Still Hand Stapling and Nailing With No Caps? Think Again.

Collated cap staples and cap nails have swept the home building industry, offering dramatic performance and time-saving advantages. Ask any contractor what the biggest problems are when applying roof underlayment, and especially housewrap, and most likely you will likely get the same two answers every time.

First, there's nothing more annoying than stapling up a piece of underlayment or housewrap, only to have the sheets peel off in a sagging, drooping mess, sometimes tearing in the process. It takes three, sometimes four guys, to hold and get back on track the underlayment or housewrap to be re-stapled. Installing housewrap on a windy site is even worse. Underlayment or housewrap makes a great sail, as you have surely noticed. On a windy day, it seems that no matter how many staples you apply (often they are tacked in by the hundreds), nothing can keep the underlayment or housewrap from billowing up in the wind and blowing away like a balloon in the Macy's Day Parade.

Secondly, any contractor who has installed an underlayment or housewrap will wonder why, with all the other advancements in home building, we're still flailing away with the antique "technology" of hammertackers. There are still underlayment and housewrap installation contractors out there who use hammertackers today, pounding in staples every few inches, guessing how many it will take to hold the underlayment or housewrap in place long enough to be pinned down by the corner boards, siding, or roofing.

Additionally, hammering in all of those staples is just an aggravating waste of time. The holes they create in the underlayment or housewrap actually compromise the ability of the underlayment or housewrap to perform as weather resistant barriers.

TYPAR/STINGER Cap Stapler
CH38A Model

If your housewrap application allows water to seep through hundreds or even thousand of holes caused by stapling, the water can get trapped between the housewrap and the sheathing, creating ideal conditions for rot and mold, which can grow in temperatures above 40°F and wherever humidity climbs above the 20-40% range. If you're killing your wall's performance with "death by a thousand cuts" (pin-prick staple holes), it can have a lasting negative impact on the building envelope, and even the life of the building itself.

Make no mistake, those staple and nail holes really do add up to meaningful gaps in the housewrap when you calculate their collective impact. TYPAR recently engaged a third party in a study of water holdout and air infiltration. The study compared the performance of housewrap that was stapled in place to housewrap that was fastened with cap nails or cap staples. No surprise: The structure that used cap nails and cap staples to attach the underlayment or housewrap performed markedly better in resistance to air infiltration and water holdout. The reason is clear. Caps sealed up the holes made by the penetration of the fasteners, so let's take a closer look at capped nail and capped staple application systems.

A Revolution in Fastening

With all the advances in fastener tools, isn't there a better way to attach underlayment and housewrap besides stapling it in place, and leaving behind all those holes? Indeed there is.

Continuing in its tradition of innovation, TYPAR® has partnered with National Nail Corporation to deliver a full line of fastener tools specially designed for attaching underlayment and housewrap, without leaving behind thousands of unsealed staple holes or nail holes. National Nail and TYPAR accomplish this through the use of cap fasteners. National Nail's STINGER® Cap Systems offer contractors pneumatic and non-pneumatic tools where every nail or staple is automatically driven through a small, circular 1-inch plastic cap that effectively seals the holes created by the fastener. The caps are concave in shape, and when the fastener (nail or staple) penetrates the cap, it puts the concave structure in tension, thereby forming a perfect seal. With the STINGER system, the fasteners and caps are delivered in collated strings, just like collated nails in a framing gun. As you drive the staple or nail, the cap is automatically fed into position, a marked improvement in productivity over nailing capped nails in one at a time.

TYPAR
Weather Protection System

A Revolution in Flashing (Cont'd from cover)

In addition to solving the problem of compromised underlayment and housewrap performance, the cap and fastener combination – which come in 3/8, 5/8, and 1-inch fasteners – has twenty times (20X) the holding power of staples! That kind of holding performance will put to rest any concern that underlayment or housewrap will peel off under its own weight or blow off in the wind.

For calculating the costs and payback for the small investment required to use the STINGER cap nail or cap staple tools, think of how much time and labor it takes to fasten underlayment or housewrap if you are applying staples with a hammertacker or cap nails one at a time. Now add in the labor it takes to put the underlayment or housewrap a second time if it peels off or is blown off.

Real costs mount up very quickly. Yet, with National Nail's STINGER tool line, a carton of 2,000 caps and nails, called a NailPac, runs around $40, and it will cover 2,500 square feet, with the recommended fastener schedule. That's around the size of an average home. (The STINGER tools are all designed to be operated with one hand, leaving your second hand to hold the underlayment or housewrap in place.) For comparison, a bucket of 2,450 cap nails sells for around $25, and you have to hammer them in one at a time, in a process that takes two hands, so add in the cost of a laborer to hold the underlayment or housewrap while it gets fastened in place.

Fewer Fasteners. Labor Saved.

What is the staple schedule for applying underlayment or housewrap? It's anybody's guess. Typically, workers flail away with their hammertackers to start a corner of underlayment or housewrap with ten or fifteen staples. Then, they staple every few inches after that, often with no rhyme or reason, scattershot hammering staples wherever there is a sag or crease. There is no system to it, but it seems that most contractors put in staples every 4 to 6 inches.

With cap nails or cap staples in the STINGER fastening system, you simply apply one fastener every 32 inches square, a dramatic reduction in the number of fasteners and more importantly a reduction in the labor required to apply them. With cap nails or cap staples, it's just that simple to achieve 20X the holding power of non-capped staples, even though you're applying far fewer actual fasteners. When applying capped nails with a STINGER pneumatic tool, many contractors report that they can "run and gun," wrapping up a roof or a wall in minutes.

TYPAR

CAP NAIL PACK

TYPAR

CAP STAPLER PACK

Building Envelope Performance

Aside from the labor saved and the reduced aggravation, the ultimate benefit of the cap staple and cap nail systems are building performance. Users of cap staple and cap nail systems experience no water leakage through the underlayment or housewrap due to fastener holes, and the underlayment and housewrap is allowed to perform as it as designed to perform. Moreover, almost all homes are now subject to new, stringent energy codes, and controlling air infiltration is a major focus of these codes. Air infiltration robs insulation R value in a process called "wind washing". But one sure-fire way to maintain the manufacturer's predicted R-value – and help bring buildings into compliance with whole-house rating systems like ENERGY STAR – is to properly apply housewraps, making sure to seal the seams and eliminating the holes created by traditional fasteners. The result is a house with much higher chance of complying with air infiltration requirements, offering tight tolerances that achieve the toughest high-performance standards.

Written by John Wagner, Consultant - TYPAR WPS Products

For more information on TYPAR Fasteners and other trusted TYPAR products, visit TYPAR.com.

FIBERWEB
Global Headquarters
Contact@Fiberweb.com
+44 20 8090 6240

Americas
Building.americas@Fiberweb.com
+1 615 847 7216

fiberweb

THE NEXT ANSWER