



BRADEN ROOFING

“THE ONE WITH THE GREAT REPUTATION™”

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BRADEN ROOFING NEWS 11

HOMEOWNER'S GUIDE TO BLOWN-IN ATTIC INSULATION

Welcome to BRN 11. As I write this article, the fall season has begun. The neighborhood trees have gone crimson and golden leaves are now tumbling about the front and back yard. Halloween costumes have been picked out and my children's wardrobe has been switched over to winter.

Winter is on the way!

It is time to get ready for the cold!

Braden Roofing proudly offers blown-in attic insulation service to help keep your home warm, comfortable, and energy efficient during the cold winter months.

Hopefully, you will find the information in this BRN to be useful. We will take a look at the reasons why it is wise to have a good attic insulation system. We will also examine different kinds of insulation, different ways of installation, and answer a few other insulation related questions.

If you are interested in a more detailed study of insulation and energy issues, you may consider the following book:

Residential Energy (Cost Savings and Comfort for Existing Buildings)

By: John Krigger and Chris Dorsi

Braden Roofing regularly references the Krigger-Dorsi guide.

WHY DO WE NEED ATTIC INSULATION? Lots of reasons!

*Comfort

*Saving money on energy bills

*Maintaining a dry attic

*Helping the roof system function properly

*Environmental concerns

*Tax credits

*Health issues

The most important reason to have attic insulation is your own personal comfort. Let's face it, you really don't want to be cold in your own home. A poorly insulated home is going to be cold no matter how much heating gas (\$) you burn.

SAVING \$

Cost wise, insulation clearly pays for itself in energy savings. In some cases, the insulation cost can be recouped in a matter of a few years (according to the U.S. Dept. of Energy).

MAINTAINING A DRY ATTIC

Proper insulation will help protect a roof from trapped heat and moisture.

HELPING THE ROOF WORK RIGHT

A properly insulated attic is an important part of a roof ventilation system. For a more complete explanation of roof ventilation, feel free to look at Braden Roofing News III. Improper venting is the fastest way to void out a shingle warranty.

A lack of insulation can also indirectly cause ice damming, wet wood decking, and all the other problems associated with water.

ENVIRONMENTAL CONCERNS

Less energy consumption means less environmental impact. According to Owens Corning, 330 pounds of carbon dioxide emissions are PREVENTED for every pound of such emissions produced in the manufacture of fiberglass insulation.

WHAT ABOUT THAT TAX CREDIT THING?

Regarding tax credits for Energy Star products, I refer to the wisdom and experience of my good friend and business associate, John Scholtes. John is an associate at The Taylor Group (accounting firm) and may be contacted at (913) 236-7979. I highly recommend John as an accountant.

AN INTERVIEW WITH AN ACCOUNTANT

Q: What kinds of tax credits are available?

A: There are some great tax credits available to homeowners these days. The American Recovery and Reinvestment Act enacted earlier in 2009 expanded two home energy tax credits. These are the Non-business Energy Property Credit and the Residential Energy Efficiency Property Credit. I am going to focus on the Non-business Energy Property Credit since this is a great way to take a credit while cutting your home energy costs. The other credit is more focused on going green through the use of alternative energy equipment (solar, wind, geothermal, and fuel cell).

The Non-business Energy Property Credit is a great way to get a tax credit and weatherize your home. This Credit is available for making qualified energy efficiency improvements to your home. Some excellent examples of what qualifies taken directly from the IRS form 5695 would be insulation material specifically and primarily designed to reduce heat loss or gain in the home, exterior doors and metal or asphalt roofs with appropriate pigmented coatings or cooling granules that meet the ENERGY STAR program requirements designed to reduce heat gain.

This credit is 30% of the cost of the qualified material not including installation/labor costs with a maximum tax credit of \$1,500. This is a non-refundable credit which means it can lower your tax liability. However, if you owe zero tax and are eligible for this credit the IRS will NOT issue you a refund for the \$1,500.

Q: So what kinds of products qualify for the tax credit program?

A: There are quite a few items that may qualify for existing homes if they meet certain guidelines. These items are insulation, roofs, HVAC, water heaters, windows and doors. Here is a direct link to the Internal Revenue Service Form 5695 (draft) for 2009 that lists out what you can do to your home in addition to adding insulation and replacing the roof with qualified roofing material. I have also listed out below a link to the ENERGY STAR website that gives specific guidelines on each item that may be eligible. <http://www.irs.gov/pub/irs-dft/f5695--dft.pdf>

Q: How does one go about documenting this credit?

A: To get the credit you will want to discuss the credit with your professional installer such as Braden Roofing to insure that they are using recommended material. For insulation there are recommended R values for your home based on where your house is located and on the roof there are pigmented coatings, cooling granules, and even a flat roof system that have already been identified to meet ENERGY STAR requirements. You will want to have the material listed separately from the labor/installation charges. Only the cost of the material is eligible for the credit.

To take the credit you must complete and file the IRS form 5695 with your taxes by the deadline.

Q: Are there any potential pitfalls to this credit?

A: The biggest pitfall may be documentation. From a tax standpoint, everyone is different when it comes to their return, so actual savings vary. However, if you lower your energy bills by using the qualified insulation, you should still see savings. The only pitfall I see pertains to keeping proper documentation if you are ever asked about what you installed and if it qualifies (IRS audit). I would recommend choosing a professional such as Braden Roofing to assist with taking advantage of the energy improvements. A professional will be able to help identify the cost of the materials and their eligibility for the credit.

I would be happy to discuss any questions, or at very least recommend that anyone looking to use this credit that they discuss it with a tax advisor. For more information on this please find below some useful links I hope will help you in making an informed decision on one of your most important assets. You might also notice that even the IRS is “advertizing” this more as a reward for you instead of promoting the credit. They also have a video on this called “Money in Your Pocket” to help you out.

IRS website – IR-2009-98 Oct.,29,2009

<http://www.irs.gov/newsroom/article/0,,id=214873,00.html?portlet=7>

IRS on YouTube “Money in Your Pocket”

<http://www.youtube.com/user/irsvideos#p/a/0/WzLYDwulbu0>

Energy Star-Federal Tax Credits for Energy Efficiency

http://www.energystar.gov/index.cfm?c=tax_credits.tx_index

Note: Anyone wishing to contact John Scholtes directly for ANY kind of tax or accounting advice may try the following:

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 CERTIFIED PUBLIC ACCOUNTANTS
 8725 Rosehill Road, Suite 101
 Lenexa, Kansas 66215
 Direct: (913) 742-7483 Main (913) 236-7979 FAX: (913) 236-7975
www.taylorgroupcpa.com
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 Thanks, John. I'll leave the accounting to you.

Back to insulation.

COULD YOU PLEASE DEFINE SOME TERMS?

FIBERGLASS INSULATION—Insulation which is basically constructed of millions of tiny threads of glass: hence, “fiberglass”. It can come in both a batt(roll) or loosefill application.

CELLULOSE INSULATION—Insulation which is basically constructed of shredded newspapers. It is typically applied in a loosefill application.

FIBERGLASS BATT—Fiberglass which comes in a roll. It typically has a paper or foil backing which help give it shape.

LOOSEFILL---“Blown in” insulation.

R VALUE—The measurement unit for heat resistance. A higher R value indicates a greater resistance to heat transference. Therefore, R 45 is superior to R20, for example.

RAFTER BAFFLE—A rigid insulation construction which fits between rafters and allows air flow between the soffit area of the roof and the open attic area (see below).



ATTIC RAFTER BAFFLES (The darker pink rigid Styrofoam directly against the underside of the plywood). Baffles allow air to flow directly under the plywood even when the insulation is filled tight into the corners of the roof.

HOW MUCH DO WE REALLY NEED?

Department of Energy currently recommends a minimum attic insulation of about R 38 for the Kansas City area (see diagram). R, of course, is the unit of measurement for heat resistance. R 38 will typically mean an attic insulation thickness of about 15 inches. This may seem like a lot, and in fact it is. It is likely quite a lot more than your attic has at this moment. This is the minimum DOE recommendation. Please observe the following page insert. You will notice that Kansas City is actually very close to area 5 in which the DOE minimum is R 49. Homeowners would be wise to consider an R 49.

The insulation thickness, of course, can be measured as the COMBINED thickness of whatever insulation may currently exist in your attic, such as fiberglass batt (rolls), loose fill, or cellulose. Be aware that cellulose does compact over time. As such, it will lose some of its R value. If we install more loose fill fiberglass over the top of cellulose, the cellulose beneath may gradually compact a bit due to the additional weight of the fiberglass. If you have ANY cellulose insulation in your attic, do not be surprised if the thickness (and R value) lessens over time. If we are installing new insulation atop cellulose, you may consider a little extra thickness to compensate for this eventual compacting.

IMPORTANT NOTE! If we install new fiberglass insulation atop cellulose, we cannot absolutely guarantee the overall long-term thickness of the insulation. It is quite possible that the weight of the new fiberglass insulation atop the old cellulose will cause the cellulose to compact and thus lower the overall thickness of the entire insulation system.

IT ALL COMES DOWN TO PREP WORK

You may think, “Heck, it’s only blown in insulation! ANY knucklehead can do that!”

...Well, not true.

Those of you who are already familiar with Braden Roofing know that we are very particular about any work we do. Blown in insulation is no exception.

Some of the important prep work we do includes:

- Rafter baffles
- Insulation barriers
- Covering the attic door
- Expanding foam for air seals
- Insulation depth rulers
- Protection for non-IC lights

RAFTER BAFFLES

What the heck are rafter baffles? Rafter baffles are really nothing more than pre-formed air channels (usually made of Styrofoam) which allow air to flow between lower intake vents (such as at a soffit) to higher outtake vents (such as rooftop vents). Less careful insulation installers may neglect to install baffles. The result is that insulation fully seals the area between the soffits and the open attic area. This means that air cannot flow freely between the two areas. This can lead to condensation problems.

For a more complete explanation of rafter baffles, please look at Braden Roofing News III.

INSULATION BARRIERS

Insulation barriers are basically nothing more than walls which hold loose fill (blown in) insulation in place. Imagine that there are two different levels to your attic. One is, say, four feet higher than the other. How do you keep the loose fill insulation from spilling from the higher level to the lower?

The answer, of course, is to install a simple barrier consisting of structural 2x boards tied into the structure and straddled with some kind of sheathing (in this case, a thin Styrofoam insulation sheathing).

In the picture below, you are looking upward into an attic from the living space below. You can see the pink walls we have built which keep the newly installed blown in attic from just tumbling down into the living area every time somebody needs to access the attic.



(above) Pink rigid insulation board creates a barrier to keep attic insulation from just flopping down into your living area.

***SALESMAN ALERT*!!!** If an insulation salesman does not mention any kind of basic insulation barrier, you may be in for a “snow job”.

A commonsense alert:

Let's use some common sense. Think about your attic door opening. It is probably in some closet or

corner hallway. When you open it, you are of course in direct contact with the attic space. Can you just think what might happen if some knucklehead splats insulation everywhere without installing a barrier around the attic hatch? Can you imagine 19 inches of loose fill insulation just pouring down on your head when you open that hatch?

This may not be the kind of “winter wonderland” you were hoping for. Attic doors are a very important place to install insulation barriers.

There are many places where insulation barriers are important. Attic doors are only the most obvious. Others include level changes, areas surrounding attic fans, and other transitions. An insulation contractor who does not consider these barriers is not a serious contractor.

COVERING THE ATTIC DOOR

I am consistently amazed how attic doors are frequently not really considered important in the overall performance of an insulation system.

A commonsense alert:

Most attic doors are nothing more than a rectangle of sheetrock or plywood which fits inside a crude frame. If you have a smashing 19 inches of insulation over the rest of the attic, do you think it is really energy efficient to have an attic door protected by a mere half inch of sheetrock?

At Braden Roofing, we very much believe in installing some kind of insulation barrier on the attic door. Usually this means at least installing some batt insulation directly to the backside of the attic door. In rare cases, we may need to actually frame the attic door and stuff the framing insides with insulation.

At very minimum, we believe that we should install some insulation directly behind the attic hatch. It will NOT be 19 inches thick and will NOT match up with the insulation R value of the rest of the house. You should EXPECT some loss of energy efficiency around attic doors even under the best of circumstances. At Braden Roofing, it is our hope that we can turn this metaphorical hurricane of energy loss into a mere gentle tropical breeze.

EXPANDING FOAM FOR AIR SEALS

Expanding foam is useful for closing off potential air flow channels such as around plumbing pipe fixtures.



(Left) Expanding foam is great stuff indeed for sealing off incidental air leakage.

INSULATION DEPTH RULERS

Insulation depth rulers are basically disposable cardboard rulers which are installed vertically from the floor of the attic. By permanently installing these rulers, we can accurately gauge the depth of the insulation we have installed. This way, homeowners can know that they are getting the amount of insulation that they have already paid for.

At Braden Roofing, we believe in putting in plenty of insulation depth rulers.

PROTECTING NON-IC LIGHTS

IC refers to “Insulation Contact”. In other words, if a light (like, say, a canned light which extends into the attic space) is IC rated, it is okay to have it in direct physical contact with insulation. It will NOT catch the insulation on fire—which is a really good thing.

FYI, at Braden Roofing, one of the reasons we prefer fiberglass over cellulose is that fiberglass is far less likely to be a fire hazard. I will talk about that a little bit more in the next section.

FIBERGLASS VERSUS CELLULOSE?

At Braden Roofing, we can install either fiberglass or cellulose. We do tend to lean toward the fiberglass for several reasons.

- Long term R value
- Fire hazard
- Moisture issues
- Health issues

LONG TERM R VALUE

R value, of course, refers to the measure of resistance to heat transference. A higher R value means that insulation insulates better.

R value of blown in insulation depends upon the thickness of the insulation. On average, fiberglass and cellulose both have an R value of about 2.6 per inch. Cellulose, however, will tend to settle over time. The thickness decreases, and so the R value also decreases. Fiberglass does not compact over time. Once it is installed, the thickness should remain about the same permanently.

FIRE HAZARD

Fiberglass, of course, does not burn. Unfaced fiber glass is even recognized by building codes groups as an acceptable FIRE STOP in residential wood frame walls. Fiberglass remains inherently noncombustible for the lifetime of the product.

Cellulose, on the other hand, is principally made up of shredded newspapers. It is treated with fire retarding chemicals to meet minimum safety standards. However, these chemicals can lose their

potency over time. One study conducted by the California Bureau of Home Furnishings found that as much as 28 percent of the fire retarding chemicals in cellulose may already be gone within two years of installation. Some cellulose products have failed fire safety tests (ASTM E970) just six months after initial application.

At Braden Roofing, we like insulation that does not and never will burn.

MOISTURE ISSUES

Fiberglass is basically composed of long, tiny threads of stretched glass (hence, “fiberglass”). As such, it is not absorbent. Any moisture contacting fiberglass will at worst just lie on the surface of the fiber. It will not absorb INSIDE the fibers. It does not wick up and retain water.

According to the National Health House program (created by the Minneapolis affiliate of the American Lung Association), fiberglass insulation is resistant to moisture damage and do not support biological or bacterial growth.

HEALTH ISSUES

The fiberglass of today is a lot more user friendly than in years past. It used to be that skin contact with fiberglass would cause an itching rash. Not so anymore. The same applies to breathing the product. It no longer causes coughing and sneezing fits.

Obviously, if fiberglass does not support biological or bacterial growth, it is not going to support mold. Cellulose, on the other hand, can support mold.

Cellulose is also 20% composed of chemicals (by weight). Such chemicals include boric acid, borax, sulfuric acid, ammonium sulfate, aluminum sulfate, and calcium carbonate. The long term health effect of these chemicals is not known. Paper dust has been linked to chronic pulmonary obstructive disease.

CONCLUSION

Thank you for taking time to read this latest BRN. At Braden Roofing, we believe in doing the proper “prep” work for a quality insulation job. We prefer fiberglass. ...And remember...

If your house is cold and you need more insulation, call The One With the Great Reputation! TM

For more information: www.owenscorning.com

