



Icing the Roof

by Henry Spies

Q. We recently looked at a roof (in New Hampshire) where double-coverage roll roofing was placed directly over Thermax insulation on a plank-and-beam roof deck. The roofing was badly deteriorated and the owners had reported bad ice dams as well. The house was only ten years old. Should the original builder have put roofing directly over foam insulation? Also, how should we fix the mess? We are considering furring up the roof with 2x4s, then installing new plywood decking and roofing. We would then ventilate the 1-1/2 inch air space.

A. Asphalt shingles or roll roofing should never be installed directly over insulation, as in your case. Recently, the Asphalt Roofing Manufacturer's Association went further and stated that the roofing should not go directly over any insulated deck. It is essential that the roofing be installed over a deck that can dissipate heat by radiation from the underside to prevent excessive roofing temperatures, shortening the life of the roofing material. Many have disputed this announcement, but your case supports their point.

To correct the situation, you'd be safe to add furring and new plywood decking to create a ventilated "ice-house" roof, as you describe.

Let the Floor Move

Q. We plan to install 1x6 T&G yellow-pine flooring in a new house. Does it make sense to glue the flooring to the subfloor with construction adhesive, rather than use felt paper? The goal is to reduce the likelihood of cupping and/or squeaking.

A. Don't glue the flooring to the subfloor—it must be allowed to move slightly with changes in moisture content. If glued down, it may crack if it shrinks. The best way to control cupping and squeaking is to be sure the flooring and subfloor are dry when the floor is laid, and that both are kept dry. A moisture meter should be used to check the subfloor and flooring, and best results will occur if both have a moisture content of 11 percent or less.

Plumbing Shut Down

Q. What is the best way to shut down a building during freezing weather? Can the plumbing and hydronic heating be completely drained?

A. In most plumbing systems, a plumber can drain the supply pipes and blow the system dry. However, antifreeze will be needed in all traps to keep sewer gas from accumulating in the house. Draining the hydronic heating system is also possible, but it is more difficult, particularly with the old cast-iron radiators.

Rather than drain the system, I have known people to successfully protect hot-water heating systems by filling them with a 50/50 solution of recreational-vehicle antifreeze. This is potable antifreeze (propylene glycol),

which must be used rather than the poisonous automotive type, because of the connection to the domestic water system through the automatic fill valve. This approach will work as long as there are no leaks in the system, in which case the antifreeze will get diluted as the system is automatically refilled. This treatment is not practical for steam systems and can get very expensive with cast-iron radiators due to the large-capacity.

You should also be aware of the other problems with leaving the building unheated, such as freezing below floor slabs or around foundations. If the soil is wet, frost heave and cracking could result. Also, plaster walls should not change temperature at a rate greater than 10 degrees per day, or thermal cracks may occur.

The best approach, I believe, is to keep the building heated to at least around 45°F.

Smokey Flues

Q. In two townhouses that share the same chimney (two flues), wood-stove smoke from one flue sometimes goes down the neighbor's flue if it is cold. What causes this and what can be done to prevent it?

A. If there is a negative pressure in the adjacent unit, caused by a vent fan, other stack effects, etc., the cold chimney will be drawn backward through the draft hood of the furnace or through the fireplace damper as a means of replacing the air that is being exhausted. Since the chimney inlet is adjacent to the smoke exiting the other flue, the smoke will be drawn in as well. More commonly, this problem occurs where a fireplace flue and a furnace flue are side-by-side, and the smoke from the fireplace is sucked into the furnace room. About the only way to prevent the problem is to install a barometric damper in a return-air duct (or a through-the-wall inlet) that will bring in outside air when there is a negative pressure in the living unit.

Wood Gutter

Coatings

Q. What can I use to treat old wood gutters now that creosote-based coatings are not available?

A. I am not sure that any coating is necessary. Wood gutters were usually made with green Douglas fir, and the surface coatings will not penetrate to any significant extent. In order to do their job, the gutters must be sloped and kept free of leaves and debris so they can drain dry. If a liner is needed, an EPDM rubber roofing material, attached with a neoprene adhesive, should work pretty well. ■

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