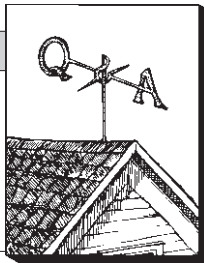


Shellac Should Do It

by Henry Spies



Q. *What interior and exterior paint systems will hide white pine knots and pitch?*

A. There is nothing that will stop pitch from oozing out of the pine until it has dried completely. Two coats of pigmented white shellac should cover the knots and the hardened pitch, either interior or exterior. Any standard interior or exterior paint system will go over the shellac.

Stain Cover-up

Q. *A customer wants us to apply light gray stain over the existing dark brown stain on plywood siding. Is there any way to cover a dark stain with a light stain? What type of stain is best for this?*

A. Two coats of an opaque gray stain should do the job. It may eventually weather to the point where the brown starts to show through, but that is when another coat of opaque gray is needed. The plywood association is recommending latex stain over oil-based, but if you have a good brand of oil-based stain, stick with it. We have found Cabots O.V.T. series of opaque stains to give about 7 years per coat under Midwestern conditions.

Fishing For Heat

Q. *How feasible is it to use a nearby pond as a heat source and sink for a heat pump? What are the main technical and regulatory problems?*

A. Very feasible indeed. The pond should be at least 12 feet deep, and have a minimum size of an acre or so, although smaller ones can work, depending on depth. Since the piping used for a heat exchanger is either high-density polyethylene or polybutylene, even brackish water could be used. I do not know of any regulatory problems, but only because most local jurisdictions haven't thought of any yet. The heat-exchange lines are filled with a potable anti-freeze solution, the same one used in recreational vehicles, so there really shouldn't be any need for a double-wall heat exchanger. The COP of a water-to-air heat pump running from a pond should be greater than 3.

Cedar is Cedar

Q. *Your article on cedar shingle and shake roofing (May, '87) mentions only red-cedar shingles. Is there any reason why I shouldn't use white cedar shingles for roofing (in Pennsylvania)? Which grade of shingle is advisable?*

A. There are two species of wood that are commonly called white cedar. Northern white cedar is sometimes called just cedar or arborvitae. Atlantic white cedar is also known as juniper, swamp cedar, boat cedar, or southern white cedar. The heartwood of either type of

white cedar is rated as highly resistant to decay, just as is Western red cedar, which is the species usually used for shingles. While white cedar shingles are not commonly available, I see no reason why they should not be used for roofs. I am not familiar with the grading system for white cedar shingles, but considering the labor involved in the installation, I would suggest that the best grade available would be the most cost-effective over the life of the roof.

Ice Dams Again

Q. *Last winter, we were called back on a mansion-sized house we built in Connecticut due to severe ice dams. Although the attic is ventilated, it has six heat pumps in it which may be melting the snow. Any ideas?*

Q. *What options exist to prevent ice damming at roof eaves? What contributes to ice damming—insufficient insulation in the ceiling?*

A. The answers to both these questions must be based on the knowledge of what causes ice dams.

When snow accumulates on the roof, the vagrant heat from the attic melts the snow layer touching the roofing. The snowmelt flows downward to the edge of the roof. As it passes from the area that is heated by the attic, it cools and refreezes, forming a ridge, which backs up the succeeding water behind it. As that water gets deep enough to flow over the ridge, it, too, freezes and raises the level of the dam.

I have seen ice dams more than a foot high at the edge of steep roofs. As water ponds behind the dams, it flows back under the shingles, producing a leak. The presence or absence of gutters has no effect on the dam formation.

Additional Problems

Q. *Where do vapor barriers belong in crawl spaces? I am building a crawl-space addition to a house with a full basement. Should I insulate the new floor in the addition or the new foundation wall? The rest of the house has two inches of extruded-polystyrene insulation around the outside of the foundation.*

A. The polyethylene vapor retarder belongs on the soil surface. I would insulate the new foundation wall rather than the floor, although either can be done. The wall is usually much easier to insulate, and you do not have to insulate pipes and ducts as you would if the floor were insulated. Also, there is considerable summer cooling by radiation from the floor to the soil beneath if the floor is not insulated.