

## Sealing Expansion Joints

by Henry Spies



**Q.** *Water is leaking through the expansion joint in an above-garage concrete patio. What is the best way to seal this joint?*

**A.** The joint should be cleaned of all previous sealants. To do this well you may need to use a masonry grinding wheel. The crack should be cleaned to a depth at least equal to the width of the joint. If it is deeper, insert polyethylene backer rod in the joint to make it the same depth as it is wide. Then fill the joint with an elastomeric caulk. Polyurethane is a good choice. With some types of caulk, it is necessary to coat the edges of the joint with a primer for good adhesion. Follow the directions of the caulk manufacturer.

### Water Hammer

**Q.** *What causes hot water pipes to "bang" and how can this be prevented?*

**A.** The usual cause of the banging in domestic hot water pipes is water hammer. When the pipe full of water is running, there is a considerable momentum from the mass of water in motion. When the flow is suddenly stopped, such as when a solenoid valve on a washer or dishwasher closes, or when a faucet is turned off quickly, this energy of the moving water is transferred to the pipe, causing it to vibrate and move enough to hit the framing.

Plumbers often take off the supply from a tee, and add a short length of capped pipe above the tee to serve as a shock absorber. This works as long as air remains in the capped pipe. When the air chamber becomes waterlogged, the system has to be drained down to replenish the air. Since air dissolves readily in hot



To prevent water hammer, install an arrestor near the fixture. It contains a bellows and spring to absorb some of the energy of the flowing water, but cannot become waterlogged the way an expansion chamber will.

water, however, you may have to drain the system frequently.

The best solution is to install a water hammer arrestor (available from plumbing supply houses under a variety of trade names) near the fixture. It contains a bellows and spring to absorb some of the energy of the flowing water.

### Pressure-Treated Plates

**Q.** *Do you need to use pressure-treated lumber for the bottom plates on interior partitions over a slab?*

**A.** You won't need pressure-treated plates on interior partitions for crawl-space and basement houses, but you will need them over slabs. Code requires pressure-treated lumber wherever framing is in contact with foundation concrete. Another very good reason to have pressure-treated lumber plates is to deter termites. Termites can enter through a crack as small as 1/64 inch, and the pressure-treated plate can discourage their entry.

### Painting Stucco

**Q.** *We are working on a cement-stuccoed house. The old paint is peeling in many places where water leaked from old gutters or was trapped by overgrown shrubbery. We have solved the moisture problems. What is the best way to prepare the stucco surface for new paint?*

**A.** All of the existing paint should be removed, preferably with a high-pressure water blaster, with or without fine silica sand. Coatings other than paint may require sandblasting for removal. After stripping, repair any chipped corners, spalls, and cracks with premixed mortar that is troweled on and textured to match the surrounding area. The patched area should be prewetted before applying plaster.

A cement-based paint is probably the best finish for stucco. You buy these products in powder form, mix them with clean water to a brushable consistency, and lay them on heavily enough to fill and seal small cracks and holes. The surface should be dampened immediately before application. Special paints designed for alkaline surfaces are the next choice, followed by latex paints. ■

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