

Today's Best Exterior Trim

A veteran carpenter sorts through 10 of the latest engineered options

BY GARY M. KATZ

Not too long ago, the only material used for exterior trim was old-growth lumber—Douglas fir and redwood on the West Coast; yellow pine, white pine, and cedar on the East Coast; southern yellow pine and cypress in the South. Because of changes in forestry and the introduction of innovative materials, home builders and homeowners today have a host of trim products to choose from. All of these engineered-trim options promise to be decay resistant and easy to work with and to perform better than the new-growth lumber stocked at the lumberyard. However, each has its own unique properties that you need to understand before using it in the field.

I first wrote about engineered trim 10 years ago for *Fine Homebuilding*, and a lot has changed since then. Many of the products I reviewed in that story are no longer available, while many others have changed so much that they no longer resemble the originals. It's time to take a fresh look at modern exterior trim in order to help you choose the right product for your next project.

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Photos by Rodney Diaz, except where noted.

EXTERIOR TRIM AT A GLANCE



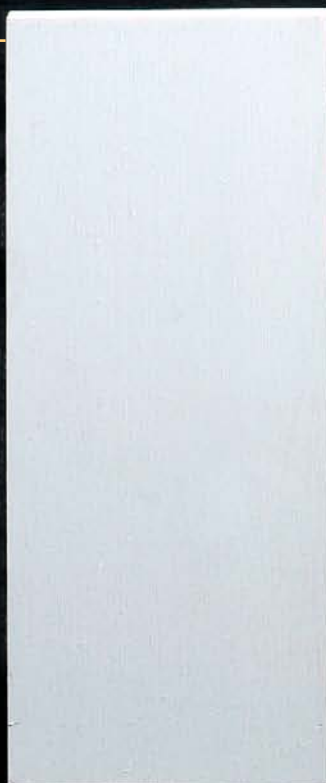
ACETYLATED

A process using acetic acid (concentrated vinegar) changes the wood fibers in the various species that are used so that their cells can no longer absorb moisture. This makes the wood dimensionally stable and indigestible, so it holds paint better and is more resistant to rot and insects. Unfortunately, acetylated wood is expensive, and availability is limited. Although the manufacturer says the smell dissipates, you may have to endure a strong odor if you have a lot of trim to install. The biggest benefit of Accoya is that it looks and handles like regular lumber.



CELLULAR PVC (free foam)

Most cellular-PVC trim is made using the so-called free-foam process, in which the material cools slowly as it leaves the injection die. Free-foam PVC is consistent throughout its thickness, and the inner core is smooth and has the same density as the outer skin. To minimize expansion caused by solar heating, PVC trim should be painted either with a light-colored conventional paint with a light-reflectance value (LRV) of 55 or greater, or with a light-reflecting paint with an LRV of 40 or greater. Free-foam PVC should be securely fastened with screws and PVC-compatible construction adhesive. Joints should be glued with PVC cement.



CELLULAR PVC (celuka)

As celuka PVC leaves the injection die, water cools the expanding foam, creating a PVC trimboard with a dense outer skin and a more granulated core. The manufacturer claims that this makes celuka PVC more dimensionally stable and more impact resistant than free-foam PVC. But because the core has a rough texture, celuka trim must be thoroughly sanded if the edges are profiled. Like free-foam PVC, celuka PVC is best fastened with screws and PVC-compatible construction adhesive. Joints are glued with PVC cement. When installing both types of PVC in cold weather (40°F or colder), leave $\frac{3}{16}$ -in. gaps at joints for warm-weather expansion.



COMPOSITE

MiraTEC is made from northern hardwood fibers collected from other milling operations and mixed with adhesive resins. The company adds a zinc-borate treatment for rot and insect resistance, and then the material is compressed under ultrahigh pressure, much like how OSB is made. But compared to OSB, the wood fibers that make up MiraTEC are far smaller, so you can create edge profiles and route patterns into the boards using standard woodworking machinery with carbide blades and bits. As with other wood-based products, miters are not recommended because seasonal changes in humidity cause them to open up over time.



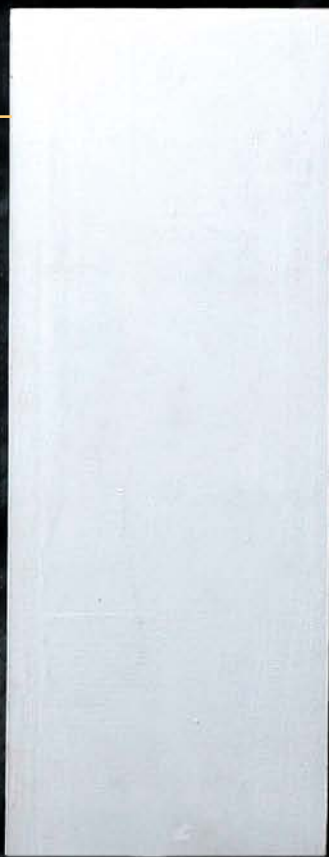
FIBER CEMENT

Fiber-cement trimboards are made from a lower-density formulation of the same materials that make up fiber-cement siding (sand, cement, and cellulose fibers). Over the last 10 years, fiber-cement products have changed radically. New additives have reduced moisture absorption, and the addition of fiberglass has improved strength and durability. Fiber-cement boards cannot be routed or shaped, and they must be cut with carbide-tipped blades. Personal protective equipment and dust collection are a must because of the risks associated with breathing silica dust. Fiber-cement trim such as James Hardie's Color Plus provides a durable finish and eliminates on-site painting.



FINGER JOINTED

Finger-jointed boards are straight and free of knots as well as the coffee-colored stains caused by them. To get wider boards, some finger-jointed stock is also edge-glued. Finger-jointed exterior trim is made from eastern white pine, cedar, and imported radiata pine. For appearance, convenience, and dimensional stability, finger-jointed exterior trim is almost always coated with primer. The quality of the priming varies greatly from manufacturer to manufacturer. Look for boards manufactured with a thick coat of primer that sufficiently masks the finger joints. One example, Fortress FJ from Russin Lumber (made from western red cedar), undergoes a multistep priming process.



FINGER JOINTED (treated)

Some finger-jointed trim includes organic-based treatments to protect the wood from insects and rot. These treatments also reduce the amount of moisture the wood can absorb, though not as effectively as acetylation. However, treated finger-jointed boards are much less expensive than acetylated stock. Like untreated finger-jointed stock, treated finger-jointed boards such as those from WindsorONE are easily shaped and routed on the job site with ordinary woodworking tools. As with other wood-based trim products, you should avoid exterior miters because seasonal wood movement causes them to open.



FLY ASH

The most recent engineered-trim option is made from resin and fly ash, a waste product of coal-generated electricity. According to Boral, currently the only manufacturer of fly-ash trim, its TruExterior trimboard doesn't absorb moisture and has no thermal expansion. Fly-ash trim is also impervious to insects and rot. TruExterior is cut and edge-profiled with standard woodworking tools and can be painted with any exterior-rated coating. The manufacturer claims that sawdust generated from cutting or milling fly-ash trim is no more carcinogenic than wood sawdust, and the fly ash used for making the boards is tested thoroughly for harmful contaminants.



OSB

LP is currently the only producer of trim made from OSB. Its SmartSide trimboards are made from compressed wood fibers and resin and are wrapped with a textured overlay that gives the boards the appearance of solid lumber, provides protection from the elements, and improves paint adhesion. The manufacturer further protects the boards with zinc borate, which improves its resistance to moisture, insects, and rot. OSB is one of the most affordable types of exterior trim, but it can't be routed or shaped like wood. In addition, OSB can't be mitered or laminated, and it is susceptible to swelling caused by moisture.



POLYURETHANE

Decorative architectural elements such as pediments, gable louvers, brackets, finials, and medallions made from polyurethane are common in residential construction. However, polyurethane boards aren't nearly as common because the material is more expensive than other options and is easily damaged by impact. Polyurethane expands and contracts less than other plastic-based options, and it has a smooth surface and crisp edges that make it a convincing stand-in for wood trim. Polyurethane trim is first bedded in polyurethane adhesive and then fastened with corrosion-resistant fasteners.

HOW MODERN EXTERIOR TRIM STACKS UP

Trim type	Brand examples	Description	Warranty	Cost of 1x4x16	Cutting and milling
Acetylated	Accoya	Natural wood treated with acetic acid	50-year limited (above ground); 25-year limited (ground contact)	\$60	Machines and routs well with a little fuzzing using standard carbide tools. Dust collection is beneficial.
Cellular PVC (free foam)	Azek, Kloor Versatex	Free-foam cellular PVC	Azek, 25-year limited; Kloor, lifetime limited on product, two years on labor; Versatex, 30-year limited	\$26	Machines and routs very well with standard carbide tools. Dust collection is beneficial.
Cellular PVC (celuka)	Koma	Water-cooled cellular PVC	25-year limited	\$26	Cuts with standard carbide tools, but machined edges are rough. Dust collection is beneficial.
Composite	MiraTEC	Compressed hardwood fibers protected with borate-based preservative	50-year limited	\$15	Machines and routs well using standard carbide tools. Dust collection is beneficial.
Fiber cement	HardieTrim, CertainTeed Trimboards	Primed fiber cement with additives for reducing moisture absorption and improving strength	15-year limited	\$19	Cuts with specialty carbide tools. Must use dust collection.
Finger jointed	Fortress FJ	Finger-jointed primed western red cedar	15-year limited with one factory coat of Benjamin Moore primer; 25-year limited with two factory coats	\$20, \$25	Machines and routs well with a little fuzzing using standard carbide tools. Dust collection is beneficial.
Finger jointed (treated)	WindsorONE, Bodyguard	Edge-glued and finger-jointed radiata pine protected with borate-based preservative	30-year limited	\$17	Machines and routs well with a little fuzzing using standard carbide tools. Dust collection is beneficial.
Fly ash	Boral TruExterior	Fly ash and adhesive with fiberglass reinforcement	20-year limited	\$22	Machines and routs very well using standard carbide tools. Must use dust collection.
OSB	LP Smartside Trim	Compressed wood strands protected with zinc-borate preservative	Five-year 100% on material and labor; 50-year prorated	\$13	Cuts with standard carbide tools but does not rout or machine. Rips must be sealed. Dust collection is beneficial.
Polyurethane	Fypon	Polyurethane foam with primer	Lifetime limited	\$23	Cuts with standard tools but does not rout or machine. End cuts and exposed interior turn yellow if left unprimed.

Best uses	Movement	Prohibitions and warnings	Fastening requirements	Finishing requirements	Job-site storage
High-visibility projects where unpainted natural wood is part of the design and is on display	Moves 80% less than nonacetylated wood of the same species	Use with stainless-steel flashing. Keep 6 in. above grade and 2 in. above roofing materials.	Stainless-steel nails or screws only. Use the same nailing pattern as with untreated wood.	Seal end cuts with exterior primer or clear sealer.	Elevate and protect from weather.
Ideal for close-to-grade applications. Good for trim that requires custom edge treatment or milling.	Expands in length with temperature. Securely fasten to restrict movement and prevent buckling.	Leave a 3/16-in. gap at butt joints with temperatures up to 40°F and a 1/16-in. gap at temperatures from 80°F to 100°F.	8d stainless ring-shank nails or screws. Use PVC cement for gluing joints. Use PVC-compatible adhesive to bond PVC to wood.	100% acrylic paint with a urethane additive and medium to high LRV (over 55%)	Store out of direct sun, and keep at ambient temperature during installation.
Ideal for close-to-grade applications but not edge profiling. More impact resistant than free-foam PVC.	Expands in length with temperature. Securely fasten to restrict movement and prevent buckling.	Leave a 3/16-in. gap at butt joints with temperatures up to 40°F and a 1/16-in. gap at temperatures from 80°F to 100°F.	8d stainless ring-shank nails or screws. Use PVC cement for gluing joints. Use PVC-compatible adhesive to bond PVC to wood.	100% acrylic paint with a urethane additive and medium to high LRV (over 55%)	Store out of direct sun, and keep at ambient temperature during installation.
Avoid close-to-grade locations and areas subject to regular wetting.	Minimal expansion	Keep 6 in. above grade, 1 in. above roofing materials, 1/2 in. above concrete, and 1/4 in. above flashings.	6d or 8d 16-ga. corrosion-resistant finish nails or headed nails. Nails must penetrate 1 1/4 in. into framing. Bond with waterproof wood glue.	Prime end cuts, then coat with high-quality oil or acrylic-latex primer. Paint with acrylic latex.	Elevate and protect from weather.
Impervious to insect damage. Unaffected by heat and direct sun.	Minimal expansion	Maintain 1/4-in. space between wall flashing and siding materials and 2-in. space above decks, paths, steps, driveways, and roofs.	Stainless-steel finish nails (except for fascia installations without subfascia, which should be nailed directly to rafter ends with 6d siding nails)	Don't use stain or oil- or alkyd-based paint. 100% acrylic topcoats are recommended.	Elevate and protect from weather.
Minimal exposure to rain or splashback. Good for custom dimensions and profiles.	1% increase across the grain for every 4% increase in moisture content	Keep 8 in. above grade and 2 in. above decks and roofs.	Don't use finish nails. Use ring-shank or splitless stainless-steel or HDG siding nails or screws. Countersunk nails must be sealed and filled.	Prime all field cuts. Apply two coats of 100% acrylic solid-color stain or paint.	Elevate and protect from weather.
Greater exposure to water and insects than untreated. Good for custom dimensions and profiles.	1% increase across the grain for every 4% increase in moisture content	Do not use for railings or trellises. Moisture content must be below 18%. Keep 8 in. above grade and 2 in. above decks and roofs.	Don't use finish nails. Use ring-shank or splitless stainless-steel or HDG siding nails or screws. Countersunk nails must be sealed and filled.	Prime all field cuts. Apply two coats of 100% acrylic-latex exterior paint.	Elevate and protect from weather.
Ideal for close-to-grade applications	Minimal expansion	Approved for ground contact	Stainless-steel or galvanized finish nails 24 in. on center	Oil or latex paint	Keep level and protected from weather.
Projects with tight budgets. Cut edges should be hidden, as they look unfinished.	Minimal expansion	Leave a 3/16-in. gap between other materials and at joints for sealing. Leave a similar gap between siding, windows, and doors.	8d HDG siding nails 24 in. on center. Maintain 1-in. penetration into framing. Countersinking requires sealant and possible additional nailing.	Use high-quality acrylic-latex paint. Semigloss or satin oil or alkyd paints are also acceptable.	Elevate and protect from weather.
Avoid locations where it will be damaged by string trimmers or impact.	Allow 3/16 in. per 18 ft. for expansion and contraction.	Avoid high heat, and allow material to acclimate to ambient temperature before installation.	Bed material in a bead of polyurethane adhesive, and use corrosion-resistant nails and screws. Use polyurethane adhesive on all joints.	Fill large holes with auto-body filler. Fill small holes with exterior spackle. Paint with acrylic-latex.	Store on a flat, level surface in a cool area out of extreme heat.