Choosing a Roof Membrane

Q. *Why is EPDM roofing so much more expensive than torch-applied modified bitumen? Is EPDM roofing that much better?*

A. *Architect and roofing consultant Harrison McCampbell responds:* For a variety of marketing reasons, the bids you receive from local roofing contractors may not reflect national averages. Normally, the cost of a fully adhered EPDM roof should be fairly close to the cost of a modified bitumen roof.

EPDM is a butyl-based rubber treated to withstand UV and direct exposure to the sun. An EPDM roof will probably outlast a modified bitumen roof or any other asphalt-based membrane. Asphalt products contain oil, which evaporates, eventually rendering the carrier dry and brittle. Frequent wet-dry cycles will accelerate that process, especially if the wet periods are prolonged. Other factors that can affect the longevity of a roofing membrane include the specific details of insulation, fastening, flashing, lap treatment, and maintenance.

Crawlspace Insulation

Q. *I am building an addition over a 30-inch-high crawlspace. The local inspector has approved my plan to build a sealed crawlspace without ventilation. Should I install rigid foam insulation on the interior of the block walls, or should I insulate between the floor joists?*

A. *Howard Ferree, a licensed general contractor in the Asheville, N.C., area, responds:* In almost all cases, I'd suggest installing the insulation between the floor joists. Unless you are located in a climate where the crawlspace needs to be heated to keep the pipes from freezing, you don't want to heat and cool more space than necessary.

Although there is still some controversy about the best way to prevent crawlspace moisture problems, I'm now convinced that the most effective approach is to seal crawlspaces completely. Polyethylene should be installed across the crawlspace floor and should continue up the interior of the perimeter foundation walls, to form as complete a seal as possible.

Fastening Studs With Screws

Q. *On a remodel job, I used screws to fasten studs and blocking in a non-bearing partition. An inspector told me that only nails, not screws, could be used in this application. Is this correct?*

A. *Corresponding editor Paul Fisette responds:* The model building codes accept nails as structural fasteners and provide the required nailing schedules for each type of nail. When something other than nails will be used, a builder must look at the code section on "alternate" fasteners. That section of the code covers fasteners like staples, pneumatic nails, and screws.

The problem with most screws is that they are hardened and brittle. Some screw manufacturers have had their fasteners tested under the National Evaluation System (NES) or by some other code-recognized evaluation system. The evaluation reports provide performance data and sometimes equivalent strength values.

The acceptance of screws for framing, even in a non-bearing partition, is up to the discretion of your local building official. In most cases, the official is likely to demand that any screws used must prove their performance with an evaluation report.

Costing and Tracking Software

Q. *What's the best accounting software for job costing and tracking for a remodeling company?*

A. *Technology editor Joe Stoddard responds:* Because getting off on the wrong foot with your accounting systems can lead to big hassles down the road, I'm hesitant to make any specific recommendations without knowing more about your business. One good resource to get you started is "Evaluating Construction Software," available online at www.cbczine.com/articles/selecting/eval_p2.asp.

Many smaller contractors are successfully using Intuit's QuickBooks Pro (800/433-8810; www.quickbooks.com), along with Karen Mitchell's system for setting it up specifically for construction. This may be all you need. Check out Karen's forum at www.jlconline.com/forums/qbpro. One caution: Although QuickBooks Pro costs only a couple of hundred dollars, be prepared to spend considerably more than that to get it set up properly for construction.

Jim Erwin, an active contractor, has developed a forms-based add-on for QuickBooks Pro and Microsoft Office called BuildWorks (formerly GCWorks). BuildWorks is ideal for a company that's starting to run into a wall with QuickBooks Pro by itself. It adds Excel-based estimating forms and dozens of construction-specific reports that are lacking from "stock" QuickBooks Pro. BuildWorks isn't seamless, and you'll need to cut and paste some information between programs. Still, it's a giant step forward for most contractors struggling with QuickBooks and Office. Read my preliminary review at www.cbczine.com/articles/e-update05/buildworks.asp. BuildWorks is available from Synapse Software (800/420-2521; www.synapsesoftware.com).

If you're planning to expand your business and want to avoid the limitations of QuickBooks altogether, you might want to look into the Master

Builder by Omware (888/429-9941; www.omware.com). The Master Builder is an integrated accounting package with construction-specific modules for estimating, scheduling, and job costing. The modules have a common interface, making them relatively easy to learn. Omware has recently released a Solo (single-user) edition that is great for smaller contractors and is easily upgraded later to the Network edition if you need more capability. For more information on the Master Builder, see my review at www.cbczine.com/articles/mb7_10-01/MB7_oct00-1.htm.

Installing Smoke Detectors

Q. *There are no code requirements for smoke detectors in my area. What is the best type of smoke detector to buy, and where should they be located?*

A. *Art Laurenson, a Providence, R.I., firefighter and assistant deputy state fire marshal, responds*: To be sure you are complying with local regulations, contact your local electrical inspector and the local fire department. For new construction, BOCA and NFPA 70 (the *National Electrical Code*) both require hard-wired, interconnected devices with battery back-up.

Residential smoke alarms should be wired on a dedicated circuit. It's a good idea to have at least one light or receptacle on the same circuit, to alert the homeowners in case the circuit breaker ever trips. Interconnected alarms are usually wired in a daisy chain, using 14-3 or 12-3 cable. The third conductor is the communication wire.

Some installation guidelines:

- As a minimum, one device is required on every occupiable level of the house.
- At wall-ceiling intersections, there tends to be a dead space where smoke doesn't accumulate, so smoke detectors shouldn't be located in corners. While smoke-detector manufacturers allow the devices to be located as close as 4 inches to the wall-ceiling intersection, some codes require that a ceiling-mounted smoke detector be located at least 12 inches from a wall and that the top of a wall-mounted smoke detector be located 6 to 8 inches from the ceiling.
- Install a separate smoke detector in each bedroom and one in the common hallway near the bedrooms.
- In most cases, a smoke detector should not be located in a kitchen. The best device for use near a kitchen is a smoke detector with a hush mechanism, like the Firex model 4518 or 4618 (Maple Chase Co., 800/951-5526; www.maplechase.com) or the First Alert model 4120 SB (800/323-9005; www.firstalert.com). The hush mechanism disables the alarm circuit while keeping the sensing circuit active. If the amount of smoke continues to increase, the device will sound again.
- An attic accessible by stairs (as opposed to a ladder) needs a smoke detector. Although NFPA 70 exempts unfinished attics, an attic with stairs might be used by children to play in.
- A basement is considered an occupiable level and requires a smoke detector. If the stair is open (with no walls), the smoke detector should be installed at the top of the stairs. If the stair is closed (with walls on both sides), the smoke detector should be installed at the basement ceiling near the bottom of the stairs.
- Although not required by most codes, added protection can be achieved by installing a heat detector near the furnace or boiler and in the garage. These heat detectors should be interconnected with the house smoke detectors.
- Large houses may need additional smoke detectors. Some codes require one smoke detector for every 1,200 square feet.

GOT A QUESTION? Send it to On the House, *JLC*, 186 Allen Brook Ln., Williston, VT 05495; or e-mail to *jlc@bginet.com*.