

Treated Lumber's Moisture Content

Q. *What is the moisture content of treated lumber? The treated lumber I use seems very wet, but it carries a grading stamp that lists the moisture content at 19%.*

A. *Gene Wengert responds:* Most treated lumber carries two stamps: The grade stamp indicates the condition before treatment; the treatment stamp indicates the level and type of treatment.

Before treatment, the lumber (southern pine, in most cases) is typically dried to approximately 19% MC (moisture content). This initial drying removes the “free water” from the lumber, making room for the preservatives. After pressure-treating with chromated copper arsenate (CCA), the moisture content will be 75% or higher.

The treatment process causes the lumber to swell, so when you receive it at your job site, it will be oversized. The treated lumber will shrink when exposed to the air, just as it did when it was first cut from the tree and dried before treatment. Once installed, it will dry to an equilibrium moisture content that is controlled by the surrounding conditions. Treated lumber installed in a relatively dry location can shrink as much 4% in width and 2% in thickness: For a 2x12, for example, that's nearly 1/2 inch in width and 1/16 inch in thickness.

Some areas offer treated lumber that has been “kiln dried after treatment” called KDAT. This material is considerably more expensive, and you should make sure that the final MC is specified.

Professor Gene Wengert is Extension Specialist in Wood Processing at the Department of Forest Ecology and Management at the University of Wisconsin-Madison.

Finding Buried Outlets

Q. *What's the best way to locate an electrical box that was covered over when the drywall was installed?*

A. *Sean Kenny responds:* First, try to narrow down the approximate location of



Electronic snoopers. A volt sniffer (top) indicates the location of a hidden box by sensing the electromagnetic fields around the wires. A tone generator (above) causes a wire to emit a tone that can be picked up by a receiver.

the hidden box. The *National Electric Code (NEC)* requires that outlets be placed no more than 12 feet apart, and that there be an outlet no more than 6 feet from a door opening. Most outlets are located 18 to 24 inches off the floor, and wall switches are generally located about 4 feet above the floor.

Carefully scan the wall surface in these areas for a hump created by the hidden box pushing against the drywall. If you can't see a hump, place a long straightedge on the wall, and move it around until it rocks over the high spot.

I carry two types of electronic locators that help me pinpoint the location of the box (see photos). If the hidden box is "hot," I use my sniffer (Greenlee Textron, 4455 Boeving Dr., Rockford, IL 61109; 815/397-7070) to pinpoint the location. If there is no power at the hidden box, then I'll tap into the wires of a downstream box and use a tone generator (Leviton, 59-25 Little Neck Pkwy., Little Neck, NY 11362; 800/833-3532) to locate the hidden box.

After making my best guess at where the center of the box is, I drill a 3/8-inch hole, being careful not to damage the wires by drilling too deep. I shine a flashlight in the hole and verify that I've pinpointed the box. Using short strokes with a keyhole saw, I carefully cut outward from the hole until I reach the walls of the box. Then I cut around the outside of the box, allowing the drywall to draw up tight to the studs. Nearby fasteners will stand proud of the surface and need to be driven home.

Sometimes when the wall has already been finished, I may cut out an undersized box opening, and let the bulge remain in the wall. This isn't the prettiest approach, but it eliminates the need to patch the wall, and may work in a utility room or other secondary space. The *NEC* requires that the face of the box must be flush with the wall surface, so I always install a box extension to satisfy code.

Sean Kenny is a master electrician living and working in Amesbury, Mass.

UV Blockers for Clear Finishes

Q. *Most species of trim that we install become darker as they age. I've read that this darkening is caused by exposure to the ultra-violet (UV) rays in sunlight. Occasionally, a customer will complain about this darkening. Is there a clear finish available that will block this UV action?*

A. *Tom Brown responds:* Exposure to sunlight will cause most species of wood to darken, but the darkening is not caused exclusively by UV radiation. Color changes occur when the pigments within the wood oxidize. This oxidation is caused not only by the "free radicals" generated by UV radiation, but also by the presence of oxygen. The UV absorbers found in many finishes inhibit or partially block UV radiation from reaching the wood, but since no finish is totally impermeable to oxygen, the color change will still occur, though more gradually.

To postpone the inevitable, I recommend using a film-forming finish, which blocks oxygen penetration much more effectively than a penetrating finish. Make sure the finish contains a UV "absorber," not a UV "inhibitor." UV inhibitors are used to protect the finish film from UV degradation, and do not protect the wood pigment from UV exposure as effectively as UV absorbers.

Tom Brown is a wood finishing consultant in Ft. Myers, Fla.



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