.** The wiring should be enclosed within blown insulation, and batts should be cut to fit around wires.

3. **Electric Boxes.** Insulation batts should be cut to fit, and blown insulation should surround boxes.

Insulation should also be placed behind each box to reduce airflow.

4. **Plumbing.** Have insulation between the pipe and the outside wall. When using kraft facing, there should be good contact with the drywall. Kraft facing is against the code in Austin. Most batts sold have the facing, which must be cut to become compliant.

5. **R-value.** Must meet or exceed minimum code requirements and have a receipt signed by the installer.

6. **Fit.** If installing batts, they should fit snugly with the framing. Faced batts should be stapled. Batts should not be compressed as that reduces R-value. If blowing cellulose, you want it dense-packed to avoid settling and ensure a higher R-value. The spray foam should fill all cavities and crevices.

7. **Placement of Vapor Retarder.** In Austin, the retarder is to be installed on the exterior side of the framing. A vapor barrier is not to be installed. A retarder is not required when other approved means (like closed-cell spray foam) to avoid condensation are provided.

8. **Integrity of Vapor Retarder.** It is not standard practice to tape retarders because small tears or gaps are not expected to create issues with moisture.

9. **Materials of Vapor Retarder.** As required by city code compliance, the retarder should be installed, which may be a specific paint, continuous sheeting, or kraft facing.

10. **Bay Window.** Insulation must be on the ceiling, extra floor, and outer wall.

11. **Door and Window Areas.** Should not be overstuffed but be filled with insulation around the doors and windows.

12. **Band Joists.** Nonflammable insulation pointed at it.

Ceiling & Floor Inspection

13. **Cantilevered Floors.** Must be insulated to the city's R-value code requirements.

14. **Attic Openings.** Must be insulated to the exact R-value code requirements with an insulated cover or a piece of batt insulation unless the attic is not vented.

15. **Attic Cards.** When insulation is installed, a signed attic card must be placed in the attic.

16. **Attic Rulers.** Ensure insulation depth rulers are placed throughout the attic to measure the thickness of the insulation blown. Ensure insulation is not below the minimum settled thickness.

17. **Eave Baffles.** Attic eaves with vents should have baffles installed.

18. **Knee Walls.** Insulation must have a fire-rated backing on the outside. The knee wall must also meet the R-value requirements for walls.

General Inspection

19. **Air Infiltration.** Inspect that all air paths are sealed. Proper air barriers often include a mixture of rated air barriers, caulk, tape, or foam.

20. **Wall-Sprayed Cellulose.** Since this product is installed moist with water, it must be thoroughly dried before installing the drywall. Get a hard timeline from the installer of when it will be 100% dry.

21. **Combustible Sources.** Ensure the insulation is installed with at least a 6-inch space between it and combustible sources like heated flue pipes, non-IC fixtures, and chimneys. Or wrapped with Rockwool.

22. **Unheated Rooms.** Verify that the space between heated and unheated areas is insulated in the walls, ceilings, and floors.

23. **Shower/Tub Enclosures.** Check for insulation between the outside wall and the tub enclosure. 24. Install Depth & Density. Measure insulation depth and density every 3-4 feet to ensure correct, consistent, and proper application.

25. **Exposed Facings.** If the insulation is unfazed or special-faced like FSK-25 insulation, then it is okay to be exposed. However, exposed flame spread-rated facing cannot be placed over non-rated facing.

26. **HVAC Unit.** If the attic is to be unvented, then an HVAC unit with 90% or better efficiency must be installed before insulation installation. Or a combustion air room built.

CRITICAL INSULATION CONTRACTOR COMPARISON CHECKLIST

Discover what to look for when hiring an insulation installer.
Learn why each of the 25-points is important to your success.

SHAWN MANSUR

The Critical Comparison Checklist

What to Look for When Hiring Austin Area Insulation Contractors

	stellrr INSULATION Experience Stellrr Performance	Company B	Company C
Full Performance Diagnostic	YES	?	?
200% Money-Back Guarantee	YES		
Honest Pricing	YES		
Stellar Online Reviews	YES		
Proper Insurance	YES		
Clean Up Job Site	YES		
Organized Truck & Rig	YES		
Workers Uniformed, Drug Tested, Background Checked, & Clean	YES		
Certifications & Continuing Education of for Workers	YES		
Before & After Photos	YES		
Many Insulation Options	YES		
Seal All Air Leaks	YES		
Install Density Inspections	YES		
OSHA Trained Supervisors	YES		
Company with Core Values	YES		
Outstanding Reputation	YES		
Installers Paid by Hour	YES		
Partner Network	YES		
Follow Local Building Codes	YES		
Explain Material Pros & Cons	YES		
Business Address in Austin	YES		
Company Information on Truck & Equipment	YES		
Member of NARI & HBA	YES		
Volunteering & Philanthropy	YES		

What Each Checklist Means to You

Full Performance Diagnostic	Uncover the real source of the problem so you don't pay for services that won't help you achieve your goals.
200% Money-Back Guarantee	Forces the contractor to do the job right and deliver quality service. If they fall short, you have leverage to get what you want.
Honest Pricing	Helps you avoid hidden costs, and know that you are getting the best possible deal upfront.
Stellar Online Reviews	Shows that they have a reputation, and the quality of work and service they deliver. You learn the truth about them.
Proper Insurance	Protects you against them damaging your property, someone getting hurt from their negligence, and them getting hurt.
Protect & Clean Up Job Site	Keeps your belongings from getting damaged from insulation and other equipment. Shows quality of work performed.
Organized Truck & Rig	Attention to detail shows how thorough they are and how well they insulate.
Workers Uniformed, Drug Tested, Background Checked	Protects you from potential criminals "casing" your building to return later and steal from you. Keeps everyone safe.
Certifications & Continuing Education of for Workers	Means the worker is qualified to do the job. Plus, they are staying on top of the latest and greatest technologies and techniques.
Before & After Photos	Allows you to see what their work will look like, compare it to other companies, and know what to expect when it is finished.
Many Insulation Options	Allows you to choose the materials and methods right for your goals.
Seal All Air Leaks	Air leaks are where the EPA says up to 40% of energy is lost.
Install Density Inspections	Protects you from only getting part of the insulation you paid for. Applicator constantly measures and adjusts installed insulation depth and density.
OSHA Trained Supervisors	Having safety trained supervisors protects them from getting hurt on the job, and protects you from bad installation processes.
Company with Core Values	Defines what they are all about and how they handle things.
Outstanding Reputation	Gives you peace in knowing that they deliver on their promises.
Installers Paid by Hour	Installers paid by sq. ft. (not per hour) result in rushed sloppy jobs.
Partner Network	Network of superior installers who can team up on extra large or complex projects to ensure consistent superior and speed of completion.
Follow Local Building Codes	Protects you from Code Compliance, keeps you safe, and saves you money from having to redo the job later.
Explain Material Pros & Cons	Helps you decide on the right material for your goals.
Business Address in Austin	Shows that they are not a national call center or weekend warrior.
Company Info on Vehicles	Shows they are not a fly-by-night company pretending to be someone else.
Member of NARI & HBA	Indicates they are involved with the local building community.
Volunteering & Philanthropy	Means your money is funding good in the world, they are charitable.

Secrets to Making Your Home Comfortable And Energy Efficient

The Epic Fail in Most Central Texas Homes

Putting air ductwork in an attic in Austin Tx is a terrible idea.

Yes, tens of millions of homes were built this way which means a terrible idea spread like wildfire. Since we seldom have basements in central Texas, the attic has enough space to put large ducts to distribute the conditioned air to each room.

What is the problem?

Have you ever hung out in your attic on a summer afternoon? If you have, then you know…

…what I imagine hell feels like.

Do you remember burning yourself with hot water from the sink? You get the same feeling when touching surfaces in the attic on a hot summer day. Meaning an attic is the most hostile environment for your ductwork. Let me explain.

When it is 90 degrees outside, the attic is 125 or more because the sun heats the roof to 160 degrees, with the heat radiating into your vented attic.

The problem is that your Air Handler produces 55-degree air and then pushes your conditioned air through the hot ductwork to the register in each room.

Your ductwork has a thin fiberglass wrap between the 55-degree air and the 125-degree air.

As the air you paid to cool travels through the hot ductwork, it heats up. You are blowing 65-75 degree air into rooms further away from the Air Handler.

Let's say you are comfortable when the room is 72 degrees. How long will it take to cool a room to 72 degrees when you blow 75-degree air?

How much quicker would the room cool if you were blowing 55-degree air? What if you could blow 55-degree air in every room? Can you see how that would provide much more even cooling?

The problem is that our conditioned air is in a hostile environment. We need to create a better environment for our conditioned air. Will replacing your ductwork with better-insulated ducts fix the problem? Nope. They will still be re-heating lines in the cooling season. Here is why.

$0.30 of Every $1.00 Is Wasted Here!

According to the US Dept of Energy, the average house air duct leakage is 30%.

Meaning 30 cents of every dollar spent to condition the house is lost. Wasted. It leaks out at all the plenum, seams,

duct connections, registers connections, and through the fiberglass itself.

Fiberglass insulation does not stop airflow – it filters the air. Conditioned air going through the fiberglass makes it useless.

Replacing old fiberglass-wrapped ducts with new fiberglass ducts can get you thicker air filters. Replacing your ductwork and sealing it with mastic will get you mediocre results. The mastic sealant is thin as paint and brittle. You need Tight-N-True Duct Encapsulation to get maximum results or turn your vented attic into an air-tight Yeti Cooler.

Which Air Leaks Are Most Important to Seal

How much air leaks from your walls, attic, ductwork, floor, etc.? The most crucial leak to seal is the ductwork since it is a pressurized leak. Ductwork is pressurized by the blower in the air handler and pushes the air into each room.

Here is a home performance myth for you. It is essential to have great windows, completely sealed up.

False. Contrary to popular opinion, windows are one of the least important places to seal up. New windows look pretty, but they exist along the neutral pressure plane of the home. This means windows have little air infiltration because there is neither positive nor negative pressure.

Why You Shouldn’t Replace Your Windows

Let me explain the law of holes.

The amount of air going through a hole depends on two things – the size of the hole and the amount of pressure difference on both sides of the hole.

In the cooling season, hot, buoyant attic air expands, creating positive pressure and pushing air through holes at the top. Heat moves from more to less. The air you pay to cool is denser than hot air and moves toward the floor. Then it is pushed out of the cracks and holes at the bottom of the house.

As the cool air is pushed out, negative pressure is created, allowing more hot attic air to move from more pressure to less pressure, being pushed into your conditioned space. With the hot air comes all the junk residing in your attic insulation. What's in there? Carcinogens and formaldehyde if you have older fiberglass. All the pollen, cedar, and mold spores that collect in your vented attic over the years. The humidity.

All the rodent fecal matter, bacteria, and urine. Yep, you're breathing it! This is why indoor air is often more contaminated than outdoor air.

This Causes Indoor Air Quality Problems

According to the EPA, levels of indoor air pollutants are often 2 to 5 times higher than outdoor levels.

These indoor pollutant levels sometimes exceed 100 times outdoor pollutant levels. Can you start to see how it makes sense to vacuum out everything in your attic and then sterilize everything?

So if hot air in your attic expands, pushing itself into your conditioned space and creating positive pressure. Then negative pressure is left at the bottom of the house where the conditioned air escapes out.

That means that somewhere in the middle of the wall is where it changes over from positive to negative pressure. It is at that point where there is no pressure.

This is called the Stack Effect.

The leaks farthest up in the conditioned space in your house leak in the most, and the leaks farthest down leak out the most. So sealing a 1” hole at the top is way more important than sealing the equivalent hole in the middle.

This is why windows are a low priority for home performance compared to other leaks.

The law of the stack effect states that by sealing air leaks in the top of the house, we can stop hot musty, allergen-filled air from coming into the house.

This results in rooms at the bottom of the house becoming less drafty without actually touching the bottom half.

That is why we have the A, B & C priorities.

A. Attic (attic, ceiling, and roof),

B. Bottom (below grade or crawlspace), and

C. Conditioned Space (walls, doors, windows).

How much air is leaking through your ceiling?

According to the US Dept of Energy…

“the average house air leakage equals a 2ft x 2ft window being open 24/7.”

If you are trying to cool your house, don’t you think it would be wise to close the window and stop leaking all the air you paid to heat or cool?

What is it that needs to be sealed up? Your top plates. A top plate is at the top of your wall and is the wood that your ceiling joists sit on.

Air Leaking Here, There, Everywhere!

Did you know your top plates have a 2” plumbing hole cut out for drainage air in sinks, toilets, tubs, and showers? You also have a hot and cold supply pipe hole for these plumbing items. How many sinks do you have? Toilets? Tubs? Showers? Ok, so how many holes are there?

Every electrical outlet, light switch, & cable has a hole drilled out in the top plate above it. How many electrical outlets do you have in your room right now? And how many rooms do you have in total? Don’t forget the clothes washer and dryer.

Now you know that there is a hole behind every ceiling light. How many of those? And what about recessed lights?

Recessed lights are like little chimneys with the damper left open.

The fine print on “Insulation Contact” or “Air Tight” Rated recessed lights have a disclaimer on them stating that the average air leakage is 2-CFM (Cubic Feet Per Minute).

This means they leak two basketballs of conditioned air every minute in a year, equal to a line of basketballs from Austin to Dallas.

How many times could your house light leakage go from Austin to Dallas? To go from here to Dallas would require thousands of linear feet. Or a long line. So let’s make this more visual.

Where the wall and ceiling meet is the top plate, this is where all the holes are. But we have not yet discussed the crack between your 2×4 top plate and your drywall. When your house was built, the lumber was new and moist.

When It Dries, It Shrinks

The drywall was slapped up against the moist lumber & secured. Over time, the lumber dries out and shrinks. The lumber pulls away from the drywall, making a crack. A crack at the top of the house leaks air. It is not uncommon for me to be able to drop a coin between the top plate and the drywall. If I can put a coin through there, what else can go through there? That’s right. Air.

So how many feet of top plate do you need to be sealed?

Ok, let’s check out the linear feet. Let’s say your house is 35ft long by 40 ft wide, which is a 1,400 sq ft house footprint. That is 75 ft. And you would double that to get all four walls of the top plate. So 150 linear feet. Now let’s add up the interior wall top plates. It is common to have as many linear feet of interior walls as you do exterior walls, so let’s call it 150 ln ft of interior walls. So 150 interior and 150 exteriors.

That is 300 ln ft total. That is almost a football field long.

100 yards.

How far is it from your house to your neighbor's house across the street? Unless you are in the country, your top plate air leak crack could go from your house to your neighbor's house a handful of times. Don’t you think it would be wise to seal that high-pressure plane up, closing that theoretical 2×2 window in the ceiling?

At Stellrr, we believe that…

“Insulating Without Airsealing Is Malpractice.”

You can have a 24-inch blanket of insulation, but without air sealing, all you have is a thick air filter. Did you know that many HVAC air filters are made out of fiberglass? Yep. We don’t install fiberglass anywhere, but we remove dumpsters full of filthy fiberglass every week.

Why do we remove insulation?

1. To get a proper seal on the top plates & drywall, you have to be able to see where you need to seal. You can't see everything when it is covered in a blanket of insulation.

2. the surface needs to be clean for adhesion. Otherwise, it is like laying caulk on the beach. Then pulling it up. It won't stick.

3. by putting insulation on top of existing insulation, you are trapping in all the allergens and feces that used to float out of your vented attic. The intensity at which those pollutants come into your indoor air will multiply.

4. if the roof gets spray foamed, we are moving the thermal boundary from your attic floor to your attic ceiling (the underside of your roof decking). If the floor insulation is left in, you have two thermal boundaries, which will hold more moisture, leading to mold and wood rot. These reasons are why we usually won't insulate a house without removing the existing insulation in our working space.

Mechanically Control The Moisture To Prevent Mold, & Improve Your Health

Let's talk more about moisture in the air. Austin is a very humid environment, often 80-90% humidity.

This creates an excellent environment for all sorts of things to grow. If we constantly bring in humid air from outside, we create a not-so-healthy environment inside.

We need to seal up the house air leaks not only for energy savings & comfort. But we need to seal up the house for our health. Then we can manage the humidity more effectively. And we can stop mold growth, wood rot and protect the house structurally.

Do you need a dehumidifier? If your house is sealed up correctly, your HVAC unit will effectively pull the humidity out of the air in the summer while avoiding bringing in excess outside humidity.

But, in the cool part of the year, if your house is efficient, you won't be running your HVAC enough to pull the humidity out of the air. In Austin, it is a good standard practice to have a self-draining dehumidifier like SaniDry installed in your crawlspace or attic.

Stop Breathing That Filthy Crawlspace Air

You have double trouble if you have a pier and beam house instead of a cement slab foundation.

If you have insulation in your attic and nothing in your crawlspace under the house, then we probably have some severe moisture issues, musty smells & cold floors. The talk about the top plate earlier, well, you also have that bottom plate that is not sealed.

According to the National Center for Healthy Housing…

40% of the air you breathe comes from your home's humid, dirty crawlspace.

Eight out of ten Austin area crawlspaces I go into have zero insulation.

The ones that do have fiberglass batt insulation. Listen up if you have an uncomfortable room above your garage. You have the same thing going on here.

Why is the fiberglass batt ineffective between crawlspace joists and second-floor joists in the attic ceiling?

It's called gravity.

To be effective, insulation must be aligned, intact, & sufficient. When a batt is installed, it is friction fit to the underside of the floor decking between the joists.

Code requires a 3.5-inch thick batt.

But how thick are your joists? 2×8, 2×18?

Either way, there is much space for gravity to work, allowing the batt to fall from the top of the joist to the bottom of it.

When the insulation is no longer intact or adequately aligned with the floor decking, it no longer provides any protection.

All the air traveling goes between the batt and the floor decking, causing cold floors, hot rooms, and humidity issues like buckling wood floors.

In a garage ceiling, we would dense pack the drywall-covered ceiling with our all-boric cellulose to solve the problem.

In a crawlspace, we must install a vapor barrier.

What is NOT a vapor barrier: Fiberglass, denim or cotton batts, cellulose, open cell spray foam. None of these products should ever be in a crawlspace.

But my competitors sell these options every day.

Why do the other guys install products that we believe should never be installed? And why do they put insulation in that won't be effective?

Why?

They don't know any better.

They don't understand building science. They sell based on a low price but don't solve anything. Money is down the drain.

The fact is that most insulation companies in Austin are guys who worked for other insulation companies. Most of them only worked on new construction. They knew how to install insulation, but they don't know why. Then knew the blueprint's asked for specific R-values and materials, but not why.

The architect spec's the insulation based on the client's budget (putting more importance on the pretty backspace and doing the bare minimum code required insulation).

My competitors were never the guys designing the plans.

They blew in some insulation and never had to problem-solve to fix the issues that other trades create.

Remember the electrical, plumber, drywall crew, and HVAC?

They stayed in their lane. At Stellrr, we rarely work on new construction.

The motto is,

“They’ll keep building homes; we’ll keep fixing what they build.”

They build ‘em; we fix ‘em.

Addressing the building as a system means taking care of the problems created by other trades. On a new build, the insulators never talk to the Sparky. Electricians never talk to the HVAC Techs; Plumbers never talk to the Insulators. No cross-trade collaboration.

Why is fiberglass so popular even though we believe it should never be installed?

Fiberglass is a weak insulator. It won’t stop air leaks. It is not a vapor barrier. Rodents love to eat it. Pests love to nest in it.

So why is it so popular?

Fiberglass is cheap, quick, and easy.

Cheap materials, Cheap equipment to install it. Installs very fast. Anybody can do it. Have you ever heard of Owens Corning or John's Mansville?

They produce almost all the fiberglass in the US. These two companies are giant multi-billion dollar companies that own much of the building products market.

They get builders to buy their entire line of products. The shingles, the tar paper, the siding, the insulation, and the list goes on.

So to get deeper discounts, what does the builder do? Yep, they spec out OC or JM fiberglass.

On the other hand, cellulose companies are tiny and only do cellulose. So you won't recognize any of their names. More on cellulose in a minute. First, let's talk about the HGTV favorite… foam.

Polyurethane spray foam is a plastic.

It is manufactured on the job site. Materials are more costly than fiberglass. Foam rig equipment is costly to purchase and even more expensive to keep running correctly.

Operating a spray foam rig and installing foam takes years to learn. Installing foam is very hard.

We had a Marine tell us that the job was more demanding than Bootcamp, and he couldn't handle it.

During the first few years of Stellrr, I learned and installed it myself. I felt like a ninja every day I sprayed.

Needless to say, I knew I couldn’t grow the business effectively if I also did the daily labor.

The sprayers I hire are in the country's top 10% of best installers. And yes, they are young. It is rare to find a sprayer over the age of 40. It is just too demanding on the body.

Cellulose requires more robust equipment than fiberglass.

The material takes up more room, requiring a larger, more costly rig. Installing cellulose is very dusty compared to fiberglass. Installing cellulose takes a lot longer than fiberglass.

I have tried to hire several great blown insulation installers who refused the job because it was cellulose. So again, we pay more to have guys willing to work with the product.

Why do I like cellulose?

Blown fiberglass has an R-value per inch of 2.2, whereas cellulose is 3.7. If you have a low-pitched roof, you can often get very close to the proper R-value at the top plates where your rafters rest on the top plate of your exterior wall.

Whereas with fiberglass, you won’t get the proper R-value until you are a few feet away from the wall below. Leaving you with under-insulated hot spots along exterior walls.

It is denser than fiberglass, slowing air infiltration. It performs significantly better at higher temperatures than fiberglass.

Did I mention that insects & rodents hate it?

Yep. Cellulose is ground-up paper, newspaper (well, ok, more likely Amazon boxes), and other paper goods.

So it is 85% recycled content.

Then the other 15% is the fire-retardant.

We use an All-Boric Fire Retardant Cellulose. Most cellulose is 5% Boric and 10% Ammonia. We don't install that anymore. We used to buy our cellulose locally. The only cellulose sold locally is the different formulas containing ammonia.

Why don't we like ammonia?

Well, we live in a hot, humid environment which can cause you to smell ammonia. Ammonia smells like urine.

I don't want your house to smell bad.

Unfortunately, we had an incident when we bought locally (like everybody else does). We installed the cellulose. It was moist outside. The client and his wife were due to give birth three days after our installation.

The odor bothered his wife. He asked us to remove the boric and ammonia formula cellulose insulation that we purchased locally.

So we had an emergency, pulled the crew off another job, and sucked out the ammonia-treated insulation. Replaced it and made everyone happy before the baby came.

I committed to never repeating that learning experience.

Now we buy All-Boric cellulose by the semi-truck load. This is excessive, but it allows us to control the quality of materials. And the All-Boric formula gives it better anti-microbial properties. This means the insulation manages moisture properly and is not impacted negatively.

So let me back up to the rodents & insects hating cellulose.

What they hate is boric. This is another reason you want an All-Boric formula (15% boric & 85% recycled paper).

Boric is a mineral that is mined from the earth. You can find it around volcanoes. It is used for fireproofing properties.

Boric is used in cleaning products like laundry detergent, eye drops, and other household products. So it is safe for us.

But it has pest-control properties to it.

Let’s take a rat, for example. A rat finds or chews a new hole in your soffit. Comes into your attic and starts tunneling through the cellulose. The cellulose gets on its fur.

Now rats are mammals, and mammals lick themselves to clean themselves. And when they do, the boric gets in their mouth. It dries them out. The rodents leave your house searching for water and don’t return.

What To Do With A Crawlspace

If your crawlspace has no skirting, we could spray closed cell foam to the underside of the floor decking because it is a vapor barrier.

However, I highly recommend that you skirt around your crawlspace. Why?

Spraying closed cell between your joists will warm your feet, but it will still have thermal bridging. The joists do not get insulated. And you will still have a damp, dirty crawlspace creating an excellent environment for wood rot and foundation damage.

In fact, closed cell between the joist will block the moisture from getting through the subfloor. So what happens if you reduce the water exfiltration by 90%? It then shifts that 90% moisture from your subfloor to only your structural joists.

So when your joists manage 90% MORE moisture, is it the less expensive choice to have closed cell sprayed to the underside of your floor decking?

No! Usually not a good idea unless you have no crawlspace skirting. But if you have skirting, then the right choice is crawlspace encapsulation.

I highly recommend installing a 20-mil polyethylene-stranded vapor barrier on the dirt floor.

Or we could do our drainage matting for extra support with the liner on top. Then we would convert your vented crawlspace to a sealed, encapsulated crawlspace using closed-cell spray foam on the skirting walls and rim joists.

A properly encapsulated crawlspace eliminates thermal bridging that you would have by foaming the underside of the floor decking.

- It blocks out the vapor & helps manage humidity.
- It stops all the air leaks at the bottom of the house.
- It allows a clean space to see if there is a plumbing leak or repair that needs to be done. I
- t dries up the pier & beam structure, managing mold and wood rot.
- It stops floors from cupping.
- It gives you cleaner breathing air.

And I highly recommend a dehumidifier in every Austin crawlspace to keep things dry, especially in the more moderate season when we don’t run our HVAC as much.

Set it and forget it. I love mine. Now in some homes, we will also install a sump pump. But usually, we can fully manage rain water by addressing the gutters, gutter covers, downspouts, and downspout extensions.

We want to prevent any further foundation shifting.

What to Expect from Stellrr. The Difference

Learn more about the experience you'll have working with Stellrr.

Education & Honesty

We believe it is essential for you to make an intelligent and informed decision about repairing and restoring your home. When your Stellrr Solutions Specialist visits your home, you will get a thorough inspection.

Plus, the Specialist will explain each solution and why we recommend it. We have 93 different solutions for fixing homes. If we can't fix it, we will tell you.

Solutions to Meet Your Needs

We have 93 solutions to fix problem-building assemblies. Our team is trained to uncover the problems and best solutions for each problem in your home.

Transparent Pricing

We provide no-obligation estimates for fixing your home. The price is calculated by custom software to ensure accurate and fair prices for each client. We do not falsely inflate our prices for one side of town versus the other. We also do not propose work that puts a bandaid on the problem instead of fixing it.

Easy Scheduling & Project Preparation

We have an incredible office team dedicated to following up with you and scheduling your project when you are ready. You will receive a breakdown of the work to be done, any special instructions, and what to expect before and after your project.

Quality & Efficiency

We understand that the project puts clients out of their usual routine. We have invested in the best equipment and people to complete the job quickly and accurately. Unlike most competitors who work primarily in new construction, we fix attics and crawlspaces daily. So we are used to the added difficulty and get the job done faster than the competition.

Trained Expert Crews

Each crew member participates in thorough onboarding and ongoing training. We hire top-performing installers with years of experience. Then we take them to the next level with Stellrr. This ensures excellence in every project. Our Solutions Specialists and Crew Leaders review each project before starting. This ensures that special instructions are met, and promises are delivered.

Clear Communication & Follow-up

Each crew is instructed to keep you updated throughout the project. We ask for your feedback and approval to meet your expectations. We also ask for your feedback on the crew to ensure everything went well.

Minimal Disruption

Having construction work done at your home can be messy. We do everything reasonably possible to reduce disruption. Our crews protect the areas where we work with plastic, add ventilation fans to reduce odors, and clean up afterward. There is not another Austin spray foam insulation company that tries harder to keep your house clean.

Ongoing Maintenance

We are committed to keeping your Stellrr Solutions working effectively for many years. Our Service Team completes scheduled annual and urgent maintenance work.

Warrantied

The solutions we install have best-in-class warranties. Additionally, our annual maintenance schedule will help prevent serious issues and help your solutions last as long as possible.

Here is What to Do Next!

We have found an epidemic of hidden damage in older homes in Central Texas.

With the Stellrr Home Performance Diagnostic Consult, we can help you avoid unnecessary expenses and protect your most important investment.

If this damage is left unchecked, it can double damage costs when it causes the AC unit to go out and be replaced, attracts termites, or grows mold.

The hidden damage often goes undetected from inside the home. It can cause someone in the home to be unnecessarily unwell, especially those with weak immune systems, allergies, or asthma.

We'll tell you if your damage may be covered by your homeowner warranty or insurance. We often find hidden damage from faulty building assemblies, discontinued insulation with asbestos or formaldehyde, past roof leaks, rodents, and remodeling.

Why get a Stellrr Home Performance Diagnostic Consult now?

Look, forget that you may be overpaying on your utility bills.

Forget the fact that parts of your home may be uncomfortable. Sure, you could enjoy a more efficient, comfortable, energy-saving home.

The bottom line is this.

You are most likely going to pay to fix the damage when you go to sell the home. The buyer requires a discount to address the problems or walks away.

The only question is, will you enjoy the benefits of the repairs while you own the home, or will the new buyer be the only one who benefits?

Let’s uncover the hidden damage in your home now.

Fix it, to make your home healthier, more comfortable, and energy efficient.

During the diagnostic, we will analyze the house, do thermal imaging, and identify the problem areas.

We will share what it costs to fix the problems. And we can even calculate your annual return on investment. We often see a 10% to 20% return on investment, which is better odds than the stock market.

Book your Home Performance Diagnostic Consult today

Claim Your Diagnostic Consult Today! ($249 Value)

Call 512-520-0044 now. Or request a consult by completing the Diagnostic Consult Request form here. During your consult…

- You will discover precisely what is going on in your home.
- The truth about why you have high utility bills.
- What is the hidden factor in your pest control issues?
- Why are some rooms uncomfortable all the time?
- Where we find the biggest indoor air quality problems.
- The blower door test will reveal air leak locations.
- Your options for fixing the problems (even if it doesn't include hiring Stellrr).
- Thermal imaging shows hot and cold spots.
- Why Solar, HVAC, & Pest Control pros talk trash about spray foam. (It is incredible how much a spray foam decreases sales from reduced system requirements.)
- How long will it take to recover your investment?
- And much, much more!

We have been managing the overwhelming request for our services by charging $249 for our diagnostic consults. But for a limited time, we are performing consults at no charge. Book yours today while it is free.

https://www.stellrr.com/energy-audit/