

# Site Report: Working with PVC Trim

by Jeff Kent

*Plastic trim  
weathers the  
test of time in  
unforgiving  
coastal climates*

The company I work for builds custom homes on the coast of Narragansett Bay in Rhode Island. It's a harsh, damp environment that eats wood finishes and encourages mold and rot. Most homeowners here can look forward to spending a lot of time and money maintaining their exteriors. So when my supplier approached me five or six years ago with a new PVC trim product that looked like painted wood but was immune from these problems, I was eager to try it. I already use fiber-cement siding and Trex decking, so PVC would let me offer my customers a totally maintenance-free exterior. I used it for the first time on a 5,200-square-foot Shingle-style house in Charlestown, Rhode Island. The material more than lived up to its promise. I now use it every chance I get.

Using PVC trim doesn't require any new skills. You can cut it, drill it, and fasten it with standard carpenter's tools (Figure 1, page 3). But because the material is more flexible than wood and expands and contracts more, you do have to vary your approach a bit. If you don't have good installation information, you're going to hate this product. However, if you learn to detail it right, it can save you expensive callbacks. The people I know who have



Unlike many composites, PVC won't pucker at the surface when nailed. Some boards come with precut lock miters (inset), which don't have to be glued.

learned how to use it, myself included, say they'll never go back to wood.

## THE MATERIAL AND COST

The material used in PVC trim is called cellular PVC. The resin itself is similar to that used in plumbing pipes, but the term "cellular" refers to the trim material's lighter density. PVC pipe is much denser; the cut edge actually looks like glass. If you made a board out of the pipe material,



it would be too heavy to lift and you would never be able to drive a nail through it. To make PVC trim boards, manufacturers mix the compound with a blowing agent that causes it to expand, giving the material a uniform cellular structure that matches white pine and clear cedar but has no grain to warp or soak up moisture.

PVC trim comes in 1/2-, 5/8-, 3/4-, and 1-inch thicknesses and in 18- and 20-foot lengths. Shingle mold, brick mold, crown

mold, and beadboard are also available, as are PVC sheets in 1/2-, 5/8-, and 3/4-inch thicknesses.

Most of the companies that make PVC trim seem to charge roughly the same price for it, but that doesn't mean all products are the same. The main variables I've found are porosity and color. Some brands have porous edges that are hard to sand smooth and finish, and some products aren't a true white — a problem if you

don't intend to paint. Others have a white surface and a brown interior that shows on unfinished butt joints. In my experience, the best-quality PVC trim is made by Azek and Kleer. Both companies make dense, nonporous boards that are easy to sand and finish. And they're a true white all the way through.

PVC costs about twice as much as finger-jointed pine and just a little less than clear cedar. It also takes a little more time

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FIGURE 1: PVC trim stock cuts and routs much like wood. The dust tends to have a static cling, but it's not as fine or as abrasive as fiber-cement dust. PVC trim also won't dull blades any faster than wood.



to install than wood. However, we encourage our customers to look beyond the initial cost to the fact that it's a durable product that never needs maintenance.

Indeed, the product's advantages make it well worth the cost. Since there's nothing organic, you don't have to worry about insects eating it. It won't soak up water, so you can set it right on concrete without fear of rot. Because there's no grain, it

won't warp, twist, or bend. And when you glue two pieces together, they fuse into one, making the joint permanently watertight. These advantages make the product great for much more than simple trim. In fact, the more we use it, the

more uses we find for it. They include:

- exterior railings and balustrades
- raised panels for exterior window treatments
- access panels for whirlpool tubs
- outside shower stalls (Figure 2).
- interior and exterior columns. We've had so much success with these that we made 100 three-sided columns in our shop. We slip the column over a structural post, then glue the fourth side in place on the job site (Figure 3, page 4).



FIGURE 2: PVC material has no organic material, so it is not prone to rot. This makes it ideal for coastal homes. Not only will all exterior trim, including everything on this entry (above), hold up to wind and high humidity, but it also is an excellent material for outside showers (right). The author even shapes the soap dish from PVC.



We even used PVC once to make a 10-foot-long photographer's sink! The glue fused the joints, making it a single piece.

## WORKABILITY

The first thing you will notice about a PVC board is that it's a lot floppier than an equally sized wood board. It's so flexible that you can tie a 1-inch-wide strip into a pretzel shape. Because of this flexibility, it takes two guys to rip the material (Figure 4, page 4).

Some contractors, concerned that the PVC will flex between rafters or trusses, claim you need a sub-fascia. However, we don't use a sub-fascia and I've never had any deflection problems, even when spanning 2-foot distances between roof trusses.

The flexibility actually has an advantage. The same thermal blankets plumbers use to bend PVC pipe (available from any plumbing supply store) can be used to soften a PVC board. If you're installing arch-topped windows, for example, the softened board can then be placed in a jig to make a piece of curved head trim. It will cool in about ten minutes.

Nailing and cutting are the same as for wood. The material won't pucker when you nail it, like some composites, and there's no more wear and tear on bits, blades, and tools than with wood. (Compare that with fiber-cement, which not only dulls blades, but its fine dust actually destroys tool motors.)

## GLUING

The biggest problem with PVC is that it expands and contracts with changes in temperature, and unlike wood, it actually expands more lengthwise. The manufacturers claim that you get only a 1/16-inch expansion and contraction in a 14-foot board, but I haven't measured it. I do know that if you put it on a house during the summer when it's warm and don't use the glue, you can come back in the winter and see big gaps. Manufacturers say that the greatest expansion comes after the last

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FIGURE 3: While durable on the exterior, PVC has advantages for interior woodwork as well. The author uses it for interior columns, preassembling a boxed column and then installing it around a structural post.



FIGURE 4: PVC trim stock is much more flexible than wood of comparable dimension. It will sag on a table saw, so two people are needed to rip it. To demonstrate the material's flexibility, the author ties a 1-inch-wide strip into a pretzel.



nail, so it's important to nail aggressively and close to the end, but in my experience the best way to prevent shrinkage is to glue all joints.

I use glue wherever one piece of trim touches another, and I always stagger the joints from one piece to the next. Without glue, the material will expand and contract in different directions. With glue, you control that expansion and contraction. In fact, the glue does more than bond two pieces, as with wood: It actually fuses them together to form a single piece (Figure 5, page 5). I've glued butt joints and given them to people to try and break. They can't do it. If they succeed in breaking anything, it's the board and not the joint.

I've used PVC plumber's glue, but wasn't altogether happy with it. It turns yellow over time, and it starts to set up in a matter of seconds, giving you little work time. I've since switched to Gorilla brand PVC glue, a water-based product that does as good a job, doesn't yellow, and gives about five minutes' working time (Figure 6, page 5). That's plenty of time to get it on the edge of an 18-foot piece of trim. We've found the easiest way to apply the glue is from a plastic squeeze bottle. An empty drinking water bottle works great for this.

For corner boards, we rely on Kleer brand stock that comes with a lock miter that doesn't need to be glued (see inset to lead photo, page 1). We preassemble the corner boards, using an Omer nail gun that shoots plastic nails. The nails fire through the material very easily, and a light sanding blends the heads in with the white trim. The plastic nails aren't structural (they're only meant to clamp the joint while the glue dries), so we still use stainless-steel nails to fasten the boards to the house.

## FINISHING

PVC can be left unfinished or painted. Because the product is white, the first few times we used it, we figured we wouldn't have to paint. But glue drips, as well as

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glue-laden fingerprints and smudges, meant we spent a lot of time cleaning the stuff afterward. We finally concluded that we could offer a better result for less money by painting it. Another reason for painting PVC is to discharge the natural static, which is inherent to the product. (The static attracts dust and dirt.)

We use one coat of a good acrylic latex paint. We find that it actually holds up better on PVC than on wood because there's no moisture in the material to weaken the paint bond. We don't prime and we don't use oil paint. We don't use oil-based putty, either, because the oil in the putty will bleed through the paint. (I heard one contractor say that he has a gey dab appliance paint on the nail heads with an artist's brush, but I haven't tried that.) Painted PVC is virtually indistinguishable from painted wood trim and the PVC will hold paint for up to 25 years.



FIGURE 6: While plumber's PVC cement will bond trim stock, the author prefers Gorilla brand PVC glue — a water-based product that doesn't yellow, and gives about five minutes' working time. He buys it in bulk and uses a water bottle to apply it.



FIGURE 5: Once glued, the many pieces of a PVC cornice fuse together, creating a stiff assembly that remains seamless. These seams are hardly noticeable after three years on a house in Narragansett, R.I.

Homeowners will probably grow tired of a color before they need to repaint.

If you're not painting the material, use a paint scraper to clean up dried glue and remove scratches from the surface (Figure 7). Simply bear down on the scraper and pull on it. Although it takes several passes, it will eventually pull the scratch away. ~

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FIGURE 7: PVC trim holds paint much better than wood, and it will never require maintenance if left unpainted. Scratches, scuffs, and glue can be removed with a sharp scraper or light sanding.

## SOURCES

### Advanced TrimWorks

250 Cape Highway  
East Taunton, MA 02718  
508-822-7745  
[www.advancedtrimworks.com](http://www.advancedtrimworks.com)

### Azek Trimboards

801 Corey St.  
Moosic, PA 18507  
877-275-2935  
[www.azek.com](http://www.azek.com)

### Kleer Lumber LLC

44 Greif Way  
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866-553-3770  
[www.kleerlumber.com](http://www.kleerlumber.com)

### Kömmerling USA

3310 Stanwood Blvd.  
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[www.komatrimboards.com](http://www.komatrimboards.com)

### New England Lumber Specialties

202 Day St.  
West Springfield, MA 01089  
800-541-8619  
[www.nelstek.com](http://www.nelstek.com)