

# LETTERS



## Radiant Slab Comments

To the Editor:

I have some comments on "Radiant Slab Techniques" (8/92). The author explains that if different slab areas are covered with materials having significantly different thermal resistance, additional mixing valves are required. This is not a must, because the floor surface temperature, and thus the energy output, may also be controlled by varying the hose spacing.

Regarding oxygen-diffusion barrier hose, only about 20% of the oxygen content in a hydronic circuit can be directly attributed to the oxygen permeation through a "non-barrier" tube. Sources of oxygen ingress include a failed or undersized diaphragm expansion tank, loose pump flange gaskets, and micro air leaks at screwed/compression joints, etc. The German Standard DIN 4726 states two more ways of dealing with corrosion, namely an appropriate water treatment and/or placing a heat exchanger between the boiler circuit and radiant heating circuit. So, as the author suggests, if one needs cheap insurance "just in case," these latter solutions seem to exceed the relatively limited benefits of a barrier hose.

Dr. Birol Kilikis  
Heatway Radiant Floors  
Springfield, Mo.

John Siegenthaler, P.E. responds:

I agree that slab heat output can be adjusted by changing tube spacing in certain areas of the slab. However, in slab-on-grade floors, this approach is usually limited to 6-inch increments, since nearly all slab-on-grade tubing installations rely on the welded wire reinforcing as an anchor. Also, when considering a closer tube spacing for increased heat output, the cost of additional tubing should be weighed against the cost of a manually-operated mixing valve.

The issue of oxygen diffusion through HRF tubing continues to polarize various tubing suppliers, and undoubtedly confuses and discourages some potential users of HRF systems. As Dr. Kilikis points out, it is possible for oxygen to enter any type of hydronic heating system in a number of ways. Therefore, an oxygen diffusion barrier on HRF tubing is not the sole remedy for an otherwise poorly designed or installed system.

However, for cheap insurance (and "cheap" is the operative word in my

recommendation), it's a good idea. All of the major US suppliers offer a barrier-equipped tubing, and in some cases the list price of the barrier-equipped tubing is less than the non-barrier version.

On the other hand, adding a heat exchanger between the distribution system and the boiler is a very expensive and marginal method to control oxygen entry, and it still cannot prevent oxygen entry from all paths.

## Low-Bid Logic Flawed

To the Editor:

As a builder for over twenty years, I need to respond to the letter from Dennis Findley, AIA, entitled "Why Architects Can't Trust Contractors" (10/92) in which he states "after twelve years as an architect, I cannot endorse a single builder." It is absurd for an architect who should know the best builders in his area to have this kind of problem.

I've long felt, and I believe he confirms, that the basic premise from which architects start is seriously flawed. That is: Builders are a commodity; all builders are alike; price is the only way to tell them apart. Therefore, the lowest price is the best buy. When will they learn? What makes a builder "good" has to do with price only to the extent that he needs to spend enough to include good materials, hire supervisors who put the customer first, hire subs and employees for their intelligence and "people skills" as well as their technical skills, and ensure that he can afford to stay in business and stand behind his work. The reality is that these things cost money; no one can reasonably expect a builder who meets these standards to be the low bidder against other builders who could care less.

Our original business plan called for a long-term strategy of developing a reputation for good quality, fairness, and competent business practices. I knew it was working when we recently worked with a prominent local architect for the first time on a negotiated bid job in which schedule and quality were critical. At the end of the job, he wrote that he would recommend us for "any building project that requires skill and trust."

Obviously we aren't alone. I encourage Mr. Findley and others with his problems to seek out builders in his area who have the qualities he wants, then work with them on a team approach to the design/build process, including a fair

negotiated contract. This approach would allow the parties to do what they do best, save costs, and all come out winners.

On a lighter note, congratulations on your 10th anniversary. My collection of past issues goes back to Volume 1, Number 1 (June '82), so I've been enjoying and learning from you guys for a long time. Keep up the good work.

Bob Irving  
R.H. Irving Co.  
Salisbury, N.H.

## Setbacks and Moisture Problems

To the Editor:

I enjoyed the article "Shopping for Setback Thermostats" by Timothy Maker (8/92). The article seemed thorough but overlooked one possible problem that I come across occasionally.

Decreasing the temperature of the air in a building without decreasing the moisture content of the air increases the relative humidity. Lower temperatures cause cooler surface temperatures, which often result in condensation somewhere in the building. The condensation may be on windows, which are easy to mop up, but other moisture problems are difficult to define and often expensive to repair.

For this reason, we usually recommend that interior temperatures be kept fairly constant throughout each 24-hour period.

Kevin M. Kelly  
Jay-K Independent Lumber Corp.  
New Hartford, N.Y.

Timothy Maker responds:

Mr. Kelly brings up a good point that, in buildings with moisture problems, decreasing the air temperature will make condensation on windows worse and can exacerbate other moisture problems. However, only a small fraction of buildings have serious moisture problems. To forego significant energy savings in all buildings because some buildings have moisture problems does not make sense.

Elevated temperatures do not really prevent moisture problems, which result from some combination of too much moisture and too little ventilation. At elevated temperatures, the indoor air is able to sponge up more moisture from sources like damp foundations, laundry activity, showering, and cooking. If there is not adequate ventilation, the absolute humidity goes up at higher air temperatures. Although you may keep the windows warm enough to stop

condensation, the higher moisture loading of the air can drive more moisture into wall and ceiling assemblies. In these hidden areas, the humid air will reach the dew point temperature and condensation will take place.

The solution is still the same: Solve the moisture problem and then set back temperature for energy savings.

## Wood a Renewable Resource

To the Editor:

Let me start by expressing my admiration for Steve Loken's ReCraft house ("Recraft: An Environmentally Friendly House," 9/92). By applying imagination and purpose to this project, Mr. Loken has expanded the range of options that builders have when choosing building materials.

That said, there is one area where I take issue with Mr. Loken. One of his guiding principles is severe reduction in the use of solid-sawn lumber, and cites one benefit of his project being the replacement of much of the lumber with engineered wood products. Mr. Loken's reason for his reluctance to use lumber is unclear, other than an aversion to seeing trees cut in Montana.

I disagree with Mr. Loken on a fundamental point. He is choosing a nonrenewable resource over a renewable one. With the exception of trusses, engineered wood products reduce the amount of wood fiber used by supplementing the wood with glues. In addition, as most of these products depend on the intensive processing of the wood fiber and the use of heat and pressure, the manufacture of these materials is much more energy-consuming than the manufacture of solid-sawn lumber. Also, lumber mills often derive most or all of their energy requirements from the bark and sawdust residual from the milling process.

Chris Donnelly, District Manager  
Western Wood Products Assoc.  
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## Not Free

Classified Indoor Climate Systems, a Swedish publication listed in Focus On Energy (9/92) as free, actually costs approximately \$40.

— The Editors

Keep 'em coming....We welcome letters, but they must be signed and include the writer's address. The Journal of Light Construction reserves the right to edit for grammar, length, and clarity. Mail letters to JLC, RR2, Box 146, Richmond, VT 05477.