

Rules for Splicing Romex

Q. *I want to lower receptacle outlets from 4 feet off the floor to 18 inches. I plan to make a splice at the existing receptacle and extend the new wire down through the stud cavity. Can the junction box be inside the wall or does code require that you have access to it by using the existing outlet box as a junction box with a solid cover plate?*

A. *Master electrician Rex Cauldwell responds:* You'll have to use the exposed cover plate. By code, you must leave access to any splice anywhere. (The only exception is an irreversible crimp on a service entrance cable — a special case requiring an expensive crimping tool.) Splices in attics and crawlspaces are considered accessible as long as there is a hatchway into the space. Even these splices must also be in a box and behind a cover plate.

In-Slab Heating Tubes

Q. *A client wants a portion of a basement slab to have radiant heat to take the chill off the floor of a planned playroom (there will be supplemental heat). The hvac contractor wants the radiant tubing, which will be attached to wire mesh, to be lifted into the middle of the slab during the pour to put the heat closer to the surface. The concrete contractor doesn't want to do this because he insists that cracks will show up along the tubing. He wants to leave the tubing at the bottom, and says the insulation board will drive the heat up anyway. He recommends at least 3 inches of con-*

crete above the tubing. Which is correct?

A. *Hydronic heating contractor Bill Clinton responds:* We typically try to keep at least an inch of concrete above our tube. If the slab is 4 inches thick and the mesh is in the middle, a $\frac{5}{8}$ -inch o.d. tube would have about 1 $\frac{1}{4}$ inches above it. Pulling mesh up during the pour is by nature somewhat inaccurate, so it's probably best to err on the side of keeping the mesh low in the slab. I don't believe the height of the tube in the slab is going to make a significant difference in system performance even if it's on the bottom — the entire slab will be heated in any case. My advice is to let the concrete contractor have it his way.

One point about laying out the tube: Tie it perpendicular to the wire as much as possible, away from parallel strands of wire. The reinforcing value of the wire depends on concrete bonding all the way around it, so it's best to keep the tube out of the way.

Dryer Vent Installation

Q. *What's the right way to vent a dryer? The standard plastic flex-hose with the spiral wire always collects condensation and sags. There's got to be a better way. Would metal or plastic pipe work?*

A. *Corresponding editor Paul Fisetto responds:* In Massachusetts, where I live, the code won't allow use of the plastic

flex pipe if the pipe passes through a wall, and code officials discourage its use in all cases. Also, several dryer manufacturers have disallowed it because it can't stand up to the hot air coming from the dryer.

From a mechanical perspective, it's a poor idea. First, the spiral configuration of the flex pipe creates a lot of friction in the line, slowing the exhaust. Also, the sags and turns typical with flexible pipe further reduce air flow, and allow lint and moisture to accumulate, creating blockages.

I would use a smooth metal duct. You could even insulate it to reduce condensation if you think this will be a problem (if the dryer's in a cold space, for example). You should slightly pitch the line toward the outside if possible to allow any condensation to drain. In any case, you'll have no sags where the moisture can collect. PVC pipe might also work for this application, but here in Massachusetts at least, you would have to provide a manufacturer's temperature rating to the inspector to prove that it could take the heat of the dryer's exhaust.

GOT A QUESTION? Send it to On the House, JLC, 932 West Main St., Richmond, VT 05477; or e-mail to jlc@bginet.com.

