

**Ask Jon Eakes**

# Tips for working with fiberglass insulation

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## CUTTING FIBERGLASS STRAIGHT AND SQUARE

It is always easier to cut fiberglass batt insulation if you compress it down as flat as possible. That way you can get through in one pass. Using a piece of plywood gives you a straight edge at the same time.

There is a special device for this task but it is apparently very difficult to locate. It is a simple plastic holder where you insert your standard utility knife. The knife itself becomes a handle and the plastic mats down the batts just ahead of the blade, which can now easily cut through to the board below in one stroke.

One very good reason you need to cut batts accurately is that you need a snug fit in the wall, otherwise the cold air can flow right around the batt. It may surprise our American visitors but we no longer have any paper backed batts at all in Canada -- they were banned as a fire hazard. All batts here are what we call friction fit; they slide in snugly and simply stay put by friction.

## AIR GAPS CAN COST YOU 20% OF YOUR INSULATION VALUE

However, there is one common and critical installation error with friction fit batts. Look carefully at the photo with a six inch batt shoved into a 6 inch stud cavity. I have covered the sheathing side with Plexiglas just to see clearly what happens inside the wall. As the batt slides into the cavity, the edges and the corners tend to bend back. Inside the house it may look perfect, but on the sheathing side almost half the width of the stud is exposed to outdoor temperatures. It also leaves a vertical triangular path all the way down the stud for air to flow. Government research determined that this convention flow of air and the exposure of the stud can reduce the effective insulation value by over 20%. That is a serious waste of money and can lead to condensation on the drywall right over the studs.

If you have these triangular air channels on the cold side of the insulation, and happen to have the batt pushed in a tiny bit on the front side leaving an air space between the fiberglass and the vapour barrier -- the air on the drywall side of the batt will be warming up and rising to the top, while the air on the outdoor side of the same batt will be falling down those triangular channels. That can simply become a pump -- pumping warmth from the drywall to the sheathing, almost eliminating the insulation value of the wall.

The proper way to install a friction fit batt is to shove it all the way in, assuring that the hidden corners are filled with insulation, then pull the face you are working with back out flush with the inside face of

the studs. A stud cavity with no air pockets will give you full value for the insulation you paid for.

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