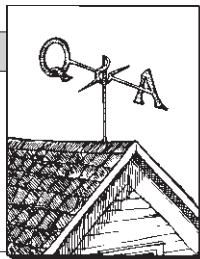


# Fire Blocking in Ceilings

by Henry Spies



**Q.** Shouldn't long-span cathedral ceilings be fire-blocked? If so, how do you fire-block without blocking off eave-to-ridge ventilation?

**A.** Detached one- and two-family dwellings are specifically excepted from the requirements for firestopping in most codes. The CABO One and Two Family Dwelling Code (1986), Section 402.7, does not require firestopping in roof/ceiling assemblies, and Section R-402.8, Draftstopping, specifically requires that ventilation of concealed roof spaces be maintained. I know of no way to provide both firestopping and the required ventilation.

This question did bring to mind CABO's requirements for firestopping "at all interconnections between concealed vertical and horizontal spaces such as occur at soffits, drop ceilings, cove ceilings, etc." I cannot recall the last time I saw firestopping at the bottom of the dropped soffit above kitchen cabinets, which is much more important than firestopping in a cathedral ceiling.

## Wet Subfloor Dilemma

**Q.** How do you prevent the plywood subflooring from delaminating because of rain occurring between the time the subfloor is laid and when the house is closed in? It is too expensive to use 3/4-inch T&G subflooring, with a bead of sealant at the joints and a coat of wood preservative.

**A.** The best way is quick closure. A sheet of polyethylene laid over the subfloor would keep most of the water from getting to the plywood, as much of it would evaporate rather than soak in. The poly can be cut at the plates to remove it after closure. However, the poly is slippery, particularly when wet, and may present a safety hazard.

Sealing the edges of the plywood with paint while it is still in the stack should reduce the problem, particularly on the edges, with a minimum of expense. Swelling at the edges is a greater problem with OSB and waferboard than with plywood.

## Preventing Dented Gutters

**Q.** As part of a standard delivery procedure, we often use a conveyor to hoist shingles to residential rooftops. We find, however, that the gutters often bend under the weight. Do you know any easy way or special equipment to reduce the weight put on the gutter?

**A.** There are two possibilities. The first is one or more variations of stand-offs attached to the frame of the conveyor. The stand-off could rest against the siding, if it is wood and

the overhang is not too great, or the stand-off could have the equivalent of a bird-mouth end, which would rest against the roof edge and the fascia. The alternative for an ogee gutter mounted to the fascia is to insert a solid wood block, shaped to fit the inside of the gutter, which will support the conveyor and transfer the weight to the fascia.

## Insulating Metal Studs

**Q.** If one frames with metal studs inside a brick wall, and insulates with batts, how will the insulation value be affected by the 1 1/2-inch unfilled air space within each stud?

**A.** The insulating value will be reduced, both by the lack of insulation in the air space and by the conductivity of the steel stud itself. If the interior finish is drywall, the conductivity of the drywall will carry heat to the stud as well, leaving a cold strip several inches wide. In cold climates, condensation may occur on the surface of the drywall over the studs. Depending upon the construction details, the overall average insulating value of the wall could be decreased 10 to 25 percent from the rating of the insulation. If the stud is a "C" section, the space within the stud should be filled with insulation, leaving only the conductivity of the stud to reduce the insulating value.

## Is Lightning Likely

**Q.** We just completed a house near the beach that has a metal turret, which is the tallest thing around. Is lightning likely to be a problem, and what sort of protection is needed?

**A.** What we don't know about lightning would fill several books. However, the present thinking is that conventional lightning rods may cause more lightning damage than they prevent. The latest technology uses an array of hundreds of small rods on a high tower that form an "umbrella" over the area to be protected. One brand, called the Dissipation Array, looks somewhat like an inverted satellite dish, suspended over the object to be protected. The cost (over \$2,500) and the appearance tend to eliminate them from residential use, although they are used to protect electronic installations, etc. Considering that the Northeast coast area is in a low-frequency zone for lightning strikes, I doubt that lightning protection would be justified. ■

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 Journal of Light Construction, P.O. Box 5059, Burlington, VT 05402.