



# Hidden Fasteners For Decks

Options abound for getting a blemish-free deck surface

by Scott Gibson

I don't have to go any farther than my back porch to find a good reason to use hidden deck fasteners: In only a few years, the ring-shank nails holding down our 1x4 ipe decking have started to loosen, exposing nail heads that catch the blade of my snow shovel and shred the plastic pads on the legs of our chairs.

Hidden deck fasteners are an antidote to that problem, to say nothing of an aesthetic upgrade. If your clients like the look of "naked" decking, their options range from simple plastic or metal clips to fastening systems designed for specialized pneumatic tools. While some

systems are expensive—adding \$1 and up per square foot to the cost of the deck—others are much more economical.

It's been 10 years since *PDB* took a detailed look at what's out there (see "Hidden Fasteners," July 2007). The fundamentals haven't changed much: There are still a couple of different kinds of clips that work on square-edge or grooved decking. But there has been some market consolidation, and there's now a much wider selection of pneumatic tools designed to speed up decking installation. In addition, an increasing number of decking manu-

facturers sell their own brand of clip, so builders increasingly can buy clips and decking from the same source and not worry about compatibility between the two.

## Key Questions

When selecting a particular clip system, ask yourself these questions:

- What's compatible with the type and brand of decking you've selected?
- Is there a potential warranty issue with the decking manufacturer if you choose a certain brand of clip?
- Can the clip or fastener be removed

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EB-TY PREMIUM POLYPROPYLENE BISCUITS



EB-TY DURALIFE FASTENATOR



CONCEALOC SS CLIP



MOISTURESHIELD CLIP



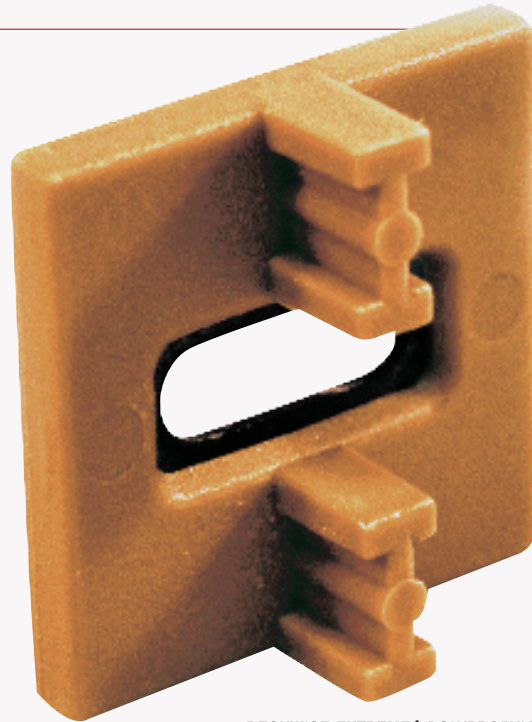
TREX HIDEAWAY UNIVERSAL FASTENER



NEWTechWOOD MG CLIP



NEWTechWOOD STARTER CLIP



DECKWISE EXTREME4 POLYPROPYLENE IPE CLIP

CORTEX TORX HIDDEN FASTENER SYSTEM







NEWTechWOOD T-1 CLIP



COYOTE CLIP POLYPROPYLENE FASTENER



EAGLE CLAW NYLON CLIP WITH SS CORE



easily to allow the replacement of a deck board that's become stained or damaged?

- How much do the clips cost?
- Is the increased speed that comes with a pneumatic tool important?

While there are functional and sometimes subtle differences in clip design, brand names are probably not as important as how the clip works. To address the question of compatibility, many decking manufacturers—who are certainly vying for a bigger slice of the pie—offer proprietary clips that are specifically designed to fit their decking. But are they necessary?

“In some cases, you may find there’s a warranty exclusion if you don’t use the proprietary fasteners,” Bobby Parks, a decking consultant and former deck builder, said. “But I think if you delve into it, you’ll often find there may be a particular decking name on the bucket, but it’s made by one of the main makers and it’s the same thing in a different box. They get an opportunity to buy it wholesale and sell it retail. Just like you go to the grocery store and you get a can of peas that says a brand name and another that says the store brand. It’s the same pea.”

### Some Clips Fit Into Grooves

The EB-TY clip, invented by New Jersey builder Harry Eberle III in the 1990s and now offered by Simpson Strong-Tie, is representative of a common type of clip that fits into a slot in the edge of the decking. These slots can be molded into the decking when it’s manufactured, or cut on site with a router bit or biscuit joiner. A screw fits into a hole in the clip and is driven at a 45-degree angle into the joist (with some clips, the screw is driven straight down into the joist). The clip automatically sets the distance between boards.

To accommodate clips, most brands of composite, capped composite, and PVC decking are now available in slotted as well as square-edged versions, and manufacturers are increasingly likely

to offer a clip designed to go with their decking. Trex, Fiberon, NewTechWood, and TimberTech all offer their own clips.

Some clip manufacturers offer several versions of a particular clip, all engineered for different materials or gap spacing. DeckWise, for example, offers four styles of its Ipe Clip, with board spacing ranging from  $\frac{3}{32}$  inch to  $\frac{1}{4}$  inch. Clips are made in both plastic and metal versions. Some brands combine both materials. The Eagle Claw and the Ipe Clip, for example, are mostly plastic but have stainless steel inserts designed to strengthen the deck-to-framing connection and eliminate the risk of driving the screw all the way through the clip. Simpson Strong-Tie has added that feature to some of its EB-TY lineup.

This hardware also can be used on square-edged boards after you slot the edge yourself with a biscuit joiner or router and slot cutter.

In use, these basic clips are simple to install, but not lightning fast. Let’s say you’re installing hardwood decking that doesn’t come with a slot in the edge. There are five steps: Slot the edge of the board, drill a pilot hole, insert the clip in the slot, put a screw in the hole of the clip, and drive the screw. Make it six if you add a bead of construction adhesive to the top of the joist first, as one manufacturer recommends.

Another consideration is size of the gap between deck boards. Clips whose screws are installed at a 45-degree angle allow tighter spacing between deck boards; when screws go straight down, the gap between boards must be big enough to accommodate the screw head.

### Screw and Plug

If your clients want concealed fasteners yet don’t like the look of edge clips, decking can be screwed directly to the framing, without extra hardware. The fasteners will be hidden when you drill a counter-bore and add a plug to cover the screw head.

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CAMO EDGE PRO COLLATED SYSTEM



CAMO MARKSMAN EDGE PRO DUAL SCREW GUIDE



SHADOE TRACK UNDER-DECK SYSTEM



INVISI-FAST POLYCARBONATE FASTENER





INVISI-FAST LEXAN BISCUIT FASTENER

If you've got time to burn, the cheapest way of accomplishing this in wood decking is to make the plugs yourself with a plug cutter and a drill press. Cut the plugs from the same material as the decking, then glue the plugs in with a waterproof glue (like Titebond III) and use a block plane, belt sander, or chisel to trim the top of the plug flush with the deck.

A much faster and simpler approach for composites, capped composites, and PVC decking is to use the Cortex system. It consists of plugs manufactured from the same decking material you're using, a setting tool that sets the screw and creates a hole for the plug in a single step, and a screw. The plugs are hard to spot after they've been set.

Cortex fasteners are commonly used on perimeter boards and stairs where clips are awkward, if not impossible, to install. Jason Davoll, building products senior manager at Azek, said predrilling is a good idea for top-down screws on very dense wood and TimberTech capped composites; on a less-dense board such as Azek, a cellular PVC, no pilot hole is needed for Cortex fasteners.

"Everyone gets it," Davoll said of the Cortex system. "Some builders have a resistance to using a clip-style system—Cortex gets past that because it's still a straightforward, top-down installation and covers up the screw with the same material as the deck."

Cortex screws and plugs are less expensive than many clips (Amazon sells a kit for an Azek gray decking that works out to 77 cents per square foot of decking), and according to Davoll, damaged decking installed with Cortex screws is relatively simple to remove and replace. Plugs can be pulled out, and the screws backed out, allowing removal of a single board without disturbing its neighbors.

### The Camo Option

National Nail's Camo Edge Deck Fastening System consists of a tool that clamps over a deck board and has a recess to hold

one or more screws at the correct angle for installation (the company makes several versions of the tool, including the Edge Pro, which is used from a standing position). The installer loads the screws and uses a drill/driver to drive the fastener into the edge of the board. The company said the tool and fasteners can be used on treated lumber, hardwood, composites, cedar, and PVC decking with grooved or solid edges.

Once you buy the tool, fasteners are the only continuing cost. Robert Lascelle, the owner and president of My Deck LLC, in Flemington, N.J., said that amounts to about 20 cents per square foot of decking. Screw heads disappear beneath the surface of the decking, but the holes can still be seen. "If you're looking for it, you can see it," Lascelle said, "but in the same sense, you can see a big black clip in the middle of the board, which you don't see here. There's not a perfect system out there."

No other system offers the same price advantage, Lascelle said, and the Camo also makes it relatively simple to replace a single deck board in the middle of the field. "It's very easy to change it," he said. "You can actually back the screws out. There's no other fastening system out there like that—it can be done, but it's much more of a headache."

### Working From Below

Most deck-clip options let builders work from the surface of the deck, but there are a few that require screws be installed from below. Suredrive's Shadoe Track and the Deckmaster Bracket from Grabber Construction Products are two examples. In both cases, the track is fastened to a joist, and the deck boards are attached from below with screws driven through holes punched in the track.

Unless you have access to the deck from below, using either of these means getting down on hands and knees and awkwardly running screws upward. But as Bobby Parks pointed out, a bigger

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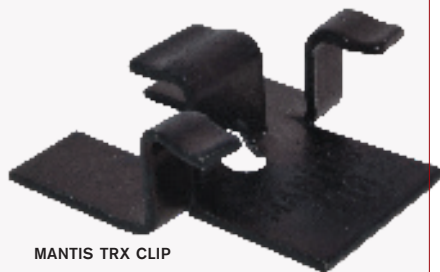
HIDFAST COLLATED PNEUMATIC NAILER



EDGEFAST PNEUMATIC NAILER



TIGER CLAW PNEUMATIC NAILER



MANTIS TRX CLIP

potential problem with this hardware is the higher risk of screw pull-out when used with wood that has a tendency to cup. The design limits the length of the screw to something less than the thickness of the deck board—a fraction of what's possible with a top-down fastening approach—and the head of the screw isn't seated on the deck board, but on the hardware.

Another option on decks with access from below is the Invisi-Fast. One version of this plastic clip, the Original, is screwed to the side of a joist. The installer attaches a deck board by running a screw upward through a hole in the clip into the bottom of the board. (The company also makes a clip, designed for grooved boards, that's installed from above, as well as a Plus fastener that does not require under-deck access.)

Invisi-Fast said the plastic used to manufacture the clips won't corrode, and the clips are cheaper than many alternatives on the market (the Original is available for about 72 cents per square foot of decking; \$1.09 with stainless steel screws). Invisi-Fast also permits the replacement of a single damaged deck board without removal of boards on either side.

### The Pneumatic Approach

When the speed of installation is a top priority, builders have several pneumatic tools to choose from. FastenMaster's Tiger Claw system for grooved decking includes a gun that holds a clip in its nosepiece so it can be attached to the joist with a "scrail," a fastener that's driven like a nail but can be backed out like a screw. According to the manufacturer, an installer using the tool can put down 400 square feet of decking an hour. Concealoc hidden fasteners from CPG International are installed with the same gun.

The Tiger Claw gun holds 33 scraisls and a single clip. Jason Davoll said Azek has a second pneumatic installation system, called Fusionloc, that holds 200 scraisls

and five deck clips in a single collated strip. But the gun is in its "infancy of launch," he added, and not yet generally available. Another option is the Mantis clip, designed for installation with the RCS Eliminator gun; the gun holds a single clip in an extended nosepiece and a strip of fasteners.

Finally, there are HidFast and EdgeFast guns. The original HidFast gun, which looks and operates like a flooring nailer, shoots a fastener at an angle into the edge of a deck board. The next deck board is driven with a sledge onto a small leg on the head of the fastener. Glenn Tebo, who developed both tools, said the short leg on the fastener wasn't long enough to hold pressure-treated pine reliably, so the company developed a second tool, the EdgeFast. It's equipped with a pivoting base, so the installer shoots the edge of one deck board with a nail, then swings the gun on the base to attach the edge of the adjacent board.

Pneumatic tools are fast, but have a higher up-front cost. The HidFast and EdgeFast are \$485 and \$385 respectively. The Tiger Claw gun is about \$300; the Eliminator about \$450. The Fusionloc gun is listed at one online store for \$800. Tools like this, however, will be tempting to pros who see high installation speed as essential.

"We definitely see there's a growth market in anything that increases speed," said Scott Park, a senior product manager at Simpson Strong-Tie, "whether it's a pneumatic system or some other system that hasn't been developed yet.

"It comes down to cost, speed, and appearance," he added. "Different installers weigh those factors differently. To some installers and production builders, speed is their most important thing. Other guys want the most premium appearance, so there's no one solution that fits all, at this point." ♦

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