## Stopping Sap Oozing From Knotholes in a Pressure-Treated Deck

**Q Is there anything that can be done, short of tear-out and replacement, to prevent the knotholes in pressure-treated pine decking from oozing on hot days?**

A Paul R. Fisette, director of the building materials and wood technology program at the University of Massachusetts in Amherst, responds: The sap in the knotholes softens and begins to run as it is heated by the sun. Sap is composed of liquid and solid materials. If it is heated to 160°F while it is being kiln-dried, the volatile liquid substances will flash off, leaving the solids behind in a hardened state. Once the sap has set, it will never run again. This doesn't help you now, however, since the wood in your deck was obviously not kiln-dried at a high enough temperature during production.

There are a couple of options. You can wait it out; sooner or later the sap will stop running out of the wood. In the meantime, you can clean it up with turpentine. Or you can try to set the sap in the knots using a heat gun. Just be careful not to start a fire or singe the wood.

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## Bolting a Ledger to Brick Veneer

**Q What's the best way to attach a deck ledger board to a wood-framed house with brick veneer?**

A Christopher DeBlois, P.E., an engineer with Palmer Engineering in Chamblee, Ga., responds: Whenever there is a design alternative, I generally recommend against bolting a deck ledger board to brick veneer. I prefer to provide independent support adjacent to the house, usually with posts and beams. In many cases that is impractical or undesirable, however, so the deck gets bolted to the house.

The brick veneer on a house typically supports its own weight and nothing else. The section of the CABO One & Two Family Dwelling Code on lintels states that "masonry veneer shall not support any vertical loads other than the dead load of the veneer above." When independent support is provided against the house to support the deck, standard practice is to bolt through the brick and the band at the house to provide lateral stability for the deck. That way the brick veneer is not forced to carry the weight of the deck, so there is no violation of the lintels section of the CABO code.

Although I'm against bolting the deck ledger to or through the brick veneer, I recognize that it's not an uncommon detail and that building officials often approve it. With that in mind, here are some thoughts if you choose such an approach:

I have heard the direct bolting of a deck ledger to the house through the brick justified by arguing that because the bolts extend to the house band, the band will carry the deck weight. I disagree. With a separation of several inches between the back of the deck band and the face of the house framing, the bolts will bend or rotate before the weight is carried by the house framing. As soon as that starts to happen, the bolts will bear on the brick, and the veneer will be carrying the load.

The good news is that in most cases the brick has substantial extra capacity. In fact, the capacity of the bolt-to-brick component of this connection will generally exceed the capacity of the bolt to the deck ledger itself. As a result, the required size and spacing of bolts are no different than for typical wood-to-wood connections.

I strongly recommend bolting all the way through the house band to properly transfer forces pulling the deck away from the house into the framing instead of into the brick. Also, no lag bolts are allowed. And pay careful attention to sealing bolt holes and flashing against the house.

In some situations, requiring brick veneer to support the weight of a deck

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is a bad idea regardless of what local building officials allow. Do not bolt the deck band to the brick veneer if you suspect that there are no brick ties (all too common on older houses), if the condition of the brick and mortar is questionable, or if the brick ledge or footing supporting the brick veneer is not sound and stable.

Finally, a number of circumstances may warrant contacting a structural engineer for guidance. If there are large openings in the brick (for a bank of full-height windows, for example), stresses in the brick at the sides of these openings may be too high to permit support of deck loads. Similarly, if you need to support the end of a beam, instead of just a continuous, uniformly loaded band, special support will be necessary.

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## Insects and Pressure-Treated Lumber

**Q I've been noticing that cutting into treated southern yellow pine 6x6 posts seems to reveal untreated wood in their centers. Can I still depend on this lumber, particularly regarding resistance to termites and carpenter ants?**

A Paul R. Fisette, director of the building materials and wood technology program at the University of Massachusetts in Amherst, responds: Preservative treatments work by poisoning the destructive organism's food supply, which is wood. Using ACQ-treated wood can be an effective way to control termites and rot fungi infestation, but it is not as effective with carpenter ants. Unlike termites, carpenter ants do not eat and digest wood. Ants tunnel through and live in wood. Some borate treatments have demonstrated limited success with ants, but borate-treated wood is generally not used outdoors because the water-soluble borates leach out.

To be effective, the chemical treatment must fully penetrate the wood. Not all woods are receptive to chemical penetration. Southern yellow pine is a very receptive species, which is why it's commonly used for treated lumber east of the Rockies.

It is relatively easy to achieve full chemical penetration in wood up to 2 inches in thickness. As the cross section gets larger, however, it is more difficult for the chemical to penetrate the innermost part of the wood. Even with pressure treating, a 4x4 will not be fully penetrated. Another issue is the sapwood portion of the wood is more receptive to penetration than heartwood, and cores of larger timbers often contain heartwood.

Add all this up and you will find that the inner core of a 6x6 timber is typically partially or completely untreated. Once the timber checks or cracks, there is an unprotected pathway for water penetration. Critters and fungi can then attack the unprotected core. In very sensitive applications, you might consider using naturally decay-resistant wood or glue-laminate treated lumber to fabricate 6x6 posts. ❖