Q&A

Q. Preventing Gaps in PVC Trim

I've completed a couple of projects with cellular PVC trim boards, and in both of them wide gaps have opened up in the joints even though we used both glue and nails during installation. Is there a way to prevent these gaps from occurring?

A. *Mike Sloggatt, a remodeling contractor in Levittown, N.Y., responds:* While wood trim expands and contracts across its width with changes in moisture content, PVC trim expands and contracts along its length with changes in temperature. An 18-foot-long PVC board can change seasonally by as much as 3/16 inch — easily enough to create the large gaps you describe.

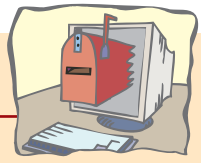
So it's important to account for your climate's overall temperature range and the temperature of the material during installation. In cold weather, for example, I make an allowance for summer expansion so that the boards don't buckle when they warm up. In hot weather, a little extra spring in the boards helps keep the joints intact when the material contracts during the colder months.

Proper fastening along each trim board's entire length will also help limit seasonal movement. I never use nails with PVC trim, because they don't have enough holding power; instead, I use stainless steel trim screws long enough to penetrate the substrate by at least 1 1/2 inches. For 4- and 6-inch-wide PVC boards, I use two screws every 16 inches on center; for 8- and 10-inch-wide boards, I use three screws; and for 12-inch wide boards, I use four screws.

Proper structural support helps, too. For example, instead of fastening PVC fascia trim to rafter tails, I first install a sawn-lumber subfascia, which provides a solid substrate — particularly when rafters are on 24-inch centers.

Finally, I glue the butt joints. On long runs, I cut 15-degree or 30-degree scarf joints. I use PVC glue in the joint and fasten the joint to the subfascia with trim screws within 2 inches of the end of each board. I also apply construction adhesive between the subfascia and the PVC in the area of the joint.

GOT A QUESTION?



Send it to Q&A, *JLC*, 186 Allen Brook Lane, Williston, VT 05495; or e-mail to jlc-editorial@hanleywood.com.

Q. Upgrading a Pocket-Hole Jig

Recently I discovered that my faithful Kreg pocket-hole jig somehow got "lost" on my last job site. I want to replace it. Is upgrading to the Foreman pocket-hole cutter worthwhile, or should I just stick with the same jig?

A. *Gary Katz, a finish carpenter in Reseda, Calif., and the moderator of the* JLC *Online finish-carpentry forum, responds:* With a list price of about $850, Kreg's semiautomatic Foreman pocket-hole cutter is a lot more expensive than the company's $150 K3 Master System kit (800/447-8638, kregtool.com). But if you do more than a couple of cabinet or wainscoting jobs a year, the Foreman will more than pay for itself. It's fast — it clamps your material and drills the hole with a single motion — and it's about the same size and weight as a portable table saw, so it's not difficult to transport from job site to job site. It comes in both electric and pneumatic versions.

If the Foreman sounds too expensive, the original Kreg jig is still available for around $100 — but the K3 kit is a great upgrade for not a lot more money. Kreg has improved the toggle clamp on the bench-mounted jig so that, instead of locking away from you, it locks into position toward you, making it easier to push the lever down with the drill in your hand. Also, the linkage on the new clamp includes a spring, so if your material isn't all precisely the same thickness, you don't have to fiddle with adjusting the clamp in the middle of drilling pocket holes. And if you're into dust collection — a good idea when cutting pocket holes — the new K3 kit includes a dust shroud. Removing the dust while you work speeds up drilling and increases bit life.

Q&A

Q. How to Build a Climbing Wall

I'm planning an addition for a client who wants to turn a 22-foot-high wall into a climbing wall. He would like this wall to closely resemble stone, but he doesn't want it to cost as much as natural stone. I've poured a lot of flat concrete, but I have never built something like this — so I really don't have a clue what materials we should use. How are climbing walls normally constructed?

A. *Bill Palmer, former editor of* Concrete Construction *and the president of Complete Construction Consultants in Lyons, Colo., responds:* There are several ways to build climbing walls. John McGowan, president of Eldorado Climbing Walls (303/447-0512, eldowalls.com) in Boulder, Colo., says glass fiber reinforced concrete (GFRC) panels are the best solution for realistic-looking rock walls.

His company casts GFRC panels in 6-foot-by-6-foot silicone molds made from imprints of actual rockfaces. During wall assembly, embedded steel plates within each panel are welded to a structural steel frame. The seams between the panels are reinforced with steel, then filled with GFRC sculpted to match the panels. Bolt holes fitted with tee nuts are placed in each panel to accommodate urethane handholds, which can be altered as needed to allow variations in climbing routes.

Climbing walls can also be made from OSB, then coated with a stonelike polymer concrete texture coat; or from molded fiberglass panels. These materials offer more climbing flexibility but look less like natural stone.

Finally, climbing walls can be constructed from shotcrete on steel lath, although they must be carved on the spot, a process that takes considerable experience and craftsmanship.

No matter what technique is used, it's best to leave the design and construction of climbing walls to experienced companies. Safety and liability are obvious issues, but even details like the size of the landing zone at the foot of the wall and the placement of handholds require careful planning. Companies like Eldorado make predesigned walls that can be installed by a builder; to find them — or get more information about climbing walls in general — contact the Climbing Wall Association (720/838-8284, climbingwallindustry.org).

Q. What Causes Drywall Fasteners to Pop?

On a recent project, several hundred screw pops showed up on the primed walls and ceilings. About half the boards in the house had to be rescrewed and patched, and all the drywall had to be reprimed. Although it was raining when the drywall was stocked, my drywaller says he did not use any of the sheets that got wet. According to him, the problem was caused by shrinkage in the framing — but construction conditions were normal, with no obvious evidence of excessive moisture levels in the lumber. What happened?

A. *Myron Ferguson, a drywall contractor in Galway, N.Y., responds:* It takes about 1,000 screws to hang 1,000 square feet of drywall, so it's not uncommon to have a dozen or so screw pops in an average house.

Screws set too deeply might be fine when the drywall is sanded, but may pop when there's structural movement or an impact. Also, insulation can push against the drywall and prevent it from being fastened tight to the framing; later, pressing the drywall back against the framing can cause pops to occur. And finally, when framing dries and shrinks, a gap can open up between it and the drywall; screws that are too long are more likely to pop when this happens than properly sized drywall screws, which should penetrate the framing only about 5/8 inch.

But it's unusual to have hundreds of screw pops. While conditions are seldom ideal on any site, most drywall installations experience minimal popping. In your case, it's likely that a "perfect storm" of factors — lumber with relatively high moisture content, damp drywall, perhaps high humidity and low airflow, even improperly set screws — all contributed to the problem.

Most of the excessive popping I've experienced has occurred along the top plate, so now I avoid fastening drywall within about 7 inches of the ceiling. I've found that using drywall adhesive helps reduce fastener pops and provides extra insurance against minor structural movement or improperly set screws. (I always specify adhesive when working with an installation subcontractor.)

Working with dry framing helps, too. Whenever I can, I bring the drywall inside ahead of time and allow it to acclimate (same as with hardwood flooring), and I try to control temperature, humidity, and airflow before, during, and after the drywall work.