

Q An exterior wall in a client's finished bathroom has a mouse infestation. The wall contains plumbing (for a pedestal sink) as well as electrical wires. I need to gut the wall carefully from the exterior without disturbing the interior finish. How can I insulate the wall properly and keep the critters out?

Rodent-Proofing and Re-insulating From the Exterior

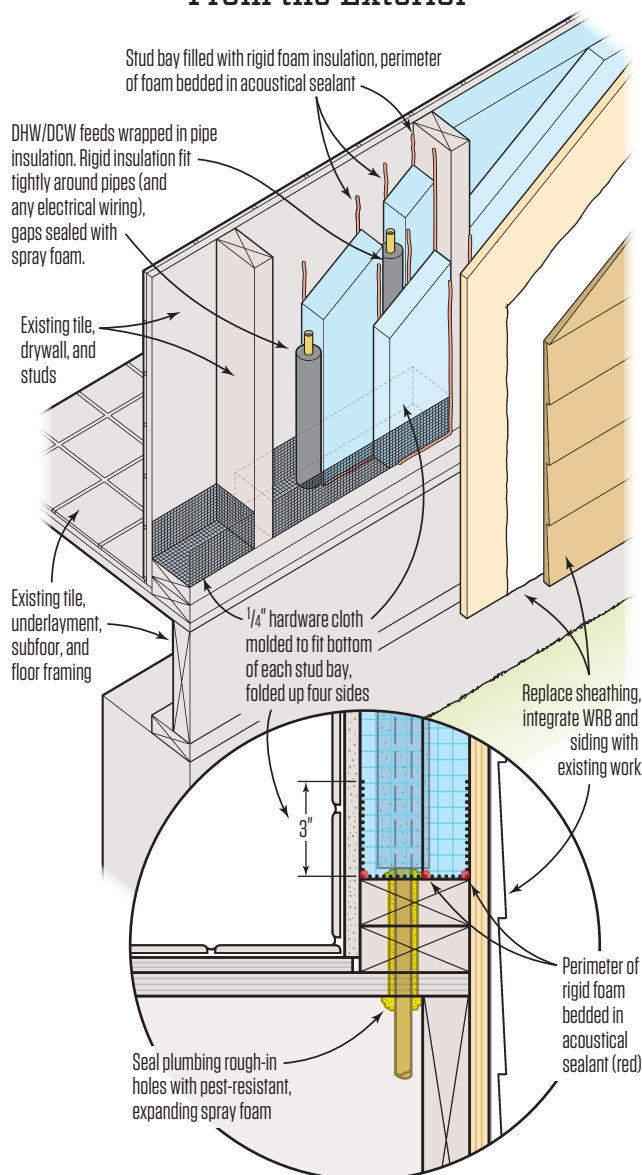


Illustration by Tim Healey

A Steven Baczek, a residential architect from Reading, Mass., who specializes in designing durable, low-energy homes, responds: Aside from being careful that you don't dislodge or damage any tile, mirrors, or other delicate interior surfaces, you need to keep the mice from returning, insulate the wall, and provide a good level of airtightness to prevent moisture problems from occurring in a vulnerable wall in what is a notoriously damp room in most houses.

After you've removed the exterior finish and sheathing, it should be obvious where the mice have been living. Mice can be carriers of many diseases, so protect yourself with a good respirator and gloves when you handle the contaminated insulation. My guess is that the mice have been getting into the walls through the spaces around the plumbing pipes and electrical wires, and with any luck, those bays are the only ones that have been contaminated. After removing all of the insulation from the wall, inspect the studs and the back of the wallboard. If there is a lot of staining, clean affected areas with a cleaner specifically designed to neutralize rodent urine, such as Nature's Miracle.

Keeping the mice from returning is a challenge given how little room they need to gain access. I worked on an old home a few years ago with a mouse problem. We lined the joist bays with 1/4-inch hardware cloth that we custom bent for each bay. For that project, we sprayed foam over the hardware cloth. The mice have not returned after more than six years. In your case, I would first mold hardware cloth, turning up the four sides at least 3 inches, to fit the bottom of each stud bay, like a small cage. Where the plumbing comes up through the bottom of the bay, carefully cut out the hardware cloth to the exact size of the pipe. For the larger exit plumbing pipe, I'd fashion an L-shaped collar out of the hardware cloth to fit around the pipe as added protection.

This strategy assumes that the mice are coming in at the bottom of the stud bay. Check the tops of the bays as well. Mice are resourceful and can gain access from

the top, especially if electrical wires are fed from above. If there is any doubt at all, I'd do the hardware-cloth treatment at the tops as well. And speaking of the electrical cables, inspect all of them thoroughly—mice are famous for gnawing on the insulation around wires. Have your electrician replace any damaged wires that you find.

To insulate the wall, custom-rip unfaced rigid foam-board insulation for each stud bay and pack the entire depth of the bay solid. Either EPS or XPS products would work

fine. Cut the insulation to fit tightly around the pipes and the wires in the bays.

Before installing the first layer of foam board, run a healthy bead of an acoustical sealant, such as Tremco's Acoustical/Curtain Wall Sealant, around the perimeter of the stud bay. After setting the first layer of insulation into the sealant, bed each additional insulation layer in sealant along the studs and plates. The acoustical sealant provides a continuous air barrier between the rigid foam and the wood frame, and it stays

flexible over time, so the air barrier will not be affected by any future movement in the framing. Fill the spaces around pipes with pest-resistant expanding foam, such as Great Stuff Pestblock.

Finally, as you sheathe and finish the wall, be sure to blend the new work into the existing assemblies. The drainage plane and areas of water management need to be integrated with the existing work and sealed properly to ensure the weather-tight integrity of the new wall.

Q Each member of my crew has his or her own way of coiling extension cords. Most of them just use their wrist and elbow. Is there a right or wrong way?

A Roe Osborn, senior editor at *JLC*, responds: I was lucky in that the first carpenter I ever worked with was very particular about how he coiled—and uncoiled—his extension cords. The fact that some of my extension cords are still in good shape after three decades is a testament to the good habits I learned from him. The method I describe here is the one I learned, but I encourage readers to share their own methods with us.

Most “tubular” products, including extension cords, air hoses, and braided rope, have a natural lay, which means that the material “wants” to go into a natural, relaxed curve as it coils up. The natural lay comes from the manufacturing process and is part of the material's nature.

Coiling a cord by quickly wrapping it around your wrist and elbow forces the cord into unnatural curves and forces the wires inside the cord into unnatural positions. Those wires can become kinked, or in worst-case scenarios, they can fray or break if improper coiling is repeated. You've probably noticed that the cords coiled in this manner are a twisted mess that becomes hard to straighten when you need the whole length. Also, coiling a long cord this way creates a bulky bundle of small loops that is difficult for most hands to hold. But there is a much better way that is less stressful to the cord.

Uncoiling is the easy part, so let's deal with that first: When setting up for a job that requires using an extension cord, start by plugging it into the power source and then uncoil the entire length of cord, even if the whole length isn't needed. Just grab the top of the coil and walk away, letting the cord uncoil evenly. When working outside, I usually walk past where I'll be working and then walk back. For the typical 50- or 100-footer, this process takes about 30 seconds—short time invested. With the cord completely uncoiled, it's easier to reposition if I need to use electricity elsewhere.

When packing up, unplug the cord from the outlet and coil it up from that end. Gathering the cord in one hand, I extend a length of cord out with the other hand. As I bring the length back to the gathering hand, I twist the cord gently between my thumb and finger. The cord then falls into a natural loop. If you twist too much or too little, a figure eight forms. If that happens, drop that loop and gather it again until it loops naturally. I repeat the process until the cord is completely coiled up. Coiling in that direction and having the whole cord paid out lets the end of the cord twist freely one way or the other so that you can easily manipulate the cord into nice, even coils.

When you reach the other end of the cord, use a Velcro tie or a short length of rope

with a small loop at each end to keep the coil together. Coiling up most cords takes less than 30 seconds, again a pretty small investment of time for cord longevity.

The length of the cord dictates the size of the loop. For shorter cords (10 to 20 feet), the loop diameter might be just 12 to 15 inches. For longer lengths, I make loops 24 inches or greater. I have one super-heavy-duty cord that is 150 feet of #10 wire. I actually coil this one up on the ground in much larger loops, again carefully laying the cord down in a relaxed coil.

If you have a cord that is kinked from being coiled improperly, lay it out in a straight line on a hot, sunny day. The sun's heat will make the cord more pliable and many of the kinks will work themselves out just by virtue of the wires trying to return to their natural position inside the outer covering of the cord. Gently stretching problem areas can help them relax back to where the cord will coil naturally. While the cord is still warm from the sun, coil it up properly.

Another technique is coiling in one direction and then reversing direction with each subsequent loop. Supposedly, this method eliminates the need for the little twist for each coil, but I've never been able to get the Zen of this method down. If you can describe it, or have another successful cord-coiling technique, please let us know.