

## Roof-Mystery Suspects

### To the Editor

I'm writing in reference to your May 1987 article "Mystery of the Ghost Lines." From my roofing experience, I have found that with airtight roofs such as these, air escapes from any point possible. The new design that worked well for the author of the article allowed the hot air rising from within the house to escape in a controlled way.

What I believe happened (in the problem roof) is that heat escaped between all vertical and horizontal joints. But shingles will not move or show as much movement vertically as they will horizontally. Try putting two nails six inches apart in a shingle, move the shingle, then nail the last two nails. The shingle will pucker and the next shingle over it will also pucker.

This could be what happens to the shingles in winter with expansion and contraction of the panel joints and the shingles. The more ventilation given to this type of roof, the less heat will escape through the roof joint, thus relieving the problem.

**Wayne Brown Jr.  
W.E. Brown Roofing  
Keene, N.H.**

## Ice Dams Can Face South

### To the Editor

The article in your May 1987 issue concerning "Ice Damming" was greatly appreciated by us. It was the best written material on the subject that I've seen.

I did take exception to one fact: at least in our geographic region, it is south-facing roofs, not north-facing that are most vulnerable to the ice-dam phenomenon.

Most articles make the case that ice dams result only from heat loss through the attic and are not affected by sunlight or exposure. In the Middle Atlantic States, however, it is the south facing roof that is most vulnerable.

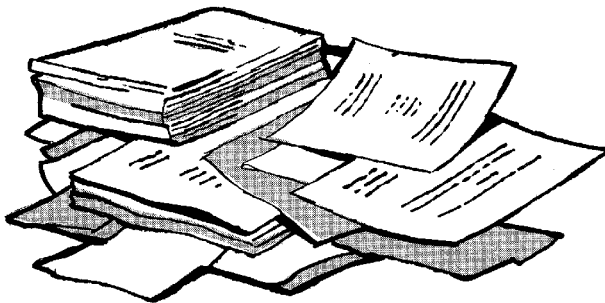
**Lee A. Casper  
Jenkintown, Penn.**

### Alex Wilson replies:

The formation of ice dams is a complex phenomenon, dependent upon many factors, including weather conditions, roof pitch, ventilation, roof surface, and orientation. Because all these factors interact to varying degrees, it is not always possible to draw firm conclusions about the effects of any one of them, particularly roof orientation. In some weather conditions, some roofs may be more likely to form ice dams on the south slope while in other conditions, the same roof may only have problems on the north. While Mr. Casper experienced problems on south roofs last winter, he could conceivably have trouble with ice dams on the north side this winter.

From calls I have made, and from my own experience further north, it seems that ice dams are more likely on north-than south-facing roofs. But this is obviously not always the case, and it may be the opposite further south. From a practical standpoint, putting theory aside, you should expect ice damming on all roof orientations, and plan for it accordingly.

# Letters



## Treating Wood Roofs

In the May 1987 issue, Henri de Marne's article on wood shingles was top rate. How about a source for copper-8? Also, does pre-soaking or dipping shingles in copper-8—before installation—give any added life to the coat?

Thanks for your help. I look forward to NEB every month.

**Neal Meltzer  
K&N Construction  
Limerick, Maine**

As it turns out, the Texas Forest Service (TFS), which did the original research on copper-8 quinolinolate, no longer recommends it—because they've found longer lasting treatments. (The copper-8 lasts less than two years under mildew-prone conditions.)

TFS's first choice for a water-borne treatment is now Cunapsol-5 (Chapman Chemical Company, Memphis, Tenn. 800/238-2523). Diluted to a one-percent solution in water, this will last at least five years if the owners will make an effort to keep the roof moderately free of debris. Like other treatments, it is best applied after the roof has been power-washed. Brian Buchanan of the Texas Forest Service prefers Cunapsol over similar copper treatments because it is the only one that fully dissolves in water—making for better penetration into the wood, and easier cleanup.

While Cunapsol and most other copper products are more toxic than Copper-8, Buchanan says they are still quite safe, and can generally be used around planters and nursery-stock beds. (Contact the manufacturer of whatever chemical you use for full material-safety information.)

Because Cunapsol and other copper products give roofs a greenish hue, pigment is usually added to the treatment. Chapman sells one called Presto Cedar Brown that will give the roof a nice cedar look. With the pigment, Cunapsol costs about \$4 a gallon in diluted form. A gallon does one square of shingles (shakes take 50 percent more spray).

Next on the list are zinc-based formulations. These cost about the same, are slightly less toxic, and don't last as long—typically three to five years using a three to four percent solution. Their chief advantage is that they are clear, so no pigments are needed. One zinc compound recommended by TFS is W552 (Mooney Chemical Inc., Cleveland, Ohio 800/321-9696).

Next come the oil-based formulations. These add about \$1.50 per gallon of spray because of the oil base, but will help prevent cupping, cracking, and UV-deterioration, whereas the water-borne products only stop mold and mildew growth. For areas in strong direct sunlight, oil-borne is the way to go. Two recommended products are oil-borne copper octoate (Akzo Chemie America-Interstab Chemical, New Brunswick, N.J. 201/247-2202) and oil-borne copper naphanate (Interstab or Monney). For a clear solution, use zinc. Use only chemicals that are EPA-

registered as a preservative.

For the oil base, don't use mineral spirits as is commonly done. Mineral spirits, Buchanan points out, will just evaporate—and provide no advantage over water. Instead, use naphthenic oil, which you can buy from any "oils and lubricants" distributor listed in the Yellow Pages. Ask for a "100-second coastal pale oil." Oil treatments outlive comparable water-borne treatments by two to three years because they leach out more slowly.

If you really don't want to mix your own treatment, and don't mind spending more money, try a product called Seal Treat II, sold under the brand name Klean Strip (W.M. Barr Co. Memphis, Tenn.) The active ingredient is called busan, and Buchanan says it's good for a couple of years in mold-prone conditions. Other over-the-counter products, he says, are hit-and-miss, and change their formulations regularly. Know what you're buying or you may be spending a lot of money for a one-year treatment.

As for dipping versus spray, there's no real advantage to dipping with a water-borne product since most organic growth is from the exterior of the shingles. With oil-borne, however, you may increase the life between coats to eight or nine years by sealing out moisture from both sides.

With any treatment, let new shingles weather for a month (shakes four to six months) before spraying. This delay lets the natural glazing of wood resins weather from the surface of the wood—and lets the treatment in.—Editor

### To the Editor

During December I took off for a few weeks to visit my oldest daughter. Next door, they were building a house. Like a typical builder-tourist, I made a couple of visits to the site each day to check things out.

The house was constructed from concrete block with a frame roof, so the lead man on the project was a mason rather than a carpenter. He was an excellent mason, skilled in all aspects of his trade, and had a crew of three: a carpenter, a tender, and a helper. The carpenter was also quite skilled, did his own work and, without being called, was there to help the mason when he was needed. The tender was an older man, the compleat mason-tender, always keeping the tray filled and never exerting one calorie, more effort than was required. The helper was a pleasant young man, always laughing and joking, who was incredibly lazy and constantly hollered at by the mason and the carpenter.

A couple of days into the work, the electrical sub showed up. The wiring was to be in conduit within the concrete block, and the electrician, a sour, unfriendly man, randomly chiseled a channel in the blocks. When he reached the cast-in-place lintel beam, he just kept right on chopping with his chisel. The mason was absolutely irate, but the electrician stared and grunted as though the mason were irrational.

On the second weekend, the owner showed up and had a fit. He was getting married the following week, and the contractor had promised to have the house ready for his new bride. He called the contractor onto the job and tried to castigate him, but

the contractor smiled, spoke calmly, put his arm around the owner, and assured him that everything would be all right. Then the contractor chewed out the carpenter, who hung his head in apology. The contractor attempted the same with the mason, who was a little too arrogant and simply walked away. The helper just stood and grinned, and the tender hid. After this scene, the contractor again put his arm around the mollified owner with more reassurance.

The contractor did double the crew, and they blasted away for the final week, screaming and sulking and generally working pretty hard. Three days before the wedding they had most of it together, and the owner appeared to be reasonably happy. I had to go home then, and I guess everything worked out. The construction was not great but good enough, it was on time, and the owner was both satisfied and a little irritated.

The interesting thing about this project is that it did not happen in Concord or even Atlanta or San Diego. It happened in Bogo, a city in Cameroon, where my daughter is an English teacher with the Peace Corps. No one on the job knew any English, speaking only an African tribal language and a little French. However, building is building, communication isn't that hard, and I had enough sense to grab the other end of the board when someone needed a hand.

Do you know the fundamental difference between building in New England and building in West Africa? Do you know why we call it the Third World? Damned if I do.

**Harris. Hyman  
Lamoine, Maine**

## Fancy Shingle Source

### To the Editor

Referring to Gordon Tully's article "Wood Sidings" (NEB 2/87) are there any companies that produce "emblem" and other patterns in kit form?

**Robert E. Haskell**  
Haskell Home Improvements  
North Eastham, Mass.

*We know of two companies that offer dimensional or "fancy-cut" shingles in pre-cut and panelized form. They are: Silver Tree Farms/The Cedar Guild, 51579 Gates Bridge East, Gates, Ore. 97346, (503)897-2541; and Shakertown Corp., P.O. Box 400, Winlock, Wash. 98596, 206/785 3501.—Editor*

## Tyvek Under Wood Roofs?

### To the Editor

In the article "Wood Shakes and Shingles," (NEB 6/87) the author says that wood shingles applied over solid sheathing should not have felt underlayment or strips of felt interlayered between courses. But then it goes on to say that for "extra protection against leaks, use a highly permeable underlayment." Does this mean something like Tyvek? Is ordinary felt paper okay in this application?

**David Dow**  
Gloucester, Mass.

*According to Patty Wood of the Red Cedar Shingle & Handsplit Shake Bureau, you don't really need an underlayment with wood shingles because they form a tight enough seal to prevent water penetration.*

*Still, she admits, many contractors want the extra protection from rain or air infiltration. For them, the Bureau recommends a "dry-unsaturated, breathable-type paper." Translated, that means Tyvek and its clones, or unsaturated rosin paper.*

*Such paper can be used over solid sheathing, spaced sheathing, or combination sheathing (solid plus horizontal strapping above). Asphalt-impregnated felt paper, however, should never be used under wood shingles. It will prevent normal drying to the inside, and can trap moisture and lead to premature failure of the shingles.*

*Proper attic ventilation, Patty Wood stressed, is also key to long shingle life. For more info on the installation, care, and treatment of wood roofs, contact the Red Cedar Shingle & Handsplit Shake Bureau, Suite 275, 515 116th Ave. N.E. Bellevue, WA 98004, 206/453-1323. —Editor*

## Master Thatchers in S. Florida

I love the warm organic look of the thatched roofs on page 57 of the May 1987 *New England Builder*. But while you emphasize Asia, Europe, and especially Great Britain, might I point out to you that Native Americans (and not just two U.S. firms) have been building excellent thatched roofs for countless centuries and still are.

On a recent trip to South Florida I

saw many beautiful examples of Seminole and Milosukee craftsmen whose "chickee" roofs routinely: "last 70 years, withstand winds of over 100 m.p.h., resist mildew and fungus, and stand up to heavy rain, snow and intense heat." OK, I admit, no snow.

Britain hurrah ... but what about the common sense architecture of our own native people?

And \$2500 a square—Gimme a break! I could get you a crew from Florida that would bowl you over!

**Robert F Bailey**  
Liberty, ME 04949

## Moldy Ceilings & Vapor Barrier

### To the Editor:

We read with interest in the May 1987 issue of *NEB* an article by William A. Lotz on interior condensation caused by the failure to install a proper vapor barrier in ceilings.

About 15 years ago, we built a house for a family which insisted on installing a vapor barrier in the ceilings as well as the exterior walls, and insisted that it be tightly sealed. We did this. Within six months of completion, the house developed a severe case of mildew in the upper corners of all rooms. After much casting about for solutions, we ended up taking the ceilings down, and removing the vapor barrier. The mildew was not a problem thereafter. This was such a terrible experience for us that we have avoided ceiling vapor barriers ever since.

We now believe that the problem may have been that we had, without knowing it, built an airtight house without any provision for ventilation beyond the kitchen and bathroom exhaust fans, and that the problem could have been solved by installing a proper ventilation system. However, Mr. Lotz said nothing about the need for or effectiveness of ventilation systems with the airtight houses in his article, and so we would be interested in his comments on our problem and on the need for ventilation in the airtight construction he is recommending.

We wish to commend you on a truly informative and excellent publication, and urge you to keep up the good work!

**H. LeBaron Preston**  
The Ranger Company  
Bristol, R.I. 02809

### To the Editor

#### William Lotz replies:

*As I have written dozens of times in NEB, the solution to moisture problems—such as moldy drywall—is a combination of insulation, vapor barriers (poly), and ventilation to keep the relative humidity down.*

*Remove any one of the three and you are in for trouble.*

*As for why mold appeared in the ceiling corners, chances are you had cold spots at these points caused by missing insulation, air leaks, or thermal bridges caused by through-structural members. The high interior relative humidity combined with the cold wall temperatures at the corners led to excessive condensation and mold growth.*