Q&A

Q. Does Flooding Damage Framing Lumber?

My son's house has been sitting in 10 feet of water since the levee between Lake Pontchartrain and the Mississippi River broke following Hurricane Katrina. He's considering tearing the two-story home down to the studs. I'm wondering if wooden studs standing in water for at least 10 days — and maybe more — are structurally sound.

A. *Paul Fisette, director of Building Materials and Wood Technology at the University of Massachusetts Amherst and a* JLC *contributing editor, responds:* Framing lumber that has stood in water for 10 days will be structurally sound once it is dried out — if it was originally sound. However, swelling and shrinkage associated with wetting and drying can compromise the integrity of connections, delaminate plywood, and cause irreversible swelling of composites like particleboard and OSB. But as far as the lumber itself goes, the simple answer is yes: After drying, wood that was exposed to a relatively short but extremely wet period should not lose structural strength. It's important to reduce the wood moisture content to 15 percent or lower and keep the wood dry in service to ensure good performance.

Naturally, there is also a concern about mold. Affected finishes like drywall should be stripped, insulation should be removed from the framing cavities, and all structural lumber should be exposed. The surfaces of the framing should be cleaned with bleach and detergent. Bringing the moisture content down below 15 percent will prevent new fungal growth and cause any residual mold to go dormant.

There are, of course, other issues to be concerned about — pollution of the flood waters has been widely reported, for example. Bacterial contamination (such as E. coli) shouldn't be a problem once everything dries out and all reachable surfaces (you won't be able to touch any contamination that has seeped into crevices) are cleaned appropriately; the bacteria won't survive for long in a dry environment. Ditto for viral contamination, though viruses may persist a bit longer.

Q. Are Translated Policy Manuals Necessary?

I believe an employee policy manual is required for general contractors in California, and employees must sign off on having read it. But many Spanish-speaking workers don't read English. How do contractors handle this? Do they pay to have their manuals translated?

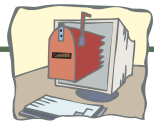
A. *Richard Calenius, a senior professional in human resources who works in the San Francisco Bay area, responds:* Actually, employee handbooks and policy manuals are not required in California, although they're a good way to communicate essential information and ensure consistency. But if at least 10 percent of employees speak a different primary language than English, employers must provide written information in that language on laws covered by the Fair Employment and Housing Act, including those concerning overall employment discrimination, pregnancy leave, California family/medical leave (if there are 50 or more employees), and sexual and disability discrimination.

It's always wise to keep an acknowledgement receipt on file indicating that an employee has received and read this information, perhaps as part of new-employee orientation. If a company that meets the 10 percent foreign-language threshold has an employee handbook or written company policy manual, only information in the handbook that's covered by the FEHA has to be translated.

Nonetheless, it would be a good idea to make the entire handbook available in that language,

GOT A QUESTION?

Send it to Q&A, *JLC,* 186 Allen Brook Lane, Williston, VT 05495; or e-mail to jlc-editorial@hanleywood.com.



so all workers have accurate information about the law and company policies. Then, should there be a lawsuit or other third-party charge, the company can demonstrate that it took reasonable steps to inform employees of their rights.

Employment information in English and Spanish is available free from the California Department of Fair Employment and Housing (www.dfeh.ca.gov). Translation services translate company documents for a fee; typically, they charge by the word.

Q. Bringing Two-Wire Circuits Up to Code

What's the quickest and easiest way to bring a two-wire circuit up to code?

A. *Peitsa Hirvonen, a licensed electrical contractor and the owner of SESCO Electrical Inc. in Berkeley, Calif., responds:* Generally speaking, if an electrical circuit was properly wired and up to code when it was first installed, then it's up to code now. Most inspectors will not make you change out existing wiring if it appears to be sound and correctly wired and has not been modified or added to in an illegal way. But when a contractor completely opens the walls, floors, or ceilings and makes it easy to access the wiring, most inspectors will require those areas to be rewired to meet current code.

The problem, of course, with a two-wire circuit is that it's not grounded. The old Romex (NM) and BX (AC) cables had no separate grounding conductor, or the conductor was so small (16 or 18 AWG) that it wouldn't count by today's code. This type of cable can usually be identified by the sheathing, which looks like snake skin or tarred cloth. However, there is some old two-wire Romex out there that looks like the modern plastic/vinyl sheathed kind, so don't automatically assume there is a grounding wire. Open the box and check.

In the case of old steel-clad armored cable (BX), it's still legal to use the metal shield as a ground, but I wouldn't do it. If you must, make sure the BX connector has a screw or some type of clamp that really bites into the metal of the shield, and that the connector is very securely tightened against the side of a metal box with the lock ring. The grounding path could fail if any one of these connections is not absolutely secure. If the two-wire circuit happens to be in a conduit (rigid or EMT), you may use the conduit as a grounding path, provided all of the connectors and couplings are tight. Still, I prefer not to rely on the conduit, and instead always pull a separate, appropriately sized green grounding conductor.

There are a couple of ways to deal with two-wire Romex or knob and tube. It's legal to exchange a two-prong receptacle for a GFCI receptacle or to put the whole circuit behind a GFCI breaker. However, you may not be able to get the GFCI breaker to hold, because old circuits tend to have some ground leaking. The GFCI protection is actually much better at preventing electrocution than grounding is, though you will be required to mark every outlet with the words "no grounding conductor present." This is to remind people not to plug a surge protector into that circuit, because a surge protector won't work unless it's properly grounded.

It is possible to upgrade a circuit by running a separate grounding conductor to the nearest panel, the service main, or the system grounding electrode. This would make sense only if the circuit you were upgrading was close to the grounding electrode and far from any panels, including the main. In the time it takes to run a grounding wire to a panel, you could just as easily run a new cable with a grounding wire in it.

By the way, it used to be considered okay to run a grounding wire to the nearest cold-water pipe, and I've seen them run to cast-iron drain pipes, gas pipes, metal ducts, and driven ground rods. Please don't do any of those things! Pipes and ducts present a real hazard when energized without clearing the fault, and dirt is a high-impedance grounding path.

In the end, the best and often the fastest way to bring a two-wire circuit to code is simply to rewire it. When that's not possible, your inspector may accept one of the methods described above.

Q&A

Q. Do Shakes Need an Underlayment?

Is it necessary to use felt paper or Tyvek behind cedar shakes on gable walls that are not heated or cooled?

A. *Mike Guertin, a builder and remodeler in East Greenwich, R.I., responds:* Some questions have complicated answers, but this isn't one of them. Yes, the IRC 2003 says you have to put a "secondary weather-resistant permeable membrane" [R703.5.1] over any walls that will be covered with cedar shingles, and it makes no distinction between shingles covering conditioned or unconditioned spaces. The Cedar Shake & Shingle Bureau's standard instructions for shingle installation also recommend an underlayment (they specify #30 tar paper). But if you were installing vinyl, aluminum, steel, or wood lap siding, you wouldn't have to install housewrap or tar paper; for some reason, the IRC doesn't require it beneath those claddings.