

## FLASH AND BATT INSULATION: AVOID COLD CLIMATE CONDENSATION PROBLEMS

### Flash and Batt: Is It a Great Application, or a Way to Get to Know Your Customer's Attorney?

Actually, both answers are true. Flash and batt can be a great application — when done correctly. When it is not, problems have often occurred. Sometimes those problems are big ones.



### A REAL LIFE SCENARIO

Last January got pretty cold in the midwest. It was one of those months that got cold and stayed cold for several days in a row. Unfortunately for one spray foam contractor (let's call him Nemo and his company Sea Foam), the temperature in his area stayed below ten degrees for almost five days. On the last of those five days, I got a call from Nemo at Sea Foam letting me know that it was raining inside a large custom home he sprayed that fall. There was even water coming out from the base of the walls.

As soon as I asked Nemo about the application, I knew what had happened. In order to help his customers save some money on their project, Nemo sold them one inch of closed cell spray foam to the outside of their walls and then offered to make up the

difference in the required R-Value by placing fiberglass batts over the spray foam. So, what was the problem?

## AVOIDING FLASH AND BATT CONDENSATION PROBLEMS

In this case, there were two problems.

The first problem was that one inch of closed cell spray foam insulation wasn't enough to keep the temperature on the surface of the foam above the dew point due to the temperature or conditions the house was experiencing. When the face of the foam inside the walls fell below the dew point, it became a condensing surface.

Think of setting a glass of ice water in a warm room. Moisture in the air begins moving from the warmer air to the colder surface where it condenses until droplets form. In Nemo's case, the droplets in the customer's walls had the perfect environment. It was so cold outside that the surface of the foam got cold. When this happened, droplets formed and sent out invitations to other droplets letting them know there was a party at the bottom of the wall cavity. That's when they decided to get together and make puddles on the floor.

This was not an easy fix. Or an inexpensive one. The drywall had to come off, there was a lot of repair, and there was also a very upset homeowner. One could say that this was a once in a decade condition, but it is still one the house would face.

Problem number two is one every company faces each time they send a crew out to spray foam to a specific depth.

When crews go out to spray one inch of foam, most of them do a great job. But there will always be spots that are over an inch and spots that are less than an inch. When it comes to flash and batt, those thin or marginal areas become a concern. Let's say a crew picture frames a cavity just over an inch thick and then sprays the center at 5/8". The thinner part at the center of the cavity may become a condensing surface, based on the conditions. The point is this: When doing the minimum for the climate zone the spray foam is being installed in, make sure you are meeting that minimum.

Other than removing the drywall and repairing the damage, the solution for this was easy: Add more foam.

To put the homeowner's fears to rest, one more inch was added all over the house. Think about that. Ouch! How do you keep this from happening to your company?

The **SPFA (Spray Polyurethane Foam Alliance)** has put together great resources you can use based on the region where you are installing the foam (they require your email to download). For those working in the southern climates of the US, document 146 is a great guide that can be used to make sure you are doing things correctly. For those in the northern climates, document 147 can be your go-to guide.

Takeaway tips: Use unfaced batts. The closed cell foam is a vapor retarder; it prevents any moisture in the wall from drying to the outside. The last thing you want to do is prevent it from drying to the inside. And be sure to apply at least the minimum amount of closed cell spray foam shown for your area. IDI recommends it, the SPFA recommends it, and it's the right thing to do.

Why do I think this can still be a good application? Here are four reasons flash and batt can be a great insulation option:

1. Structural strength  
Two inches of closed cell foam in a 2 inch by 4 inch wall can increase the racking strength more than 200%. (Here is a **study** done by the NAHB.)
2. Air Sealing  
Lumber packages are never perfectly straight, leaving room for air sealing that can often be missed in a standard build. Spray foam filling those gaps ensures that at least the field of the wall will be airtight.
3. Sound attenuation  
Closed cell foam is not the best at controlling sound. Adding a layer of unfaced fiberglass over the top provides some much needed sound control.
4. Cost savings  
Anytime you can decrease the amount of SPF and use more fiberglass, there will be a cost savings. The best part is, the savings comes without compromise, and without losing any of the benefits your customers were looking for by requesting spray foam.

Watch our video on flash and batt insulation installation for more information.

There you have it. Flash and batt can be good, it can be done right, and it can benefit both you and your customer. If you have any other questions on this or other applications, please feel free to **reach out to us at IDI**. We look forward to earning your business every day.

**BY KEN ALLISON**

**KEN ALLISON WORKS FOR IDI DISTRIBUTORS IN BUSINESS DEVELOPMENT AND BUILDING SCIENCE. TO LEARN MORE ABOUT CUSTOM INSULATION SOLUTIONS, REACH OUT TO IDI TODAY**