

# It's Time to Switch to Cap Fasteners

Gone are the days of hammer tackers for installing housewrap and roof underlayment

BY MIKE GUERTIN

**H**ammer tackers, the tools used to fasten the membrane you're counting on to back up your siding or roofing, are obsolete. They don't meet most housewrap and underlayment manufacturers' instructions and, by extension, don't comply with building codes. If this is news to you, you aren't alone.

When I talk with building pros about the now-fading era of hammer tackers, they often respond with skepticism. They claim they've used hammer tackers for X number of years without a problem, or they point out that everyone else uses them. Unfortunately, most installers are not aware that cap fasteners—1-in.-dia. or larger plastic or metal disks fastened with nails or staples—are a more effective alternative.

In fact, of the 52 synthetic-roof-underlayment and housewrap installation instructions I recently researched, 43 called for a minimum 1-in.-dia. cap-type fastener. And starting with the 2012 IRC, cap nails are required for fastening roof underlayment in high-wind areas. Have I hung up my hammer tacker? No, but I use it now only to drive enough staples to hold material in place, making sure



**TOOL HOUND**

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## CAP PRIMER

Cap fasteners are 1-in.-dia. or larger plastic or metal disks fastened with nails or staples. A cap's size increases the surface area under the head of the nail or crown of the staple. A larger surface area means less chance for tear-through, even in windy conditions and under foot traffic. The caps also protect underlayment and housewrap from the tool driving the fasteners, be it a hammer, a nailer, or a stapler.



### ◀ The original cap fasteners

Thin galvanized-steel disks, often called tin caps, have been around for a long time. They commonly range from 1 in. to 3 in. in dia. and are fastened with a hammer tacker or with roofing nails or staples.

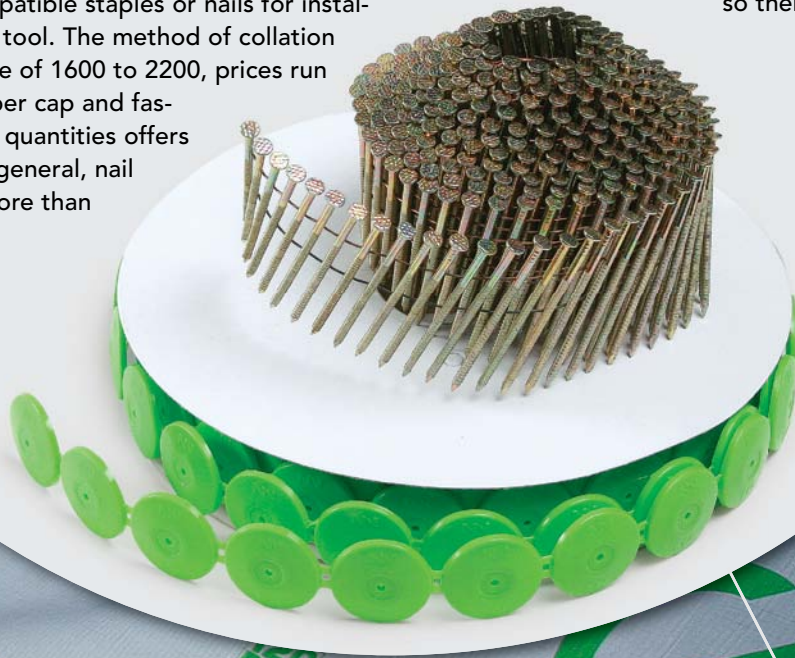


### ▲ A hand-driven option

Preloaded caps and nails are also a widely available option, but they limit the speed of installation. They're bulky, too, so there's a limit to how many will fit in a nail pouch.

### Collated caps ▶

Nowadays, there is a shift toward collated caps, which are packaged with their compatible staples or nails for installation with a designated tool. The method of collation varies, but for a package of 1600 to 2200, prices run between 1.5¢ to 2.3¢ per cap and fastener. Buying in larger quantities offers more savings, and in general, nail packs cost a little more than staple packs.





## PNEUMATIC CAP STAPLERS

Staples used to install caps come in a variety of crown widths, leg lengths, and wire gauges, and these differences can affect installation and holding strength.

### 20-GA. AND 21-GA. STAPLERS: light-duty, but functional

The 20-ga. and 21-ga. staples are essentially the same variety used in a hammer tacker, and they are a good choice for installing housewrap or for roof underlayment that will be covered by shingles the same day and not encounter a lot of foot traffic. The tools are small and maneuverable, so you can move quickly and get into tight spots. On the downside, the short staple legs and small-gauge wire don't hold as well as larger staples or nails. They can pull out when a sheet of housewrap or underlayment billows up in a gust of wind. Using extra fasteners helps to alleviate the problem. The short legs also limit their use to housewrap and underlayment; they're too short for rain-screen materials or rigid-foam panels.

The National Nail Stinger CS58 and Spotnails GCS8116 are twin tools (about \$170 to \$180 each) that hold 200  $\frac{3}{8}$ -in.-crown,  $\frac{5}{8}$ -in.-leg,



20-ga. flat-wire staples, and they have 200 caps in a coil-style collation. These tools aren't as compact as the three cylinder-style tools, but they weigh about the same (around 4 lb.) and are well balanced. It takes about twice as long to load staples and caps into these tools compared to cylinder-style tools. Because you have nearly twice the capacity, it's a wash.

The Grip-Rite GRC58A, Senco BC58, and Pneu Tools RC58-II are identical (all about \$215 to \$240). The in-line cylinder helps to make these tools the most compact of the bunch. Each can hold 110 caps and staples, reloads take about 10 seconds, and I've rarely had a cap or staple jam with any of the three models. The compatible caps come in stacks—collated either with fused edges or with a center cord—and load into a cylinder on the bottom of the tool.

**Fused edge caps can be fragile.** The 20-ga. Pneu Tools, Grip-Rite, and Senco models all use stacks of caps, which are held together by fused edges and can break apart if jammed into a tool pouch.

always to place fasteners where they will be covered.

I suspect that aside from extra cost or just not realizing that hammer tackers are a problem, builders are slow to switch to cap fasteners because the options can be confusing.

### The case for caps is strong

Caps hold the housewrap and the underlayment better than staples, they reduce the chance for tears in windy conditions,

and they protect the membrane from the nose of the fastener-installation tool.

Hammer tackers can cut through housewrap and underlayments when you whack the steel nose against wall or roof sheathing. Synthetic underlayments and housewraps are generally tougher than the tar paper and building paper they replace, but they are still vulnerable to punctures, tears, and stretching around the staple legs.

Although the resulting holes are small, they will leak—and that's the rub. Many common building materials and building systems today are less forgiving of moisture than those used 50 or more years ago. Even vapor-permeable housewraps may not diffuse moisture that leaks in through holes fast enough to keep rot at bay.

It's not just leaks, though. Most manufacturers have tested their synthetic underlayments to see

what it takes to keep sheets in place and safe to walk on. The thin, narrow-crown staples used in a hammer tacker easily tear through the materials, especially under windy conditions.

And one last thing that raises the bar for professionals: Insurance underwriters often deny claims when negligent work is the root of the problem. When an installer disregards housewrap and roof-underlayment manufacturers' explicit instruc-



## 18-GA. STAPLERS: more holding power

For situations where a 20-ga. or 21-ga. staple doesn't offer enough depth or holding power, or where you expect a lot of foot traffic over the membrane, you need to bump up to a tool that can handle 18-ga. staples. Seven models fill the bill:

- Spotnails TCS6832 (about \$235)
- X-Cell XL376 (about \$215)
- Pneu Tools RC-150-II (about \$260)
- Duo-Fast DF150-CS and Paslode CS150 (which are both about \$240 and differ only in color)
- Bostitch SB150SLBC (about \$200) and SL1838BC (about \$220), which are basically different only in mass, balance, and power.

Three of the seven tools—the X-Cell and the two Bostitch models—have side-mounted, string-collated cap cylinders. The Bostitch tools are the easiest and fastest-loading of all the tools I looked at. It takes just a few seconds to go from empty to fully loaded. Loading string caps into the X-Cell takes practice, and if you don't follow the spring-loaded-cap operating instructions to the letter, you'll dump a load of caps or lose the spring.

Both the smaller Bostitch and the X-Cell have trouble sinking 1½-in. staples when you're over a stud or rafter, but ordinarily, you'd be using these long-legged staples only when fastening foam sheathing.

The Paslode CS150 and Duo-Fast DF150-CS have rear-positioned coil-cap magazines and are identical aside from color.



### BEST BET

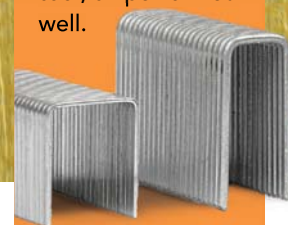
Aside from the X-Cell tool, you can't go wrong with any of these models. For jobs where a short-legged staple is adequate, I suggest either the Pneu Tools, Grip-Rite, or Senco tools. For \$50 less, you won't be disappointed with a 20-ga. staple tool from Spotnails or Stinger. For longer exposure time, I opt for an 18-ga. tool; all performed well.



**Free or cardboard coils?** The Spotnails TCS6832 takes free-coiled caps, which are prone to unspooling if mishandled. The Duo-Fast and Paslode (shown here) use cardboard-sided coils that resist unspooling. If the coils get wet, the caps won't feed properly.



**A twist of the wrist.** Many of the staplers have the cap track and fastener track on opposite sides of the tool. Despite this larger look, these tools can still be turned to fit into tight corners fairly easily.



**A more durable choice.** When you need more strength than a ⅝-in. leg, 20-ga. or 21-ga. flat-wire staple (above left) offers, you'll want a tool that drives an 18-ga., round-wire staple (above right) with a leg range from ½ in. to 1½ in.



## Cap-packin' hammer tacker

National Nail's CH38 (shown here, about \$50) has a manual cap-feed trigger. Squeeze the trigger to advance a cap, and whack the roof or wall like you ordinarily do. If you just need a staple for a temporary tack, skip the trigger squeeze. You quickly develop a rhythm: squeeze-whack, squeeze-whack. It's not quite as fast as the continuous whacking of a regular hammer tacker, but it's still faster than hand-driving caps and less expensive than a pneumatic model.

National Nail also makes the CH38A (about \$60), which has an autofeed cap design where each whack of the tool advances the cap for the next whack. I found the tool has one major weakness, though: The shear that is supposed to separate the plastic cap you just fastened doesn't always cut clear through. When the tool is lifted off the wall or roof, a string of caps often unreels from the tool.



## PNEUMATIC CAP NAILERS

The main advantage of cap nailers is the extra length over staples, enabling you to install rigid-foam panels. Also, some synthetic-roof-underlayment manufacturers prohibit the use of cap staples, so these tools may be your only alternative to hand-fastened caps. They are also written into the 2012 code as a requirement for high-wind areas.

### For heavy-duty use

There are four cap nailers, and each uses coil nails ranging from 1 in. to 2½ in. Each is unique in performance and capacity.

The Pneu Tools RC-200 (about \$235) has the same cap magazine as some of the 20-ga. staplers, but is the weakest performer of the four nailers. It has trouble sinking 1½-in. nails through ⅝-in. OSB roof sheathing.

The Bostitch N66BC (about \$310) easily drives 2½-in. nails, and it can double as a sheathing and siding nailer when you empty the caps. You'll need to dial down the depth of drive so that the nail heads don't blast through the caps, especially when installing soft foam sheathing. The 300-count nail coils correspond 3:1 to the 100-count cap strings, which take only a couple of seconds to reload.

On the downside, these tools are all pushing 6 lb., which makes for tired arms when installing housewrap on standing walls. Hitachi's NV50AP3 (about \$450) weighs just a little less than the Bostitch, but is better balanced and feels much lighter. At 350 caps and an equal number of nails, the Hitachi has the largest capacity. It's also the fastest coil-cap tool to reload. The coils are cardboard-sided, so they must be kept dry to avoid problems. The Hitachi also accepts coils of steel caps, which are required for roof underlayment in some parts of the country.

A newcomer to the market, National Nail's CN100 (\$320) drives the minimum code-required cap nail for any roof underlayment (felt paper included) in high-wind zones and satisfies manufacturers' criteria that require cap nails instead of cap staples. The trade-off is that this tool shoots only 1-in. nails—nothing shorter, nothing longer.

**Quick cap reloads.** The Bostitch tools use cylinders of caps that are held together by a plastic cord. After you've loaded the caps into the tool, just yank out the cord to free the caps.

### BEST BET

I like the Hitachi coil-style cap nailer the best. It's reliable, has a high capacity, is quick to reload, and has perfect balance. However, if you intend to install rigid foam greater than 1½ in. thick or occasionally want to use the nailer to fasten sheathing or siding, the Bostitch would likely be a better option.

tions, the insurance company may not mop up the mess.

### Tools come in a few flavors

Installing cap nails by hand is the most accurate approach. It's slow going, though, and nails preloaded with caps are bulky. There's a limit to how many fit in a nail pouch. Collated caps and fasteners automatically feed to the nose of a tool, so all you have to do is pull the trigger.

You need to consider several factors when you're choosing a cap tool. Some manufacturers require caps to be fastened with nails and prohibit staples, and others specify the minimum length of the fastener, regardless of type. The way in which caps are collated and fed is what dictates the size, shape, and balance of the tool.

In-line, sometimes called stacked-cap, tools have the most compact design. Side-mounted

cap cylinders load quickly, but they can be an obstacle when nosing in to corners. Coil-cap magazines have a larger capacity, but they are slower to load and are less convenient to carry in a tool belt.

Your choice of tool also may be driven by other uses. Cap fasteners are great for attaching rigid foam, vinyl-siding backer panels, and rain-screen membranes, and the thickness of these materials warrants a

tool that can accommodate long fasteners. Some tools also have shunt switches, which disengage the cap-feeding mechanism and allow you just to drive fasteners. Even without a shunt switch, you can unload caps and just fire nails or staples. □

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