

## Can You Rip LVL?

by Paul Fiset

**Q.** *The building codes don't allow you to rip graded lumber to a narrower width (to make a 2x6 and a 2x4 out of a 2x10, for example). But what about ripping LVL?*

**A.** You're right about ripping graded lumber. Doing so "relocates" strength-reducing characteristics that affect performance, and effectively voids the grade designation (see illustration). It's different with LVL, which is a more consistent material. Manufacturers rip it as standard practice when producing beams. LVL is made in billets up to 48 inches wide that are ripped to commercially available standard depths. It's okay to rip LVL beams to a smaller depth, too, though you'll have to recal-

culate the beam capacity. Sizing software supplied by manufacturers (TJ Beam, for example) provides a sizing override where you can enter a non-standard depth to determine the load-carrying capacity of a ripped LVL.

### Insulating Basement Walls

**Q.** *I'm doing a basement remodel and am thinking of finishing the block foundation walls by painting the masonry with Drylok, then adhering 4-mil poly over that. Next, I plan to fur the walls with Z-studs, put 2 inches of foil-faced polyiso board between the studs, and cover it with drywall. I've used this approach successfully on above-grade block walls in commercial jobs. Is there*

*any reason it wouldn't work just as well in a residential basement?*

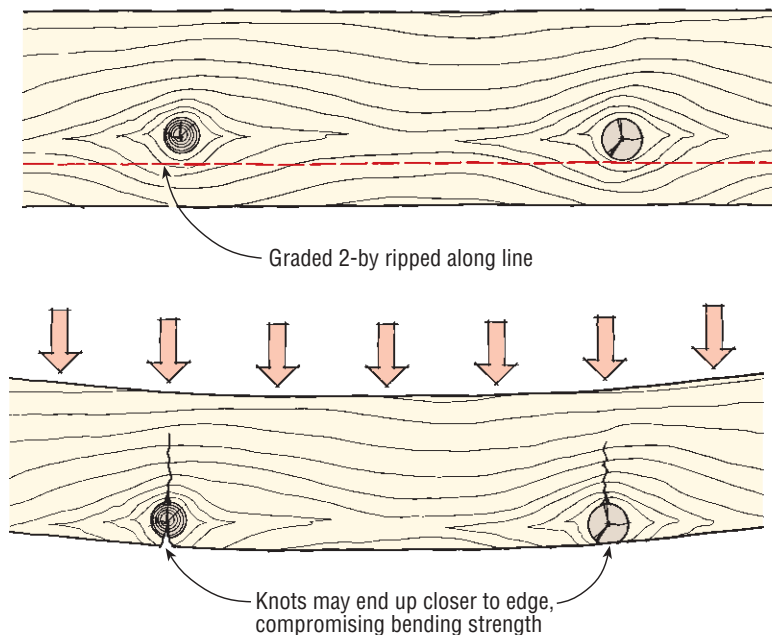
**A.** Before finishing the interior of a basement, first verify that the basement doesn't leak, that there's good perimeter foundation drainage, and that the grade is correctly pitched to control surface runoff.

Applying a layer of dampproofing on the inside of the foundation wall makes sense. Drylok ([www.ugl.com](http://www.ugl.com)) is an oil-based "waterproof" with a perm rating around 25 that is designed for wet walls. However, the product smells bad and needs days of ventilation. UGL also makes a latex masonry "waterproof" with a perm rating around 9 that is designed for drier walls and is easier to apply. I've also had good luck using Sto Watertight Coat ([www.stocorp.com](http://www.stocorp.com)), a two-component cementitious compound with a low rating of around 1 perm.

Whatever product you use, surface cleaning is important and at least two coats are recommended. You won't need to install 4-mil poly. Poly won't stop liquid water, and a 2-inch layer of foil-faced polyiso board serves as a vapor retarder.

Your suggestion of furring the walls with Z-studs and then infilling with polyiso board provides a strong thermal bridge, allowing unnecessary heat loss through the metal studs. I think it would be better to install a continuous layer of rigid foam insulation directly to the inside surface of the dampproofed foundation walls, using construction adhesive or mechanical fasteners. Tape the seams of the rigid foam so that warm interior air can't reach the cold foundation and condense. Then install

### Why you can't rip graded lumber ...



Ripping a piece of graded lumber to make a narrower beam is disallowed by code because it may place strength-reducing characteristics like knots close to the edge of the board, compromising bending strength.

furring on top of the rigid foam and finish with drywall.

Instead of furring, you may want to consider building an uninsulated wood- or steel-frame wall spaced away from the insulated foundation wall; this will make it easier to run plumbing and wiring.

### Mice and Insulation

**Q.** *Is there any way to can keep mice out of insulation? I am working on a remote cabin in southern Illinois, and the mice seem to come and go at will. I'm getting ready to insulate another room and I don't want to provide new places for the rodents to nest.*

**A.** This is a million-dollar question without (unfortunately) a million-dollar answer. Effective rodent management is based on exclusion — you have to keep them out. Killing rodents once they have entered the structure doesn't solve

the problem, because there are always more rodents to take their places. Also, killing rodents with poison bait inside insulation causes other problems: When they die, they decay and smell really bad! Plus, they attract insects and other decomposers.

Keeping mice out is a big challenge. They can enter a gap that's only 1/4 inch in diameter. But control is not hopeless. Mice begin to enter homes in search of food and shelter during the early fall when the weather turns colder. Establishing an active trapping effort around the outside of the home during this time will pay big dividends. Tight construction is also essential. Mice can climb well, so be especially careful to identify and seal all gaps in the construction within 3 feet of grade. Don't ignore gaps in the roof construction, either. Look specifically for plumbing and electrical penetrations, spaces under doors, basement floor drains, and other

construction gaps. Fill all gaps with inedible materials like sheet metal, hardware cloth, wire mesh, cement, or plaster. Mice can easily chew through most construction foams and caulks.

It's important to make the area around the house unattractive to nesting mice as well. Remove thick vegetation, piles of junk or clutter, bird-feeder droppings (and other mouse food), and any debris from the area surrounding the home. With a little luck and effort, you should be able to keep your rodent roommates to a bare minimum.

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### Got a question?

Send it to Q&A, JLC, 186 Allen Brook Ln., Williston, VT 05495; or e-mail to [jlc-editorial@hanleywood.com](mailto:jlc-editorial@hanleywood.com).

