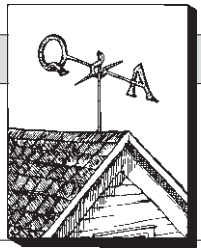

Is Steeper Better?

by Henry Spies

Q. *Is it true that the steeper a roof is, the longer it will last?*

A. Yes, the steeper the roof, the longer the roofing material will last. Because water runs off the roof more easily, the roof covering will dry faster. And during the hottest part of the year when the sun is higher overhead, a steeper roof will absorb less solar radiation than a flatter roof. There are limits, however, since some materials will not be heavy enough or the adhesive strong enough to hold the roofing material on very steep roofs, such as those greater than 20/12. Fortunately, not a lot of designs call for such slopes.

Under-Slab Heating Ducts

Q. *Do under-slab heating ducts create any health problems with mold, radon, etc.? If so, what can be done to avoid these hazards?*

A. If water leaches into the ducts, molds can grow, particularly during the summer cooling season. As far as radon is concerned, as long as the blower is running, the supply ducts are pressurized and no radon can enter the system. Return ducts, on the other hand, would be prone to suck radon gas in. Also, if there are leaks, radon gas could enter the ductwork when the blower is off. To prevent this, the under slab should be well-drained, and the ducts should be well-sealed with a high-quality, foil duct tape such as *Nashua 324A* (Nashua Tape Products, 2600 7th Ave., Watervliet, NY 12189; 800/258-1342) or *Polyken 339* (Polyken, 690 Canton St., Westwood, MA 02090-9167; 800/248-7659).

I have heard of some problems with termite treatment chemicals that were accidentally injected into the ductwork rather than under the slab. Many pest control operators will not treat a slab with heat ducts in or under it, because they could hit a duct when drilling through the slab. This can be easily avoided by starting the blower after the holes are drilled and before any chemicals have been injected; any holes in the ducts could then be easily detectable. There may also be a problem with chemicals leaching into the ducts with groundwater. Again, if the fill under the slab is well-drained, and the ducts are sealed, there shouldn't be a problem.

Laying T&G Plywood

Q. *How should tongue-and-groove plywood be laid? Do you have to account for expansion between sheets?*

A. The American Plywood Association recommends that T&G plywood sheets be spaced 1/16 inch apart at both sides and ends. The thickness of a nickel is about right. A little more space is acceptable; less is not. This applies whether or not a construction adhesive is applied to the joint.

Installing Backerboard

Q. *Should I install cementitious backerboard (Durock, Wonderboard, etc.) with the rough or the smooth side facing out?*

A. Backerboard is usually installed rough side out when used under a thin-set mortar for slate or ceramic tile flooring, and smooth side out when it is a base for adhesive-set wall tile.

Wide Plank Woes

Q. *Why are my wide-board pine floors shrinking and warping?*

A. There are many reasons wide planks will shrink, cup, and twist. A lot depends on how the lumber grew. But the most important factor that we can control is the moisture content of the planks.

The floor boards will shrink if their moisture content was high at installation. After the house has been occupied for a heating season, the boards will dry and contract. In most houses in cold climates, the final moisture content of wood is 9% to 11%. If the moisture content at installation is more than 13%, significant shrinkage is likely. In the old days, flooring was always "conditioned" by storing it, stacked and stickered, in the house for 30 to 60 days before it was laid. This allowed the moisture content of the flooring to equalize with the rest of the house. Nowadays, you can measure the moisture content with a moisture meter to see if it's safe to lay the floor. If the moisture levels are high, you'll have to condition the wood.

As for warping, wet wood will warp as it dries, particularly if it is flat sawn. Since most of the pine cut these days is from smaller, second-growth timber, the likelihood of it being flat sawn or flat grained is high. Edge-grain (quarter-sawn) boards will warp less, but cost a lot more.

Moisture from below the floor, such as from a damp crawlspace or basement, can also cause the boards to cup and twist. The only cure in this case is to install a vapor barrier over the damp areas. ■

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