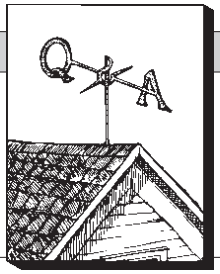

Treating Wood Roofs

by Henry Spies

Q. *Are there any treatments that will extend the life of a cedar-shingle roof that was untreated when installed 10-or-so years ago?*

A. Cedar contains its own preservative, but treatment with a water repellant does seem to extend the life somewhat. Two good, clear water repellants are Flood's CWF, for roof shingles, and its Aqua-Trol, for wall shingles. I'm sure other manufacturers have similar products, but I am familiar with this brand. A reapplication interval of 5 to 10 years seems appropriate. ■

Rusty Pipes

Q. *What causes pinholes in copper and brass plumbing, and rust-through of cast iron?*

A. Pinholing in copper and brass is usually caused by electrolytic corrosion. This can be caused by the connection of dissimilar metals, which can generate an electrical 'current. For instance, zinc disks and copper pennies, separated by a blotter soaked in saltwater, are used to generate electricity in a high-school chemistry or physics class. A copper pipe and the zinc coating on galvanized iron pipe form exactly the same battery, and most potable and wastewater contains some soluble salts. A dielectric or insulating union should be used to connect piping of dissimilar metals.

The rust-through of cast-iron drainage pipe is caused, in many cases, by impurities in the old cast iron. The quality control in some of the old foundries left a lot to be desired, which is why extra-heavy-weight iron was usually specified. I have found instances where the waste material was corrosive enough to eat through the cast iron, but those cases are in the minority. ■

Healthy House, Unhealthy Body

Q. *How do I strike a balance in winter between keeping moisture levels down for energy and condensation reasons, and having a humidifier on to avoid dry skin and a dry respiratory system? One concern is seldom discussed with the other in mind.*

A. The question itself shows the great sales job the humidifier manufacturers of America have done on the public. In a well-built, tight house, there is never a need for a humidifier; the difficult part is keeping the humidity low enough, even in winter. A house that is so dry that a humidifier is needed for health reasons is one with too much air infiltration. The appliance of choice should be a caulking gun and some weatherstripping.

A second aspect of the question is, What is the best humidity level for good health? Some doctors recommend 50 percent relative humidity. A few bacteria grow at their slowest rate at 50 percent relative humidity and grow faster at both higher and lower humidities. However, those bacteria are not particularly important from a health standpoint. Most people are quite comfortable at a relative humidity of 30 to 35 percent. Keep in mind that many people move to the arid Southwest for their health, and the humidity there rarely exceeds 20 percent.

To protect the structure, the best rule of thumb is to keep the humidity just below the point at which condensation occurs on a window with a storm window (or double glazing.) Of course, that varies with the outdoor temperature. Assuming an indoor temperature of 70°F and no inside insect screen, shade, or drape that keeps the room air from warming the glass, condensation occurs at 38 percent relative humidity at an outdoor temperature of 10°F, and at 32 percent at 0 degrees. At -20 degrees, the condensation point is 22 percent relative humidity-still higher than in Phoenix.

In the rare instance where nothing can be done about the air infiltration, and little cooking, laundry, and bathing are done, a humidifier can be useful.

In any case, the most visible humidity guide is the window. Mechanical hygrometers or humidistats, regardless of price, will be out of calibration within three months of installation because of dust accumulation on the sensing element. You can't isolate the sensor from the dust, because that would also isolate it from the air it is intended to measure. ■

Pine Shingles Panned

Q. *The white-cedar shingles in our area have been getting worse and worse. We are considering switching to white-pine shingles. They look nice, but will they stand up? Do they require any special finishing? We are considering stain or bleaching oil.*

A. I am afraid that I cannot recommend the use of white-pine shingles as a replacement for cedar for exterior use. The pine does not have the same preservative oils as the cedar, and even stain is not a good protector. The wood is softer than cedar and is much more subject to weathering. Consider that we normally require paint rather than stain to protect pine millwork that has been dip-treated with preservative, and the millwork is much thicker than shingles. ■