

INSULATION EXPERTS NEWSLETTER

March 2011

Issue 1

Special points of interest:

- **Understanding Ice Dams**
- **Roof Ventilation**
- **Reverse Ice Dams**

Beyond Typical Ice Damming

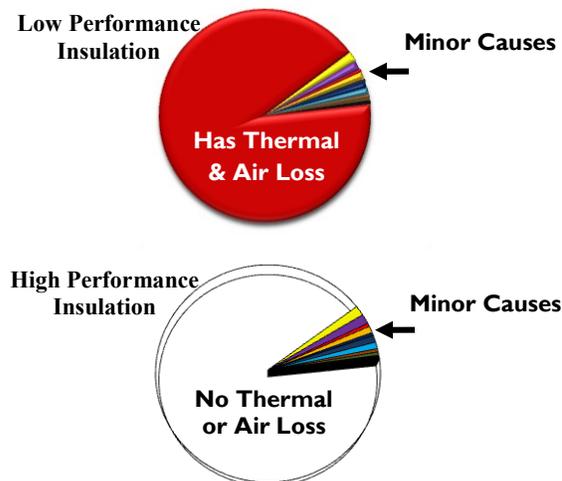
There are different severity levels of icicles. In most cases, the primary contributor to large ice damming is major thermal and air loss through low quality insulation. Typically the primary causes of ice damming are associated with excessive energy loss which is costing you money and may lead to possible interior damage. By using high performance spray foam insulation to remove the primary factors, we discovered that there still remains secondary (less detrimental) icicle forming issues that may or may not be controllable. There can be multiple combinations of these secondary factors that can induce melting and refreezing. These minor factors have been overshadowed all along, because they have blended in with the larger problems. However, these secondary factors are mostly non-costly, non-energy loss issues. With 32 years of experience in roofing and insulation we have found that spray foam, thermal infrared imaging and depressurization of the structure can accurately verify the reduction or removal of the primary contributors, allowing the secondary contributors to now be identified. Our research illustrates these other factors.



Figure 1: Fiberglass insulated structure along with a combination of several other icicle causing factors.

Inside this issue:	pg
Roof Ventilation & Ice Dams	2
Reverse Ice Damming	3
About us	4
Letter from the President	4
JAG News	4
Customer Feedback	4

IMPACT OF ICICLE CAUSING FACTORS



We have always guaranteed our insulation work against ice damming. This past winter went way beyond a typical winter. We had cold stretches for weeks. We had severe cold temperatures. We had record snow depths. We had a few occasional days of rain in the middle of all the cold! Well needless to say, we got called out on the carpet. We learned some valuable lessons. Don't bet against Mother Nature, she will get you eventually. Fortunately the ice dams that we encountered were small in terms of what we have prevented with spray foam insulation. The following discoveries were made. Some of the topics are common knowledge, some of them are not.

Figure 2: Graphs illustrate the effect thermal & air loss have on icicles.

Roof Ventilation & Ice Dams

Attic ventilation was designed as a way to combat the effects incapable insulation had on the roof deck & your living space. In the winter the warm air that escapes through fiberglass & cellulose insulations can cause condensation on the roof deck. If this happens the moisture will become trapped in the attic and begin to rot out the wood. Attic ventilation creates an air flow within the attic that will expel the warm, condensation causing, air into the outdoors. If the attic is vented properly and the insulation only has minor air leakage then the ventilation system will work as designed. A bi-product of well ventilated roofing system is the resolution of ice dams. This is because the warm air that causes the condensation on the inside is the same air the melts the snow on the outside leading to the formation of ice dams.

**The “Roof Ventilation Approach”
Alleviating the symptoms... not the problem!**

Attic ventilation is only trying to solve a symptom of a much larger and more expensive problem. Insulation that is allowing heat loss is the real issues causing all of these other problems. When ventilation is used to prevent condensation from gathering inside the attic, in turn what you’re really doing is venting the air from your heating system directly to the outdoors. This is extremely inefficient and expensive to do. A better solution would be to install an insulation that can prevent air leakage and moisture accumulation. This will lead to the roof deck moisture accumulation and ice dams never being a problem.



Figure 3: This home is an example of the “roofing” approach

“The ventilation intake system should not pull conditioned air from within the thermal boundary...”

The roof ventilation approach can be effective or ineffective. Success is dependent on how well the inlet vents, exit vents are working together. Installed improperly and these can have an enormous effect on icicles along with the structures heating and cooling bills. The ventilation intake system should not pull conditioned air from within the thermal boundary or short circuited by a gable vent or other improper combinations. An improperly balanced system may not have enough draw to vent off the heat loss from the structure and begin to create icicles.

If the ventilation system is pulling conditioned air from the structure and/or a mixture of outdoor air is the first item to be verified. If you can determine that it is all outdoor air (i.e. spray foam to the attic floor) then you need to consider balancing the inlet and outlet ventilation system. Verification can be accomplished with depressurization of the structure and enhanced with infrared imaging.

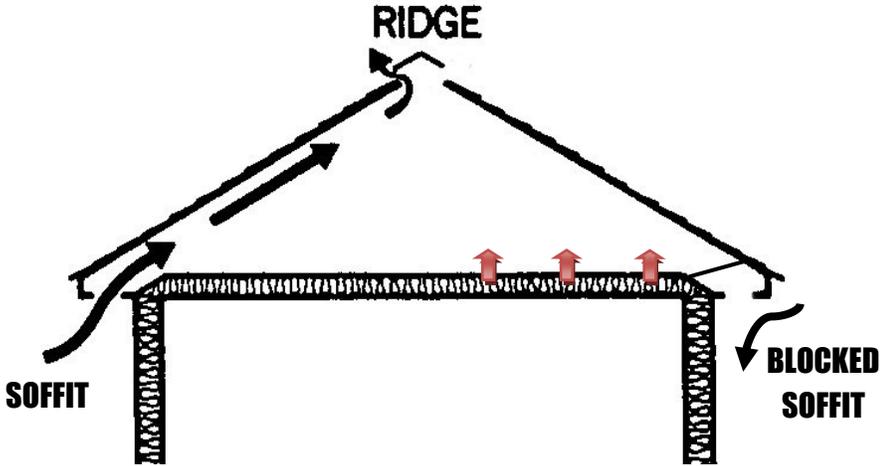


Figure 4: This home is an example of the “roofing” approach

Reverse Ice Damming

Reverse ice damming occurs if there are poorly insulated wall cavities that are connected to the soffits and a effective non-ventilated roof insulation system in the attic. The warm air that leaks out through the wall and moves up into the soffits located above the leaks. When that happens it warms up the overhang and melts the snow. Reverse ice damming is not detrimental to the property

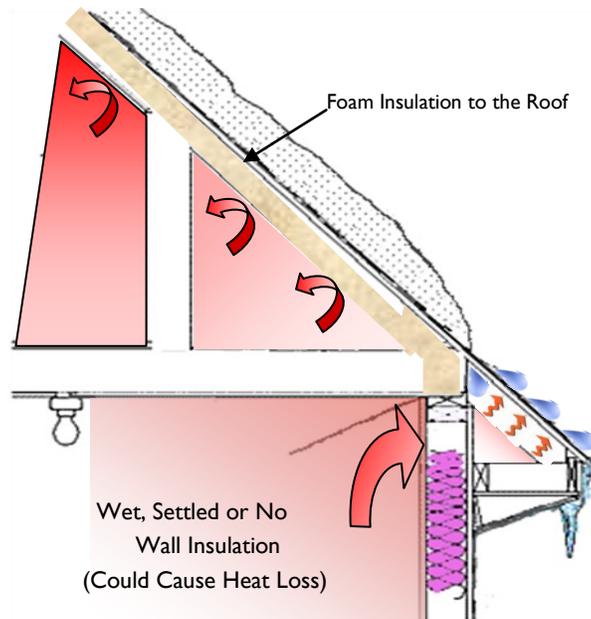


Figure 5: Once the heat is contained to the living space in the attic, it begins to escape through the low performance insulation within the wall cavities.

“Reverse ice damming is not detrimental to the property.”



Figure 6: Reverse ice damming can be identified by lack of snow on the overhangs, but not the remainder of the roof.

JAG Construction

290 Fisher Rd
Rochester, NY 14624

Phone: (585) 621-7040

Fax: (585) 426-8398

E-mail:

mikejag@jagsprayfoam.com

Stop Wasting Energy!

VISIT US AT
WWW.JAGSPRAYFOAM.COM

About Us

JAG Construction has been proudly serving the Greater Rochester Area for over thirty three years. Over those years we have earned exceptional expertise in the field of insulation. We possess the knowledge to diagnose problems and the professional ability to correct them. This is verified by our certification by the Building Performance Institute (BPI) and our relationship with New York State Energy Research and Development Authority (NYSERDA) Energy Star Program.

Letter from the President

Dear Readers,

Welcome to JAG Construction *Insulation Experts Newsletter!* We have decided that it is time to help our community by educating as many people as possible on the misconceptions of insulation. As most of you know, Jag Construction has been in business for 33 years because we try to use the best products and best techniques. We do the best job that we can for our customers, and then guarantee it. This is why we almost exclusively use spray foam insulation. Our 17 years of experience using spray foam insulation has lead us to some fantastic revelations that we would like to share with you. Using this product may be more costly up front, but pays huge dividends in the immediate and short term for all applications. Lately we have been seeing a huge growth in our business due to our past customers coming back for more, plus referring us to friends, family and neighbors. They are the ones inspiring us; they see the cost savings, the comfort, the problem solving. It's not uncommon for us to get beautiful thank you letters all the time! It's been rewarding to say the least. Our past customers are the true testimony of what this product is capable of doing. We are happy to share this "hard to believe" "to good to be true" product with all of you.

This newsletter will demonstrate the effectiveness of spray foam insulation in a variety of different applications. We will discuss conventional topics, but with new and high performance products and techniques. Please keep in mind I'm not a writer, but I really want to get the information of this product out there. We have done the necessary field research, and we have applied spray foam to all kinds of real world problems. When we screw up, we are there to fix it, learn from it, and prevent it from happening again. This is why we believe we have a lot of knowledge to offer you. None the less, if you don't want our newsletter, please let us know, we will not be offended if you want to be removed from our list. If you want to stay informed we welcome your comments, challenges, and criticisms.



Sincerely, Mike Jagodzinski