Q+A

YOUR QUESTIONS—PRO ANSWERS

Locating an expansion tank

Q I'm installing a hot-water expansion tank. Do I install it in the hot-water line or in the cold-water line? How far from the shutoff valve does the tank need to be to meet code?

—JAMES HEATHER
via email

A *Georg Efird, owner of A2Z Plumbing Inc. (www.eatsleepplumb.com) in Asheville, N.C., replies:* Your question is a common one, even among plumbers and builders. First, it's important to understand that the tank's purpose is to reduce thermal expansion. In a water line, thermal expansion occurs when the water is heated and pressurized. Most expansion tanks use a small volume of air separated by a diaphragm that absorbs the increased pressure.

The tanks are most common in high-pressure water systems and are often required by code. If your water heater is leaking or dripping from the pressure-relief valve on the top or the side, it's probably because the system does not have an expansion tank or a pressure-reducing valve.

Most plumbers install expansion tanks in the hot-water line close to or at the water heater. It seems they do this to use the shutoff valve at the water heater for servicing the expansion tank, or because they simply don't know there are other options.

Contrary to this common practice, the expansion tank can be installed in the cold-water line. It should be located in the largest pipe closest to the incoming main after a pressure-reducing valve. Install an isolation valve near the expansion tank so that the tank can be serviced when needed.

Have the tank checked over annually by a licensed plumber, and make sure it always has the specified air pressure inside it. Some local plumbing codes require that the tank be within 3 ft. to 5 ft. of the water heater on the hot- or cold-water side to ensure that the tank is not concealed. Contact a plumber or plumbing official to be sure you are meeting or exceeding local code.

Control thermal expansion. *An expansion tank, such as the one shown above, helps to absorb water pressure that results from thermal expansion. The tank can be installed anywhere in the cold-water line between the house's main valve and water heater, or on the hot-water line within 3 ft. to 5 ft. of the water heater. An expansion tank should be installed in conjunction with a pressure-reducing valve in high-pressure situations.*

Rough openings on the coast

Q I need to frame an opening for a patio door in a coastal house. What type of lumber is the best choice and the most weather-resistant? Can I use composite decking?

—ARNOLD WILKES
Wildwood, N.J.

A *John Spier, a builder on Block Island, R.I., replies:* From your question, I'm not sure whether you are asking about structural framing or framing the opening with trim. In either case, a composite-decking material is not a good choice. For structural framing—sills or plates, studs, trimmers, and headers—you need structurally rated dimensional lumber.

Only the sill plate needs to be rot resistant, either treated lumber or, under some codes, cedar or redwood. In a properly finished installation, none of the structural materials will ever be exposed to the weather, so the rest of the opening can be untreated framing lumber.

I've seen composite decking used for exterior trimwork, but it's not an ideal material. Composite decking might not rot, and it takes paint. However, it's not easy to work or fasten, and it has a high rate of thermal expansion and contraction. Rot-resistant woods, such as cedar or redwood, or synthetic trim materials such as Azek, cost about the same and are much better choices.

Photo this page: Georg Efird