

## Myths About Insulating Old House Walls

Submitted by [Bob Yapp](#) on Sun, 06/07/2009 - 2:48pm

I was recently chatting with a neighbor who asked, " We love our 100 year old home. However, it sure is a drafty old place! We're interested in blowing insulation into the walls, what do you think Bob?"

Let me start by saying, if you live in an old house you are part of a large group of plaster dust lovers. I have great respect for and kinship with people choosing to live on tree-lined streets full of unique old homes with character.

Having said that, it's time for an old house reality check. If your goal is to continue loving your old house, make it energy efficient while keeping your costs down, then you absolutely **don't** want to blow insulation into the sidewalls.

One of the top reasons for exterior paint failure, termites and structural damage to old houses is loose cellulose or fiberglass insulation blown into the sidewalls. "Hey, wait a minute Bob, if we can't insulate the sidewalls, how can we afford to heat our old house?" That's a valid question but you need to think of air movement in your house as if the house were a chimney. Heat loss primarily happens in an upward movement. So, I want you to insulate your attic space to an R-38 with eave ventilation. You should also friction fit craft-faced (paper faced) fiberglass batting- insulation or foam board into the box sills in your basement (the area where the beams or floor joists rest on top of the foundation). The craft face acts as a vapor barrier and should face the inside.

Most building codes today require that when a new house or addition is built in a northern climate, it must have a vapor barrier. When a new house is going up, they frame the sidewalls and install exterior sheathing. The next step is to go inside and install fiberglass, batting insulation between the 2" x 4" or 6" studs. Before the drywall can be installed over this wall, 4 mil thick plastic sheeting must be laid over the insulation on the entire wall. That plastic sheeting acts as the vapor barrier.

We create warm moist air in our homes by cooking, taking showers, having plants, breathing etc. That warm, moist vapor is attracted to the exterior walls. This vapor enters the wall through hairline wall cracks, outlets, switches and window trim. In new construction, the plastic vapor barrier under the drywall stops the wet air from getting to the insulation and condensating.

In old houses with plaster walls, there is no vapor barrier under the plaster so the wet air hits the insulation and condensates. This wets down the blown-in insulation making it a wet mass at the bottom of the wall cavity creating an inviting place for termites and dry rot. Then the moisture enters the exterior sheathing and wood siding causing permanent exterior paint failure. Since the homeowner, for some "unexplained" reason, can't keep paint on the house anymore, they call the vinyl siding salesman. This makes the problem even worse as you now have backer board (insulation board) and vinyl siding which in combination creates a vapor barrier on the outside of the wall that stops the free exchange of air, trapping more moisture.

The other factor that must be examined is payback. Lets say you spend \$4,000 to have your old house walls insulated. In my experience you would probably save about \$200 per year on heating and air conditioning costs. So, it would take twenty years to recoup the money you spent on the insulation. Results and pricing can vary and this doesn't take into account the termites, dry rot or paint failure.

I've inspected thousands of old houses with blown-in insulation and over 80% of them have this wet insulation problem.

If your house is drafty then tighten it up. Weather-strip your windows and doors, keep the house painted/caulked well, insulate the attic and box sills. This will stop the air infiltration, make you more comfortable and **really** save money on utilities.

For those who have already blown insulation in their old homes, it can be removed. You'll need to remove several courses (rows) of siding and sheathing from the bottom of each side of the house as

well as above the windows and doors. Just pull out the wet mess, let the wall dry out for a while and re-install the siding and sheathing.

You can also try to create a vapor barrier with special interior, vapor barrier grade paints. The effectiveness of the paints is severely limited and you'd still have to caulk all the window trim, outlets and switches. If you do this you'll also want to take the 1" diameter plastic plugs out of the siding. This is where they drill those attractive holes in the outside wall to blow-in the insulation. Replace them with screened and louvered 1" diameter vent plugs. You can buy these at lumberyards. This will allow the wall cavity to dry out once the wet insulation is removed.

Again, the primary issue for energy efficiency is stopping air infiltration. There is no reasonable payback to blowing insulation into your sidewalls. This practice has truly been the ruination of many of our historic central city homes.

For more information go to [www.nps.gov](http://www.nps.gov) and look for Preservation Briefs on insulation. This is the site of the National Park Service.

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