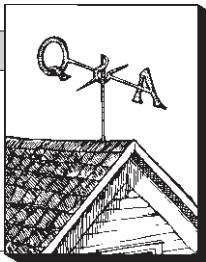


Rough Opening Sizes

by Hank Spies



Q. How much tolerance should be left in a rough opening for fitting and shimming doors and windows? What is the best way to seal and insulate the shim space?

A. About a half-inch should be left at the top and sides of a window or door for shimming and squaring. One of the best ways of sealing the shim space is with a bead of single-component urethane foam. The foam can be used to insulate and fill the space if it is installed in several layers. The expansive power of the foam can warp the finish frame if the entire space is filled in one application. Fiberglass can be used to fill the space after one bead of foam is applied to make the air seal. Fiberglass sealed with caulk can also be used.

Secure Staging

Q. I have been attaching pump-jack braces to fascia boards using 2½-inch drywall screws because it is easy, but I'm not sure they have adequate shear strength. Is this safe?

A. Probably not. The fascia itself may not be strong enough. I am a little surprised you are fastening them to the fascia—the usual procedure is to fasten them to wall studs with 3/8-inch lag screws. The siding should cover the holes left by the lag screws, but the ones in the fascia would be left exposed. If there is any overhang, attaching the braces to the fascia usually would put the scaffold too far from the wall.

Nails for Cedar

Q. Is the oil that attacks nails in red-cedar shingles also found in white cedar shingles?

A. I am a little perplexed at the question because I cannot find anyone who thinks the oil in red cedar attacks nails. I know of many red-cedar shingle roofs that were applied with galvanized shingle nails that have been in place for 40 years or more. White cedar seems to have less oil than red cedar, but it certainly has some. It is this oil that gives the cedar its durability. However, the tannic acid in the cedar will corrode copper nails or flashings.

Cathedral Ceiling Strategies

Q. What is the best way to insulate a timber-framed cathedral ceiling for a minimum of R-30 so as to have no moisture problems?

A. Probably the best way is to use stressed-skin panels with foamed joints, with strapping above them to support a roof deck and shingles. This provides the insulation and the space for ventilation below the roof deck to minimize ice dams and meet the ARMA standards for shingle application. However, it would be too costly to use in most cases.

Many builders have had success with parallel-chord rafters (such as

plywood I-beams) that are about 14 inches deep. This system permits an R-30 batt to be installed over the ceiling finish and still provides an air space above the insulation that can be vented with continuous soffit and ridge vents. A baffle is necessary at the bottom of the insulation to hold it in place and to minimize the air flow through the insulation.

Why Fur-Out Ceilings?

Q. In the New England area, it seems as though most ceilings are furred with 1x3s before plastering or drywalling. What is the reason? Is this a necessary step?

A. The use of furring or strapping tends to be regional—it is seldom seen in the Midwest. The usual reason for furring the ceiling or walls is to provide the opportunity to shim the framing to produce a more level surface. One builder that I know uses a laser level to set the furring strips, so the ceiling is flat, regardless of any bowing or twisting of the ceiling joists. Similarly, trusses often do not have perfectly straight bottom chords. Indirect or skim lighting will highlight any variations out of plane in the ceiling, so leveling is important if that type of lighting is to be used. Furring is not necessary from a structural standpoint, but is done for appearance.

Do Concrete Fibers Last?

Q. I am interested in using fiber-reinforced concrete for added crack protection in slabs, but I have heard that the alkalinity of cement corrodes glass, especially fine fibers. Won't this harm the fiberglass reinforcement? What about steel fibers?

A. The alkalinity of concrete will indeed etch glass, including fibers. This happened with the original glass-fiber-reinforced parging used on surface-bonded block walls. At least one glass company did develop a glass fiber that was resistant to alkali etching. Steel fibers in concrete do rust where they are exposed to moisture, and they also lose their strength quickly under those conditions. The current alternative, which works quite well, as far as we know, is polypropylene fibers, such as those distributed by Fibermesh Co., 4019 Industry Drive, Chattanooga, TN 37416; 615/892-7243. The fibers are added in the mixer, and are used to eliminate the use of wire mesh for temperature and shrinkage reinforcement in slabs. The fibers are only about a half-inch long, and do not interfere with the finishing of the concrete. ■

Henry Spies is with the Small Homes Council-Building Research Council of the University of Illinois. Questions for this column should be sent to him at New England Builder, P.O. Box 5059, Burlington, VT 05402.