



Foundation Fix

by Henry Spies

Q. We are working on an old house that has settled. The house must be jacked up so the floor can be leveled. But this will leave gaps between the joists and sill plates, or between the sill plates and the foundation. Should we raise the sill plates to the joists and shim between the sill and the foundation, or is it necessary to raise the foundation by grouting some kind of extension in place?

A. The flat sill plate won't have enough strength to carry the joists unless it is shimmed at each joist. However, this would put a series of point loads on the foundation, which may not be capable of carrying that type of load, especially since it has already settled. Therefore, the best solution would be to support the joists on a beam just inside the foundation. Then the foundation can be stabilized to act as a curtain wall. In this case, stopping the draft will be the highest priority.

An alternative might be to raise the sill to support the joists, then grout between the foundation and the sill. The more space you have between the sill and the foundation, the better this alternative will work — first, because it will be easier to get the grout into a wider gap, and second, the thicker the grout layer is, the more strength it will have to support the loads. There are a number of grouts available that don't shrink and yet are runny enough to flow freely into small spaces. One is Embeco Grout (Master Builders, 23700 Chagrin Blvd., Cleveland, OH 44122; 800/227-3350).

Termites Love Oak Floors

Q. We are repairing an oak strip floor. Several boards obviously need to be replaced because of visible termite damage. Is there some way to evaluate the unseen damage to the rest of the floor?

A. Oak seems to be one of termites' favorite foods, and they will go to great lengths to reach it. About all you can do is probe the wood with a sharp object. I use a small screwdriver, sticking it into the summer wood (the light-colored grain). If termites infested the floor boards, they will have eaten the summer wood and not the dense, darker grain. Termites generally follow the length of the

board rather than working across the grain. If the board will support the screwdriver blade without crushing or splitting, it should be strong enough to survive without replacement. Even spike heels will not equal the pressure of the screwdriver blade.

Joist Spacing for Drywall

Q. What is the maximum joist spacing for ceiling drywall? Does it matter if the panels are oriented parallel or perpendicular to the joists?

A. The maximum joist spacing for 1/2- or 5/8-inch drywall is 24 inches on-center. Ceiling drywall should always be installed perpendicular to the joists, even when they are 16 inches on-center. Drywall is much stronger along the length of the panel because the paper facing provides the strength, and the paper grain runs lengthwise.

Deck Detail

Q. Can 6x6 pressure-treated deck posts be sunk into the ground or should they be supported on concrete piers?

A. Theoretically, posts that have been pressure-treated for ground contact can be sunk into the ground. However, it is unlikely that the treatment has penetrated fully through a 6x6. So I would opt for the concrete piers with the posts supported on metal post anchors.

If the posts are sunk directly into the ground, the bottom of the post must not be cut. I have seen a number of posts with the center rotted out because the treatment chemicals did not penetrate completely, and water was wicked up through the untreated center. Post tops should be beveled to shed water, or have a metal post cap added. Any cut ends of pressure-treated material that are left exposed to the weather should be dipped in or painted with a copper naphthenate solution.

Ghost Lines on Siding

Q. There are ghost lines of the wall studs on siding that is coated with a semi-transparent stain. What might be causing this?

A. The ghost lines probably have little to do with the semi-transparent stain. The lines are more likely from a thin film of dust, and

possibly even mildew, that collects on the wall between the studs. The insulating value of the studs is considerably lower than that of the insulation-filled stud bays. The studs probably conduct enough heat to keep condensation from forming along them, while the siding between them becomes damp in times of high humidity. This microscopic film of condensation tends to hold dirt, which encourages mildew.

The ghost lines will probably disappear if the siding is washed with a dilute bleach solution (a cup of household chlorine bleach to a gallon of water). To prevent the ghost lines, the siding would need to be isolated from the wall, either with foam sheathing or by installing the siding on strapping.

Installing Metal Roofs

Q. Do you nail metal roof panels through the ridges or in the flats?

A. Corrugated roofing is always nailed through the ridges. Metal roofing panels with wide flats, however, are usually nailed or screwed through the flats to form a solid connection to the sheathing or purlins. Follow the manufacturer's guidelines, and always use fasteners with rubber washers.

Sealing Exterior Doors

Q. I'm sealing an exterior wood door. What is the best finish to use?

A. For a clear finish, apply at least two coats of polyurethane to both sides and all four edges of the door after it has been beveled and planed to fit the opening. Most important, seal the bottom of the door after it has been cut and planed to fit.

If a painted finish is desired, apply the two coats of polyurethane to seal the door, then coat the door with a surface bonding agent, such as Liquid Sandpaper (General Liquids Corp., P.O. Box 5867, Baltimore, MD 21208; 410/484-7222). This agent is a deglosser that will allow the paint to stick to the smooth polyurethane. ■

Henry Spies is a building consultant formerly with the Small Homes Council/Building Research Council of the University of Illinois. Questions should be sent to him at JLC, RR#2, Box 146, Richmond, VT 05477.