# LETTERS


## New Connector Unsafe?

To the Editor:

Regarding Tom Bair's letter to the editor, "Aluminum-to-Copper Wire Connectors" (5/95): There is another UL-approved connection that is less costly and requires no special tools. Ideal Brand Model 65 twist-type connector comes with anti-corrosive paste in the connector in wire sizes 10 to 18.

Jerry Hanlon
Anderson, Calif.

*Dan Friedman responds:*

*The Ideal product is not recommended by the U.S. Consumer Product Safety Commission (CPSC), whose experts have raised serious concerns about this item. Following a June 1, 1995, meeting between CPSC, the manufacturer, and Underwriters Laboratories, a call was issued for additional tests before this product should be used in the field.*

*While the manufacturer reports that these connectors were approved by UL, the tests were conducted with "new technology" wire selected according to the rationale for the UL Standards, namely, "to give consistent test results." (I read this to mean "to give desired results," since the wire used was not representative of that found in homes wired with aluminum. Aluminum wiring, particularly on branch circuits using "old technology" wire, is a fire hazard.) Further, the specification calling for connection of #18 copper with two #10 aluminum wires produces an unreliable connection — the copper wire falls out. Finally, the connection was tested at a current value based on the rating of the #18 wire rather than the rating of the #10 aluminum!*

*In my opinion, home inspectors should think twice before recommending this "fix" to their clients. Improper retrofit of aluminum wiring can actually increase the risk of fire. While we'd all welcome a low-cost procedure, I'm not sure that this is it, and I recommend waiting for further evaluation.*

*Dan Friedman is a home inspector and researcher in Poughkeepsie, N.Y., and has served as chairman of education and technical committees for ASHI, the American Society of Home Inspectors.*

## One-Coat vs. Three-Coat

To the Editor:

Regarding your article "One-Coat Stucco" (6/95): I'm on record as admonishing builders to keep up with new products. To continually do things "the old way" is to remain static and potentially forsake efficiency. Nevertheless, I still come down soundly on the side of traditional three-coat stucco.

Considering the quality of today's lumber and the increasing shortage of skilled workers, you can bet there will be deviations in the walls of new construction.

Most "one coat" stucco systems spec 3/8 to 1/2 inch of basecoat covering the wire. The paper and wire will follow the contours of the walls they're attached to. Unless you're very lucky indeed, you'll have wavy walls to apply finish to. This condition will be most evident on a two-story house, particularly if it has gable ends.

In a traditional three-coat system, the paper, wire, and scratch coat follow the wall just as in the one coat approach. The brown coat, which is straightedged and floated, hides deviations in the wall and produces a flat surface for the finish coat. You should then wait a week to permit both the scratch and brown to cure, but I feel the delay is more than worth it, as you now have a house where every floor line is not evident.

Steve Thomas
Columbus, Ohio

## Befuddled

To the Editor:

This article ("R-75 Per Inch Insulating Panels Enter the Market," *Eight-Penny News*, 5/95) befuddled my understanding of heat flow.

Heat flows by three methods: conduction, convection, and radiation. It is clear that a vacuum between two surfaces would defeat heat flow by the first two methods, but wouldn't radiation still be a major contributor? Is radiation such an insignificant portion of heat transfer that a partial vacuum (with some conduction through the spacers) can produce an R-75?

The sun is a very efficient radiant heater at a distance of some 93 million miles. It is working in a much better vacuum than (I expect) these panels were able to attain. Something doesn't seem right here.

John Raabe
Langley, Wash.

*Patrick Aubourg responds:*

*Your concern about the large heat flow due to radiation is perfectly correct when the space between the two faces of a vacuum panel is transparent to radiation. Aura panels, however, are filled with a high density glass fiber board. This board plays a double role: It defines the shape of the panels (without it, the panels would collapse when they are evacuated since they are made of a very thin stainless steel sheet), and it blocks radiative heat transfer, since the glass used is opaque to the appropriate wavelengths. As a result, radiative heat transfer through Aura vacuum panels is small and since, as you pointed out, solid conduction is small, overall conduction is very small and the R-value very large.*

*Patrick Aubourg is a senior scientist at Owens-Corning in Granville, Ohio.*

Keep 'em coming! Letters must be signed and include the writer's address. *JLC* reserves the right to edit for grammar, length, and clarity. Mail letters to *JLC*, RR 2, Box 146, Richmond, VT 05477; or e-mail to 76176.2053@compuserve.com.