FLASHING A Flanged Window

by Carl Hagstrom

ALL PHOTOS BY BRETT HAGSTROM

A few minutes of time and a few dollars of materials can prevent expensive headaches

There's no such thing as waterproof siding. Over time, moisture will work its way behind even properly installed siding. Housewrap provides good protection against the moisture that does get in, but it must be detailed properly at windows and other penetrations to work.

In this article, I'll explain the housewrap flashing details I use when installing flanged window units. These details will prevent any water that gets past the siding from damaging the windows or rotting the framing.

Think Like a Roofer

For some reason, builders tend to work less hard at flashing details on a wall than they do flashing a roof. But when you think about it, a wall is really a roof with a very, very steep pitch, so a window is basically a skylight installed in a vertical roof. I flash windows in much the same way that I flash skylights: I start at the lowest point and work my way uphill, with each layer of flashing overlapping the previous layer, creating positive drainage laps and always avoiding reverse laps.

Cutting the Window Opening

I wrap my houses as soon as I can: The chance of rain is always present, and I want to protect the shell as quickly as possible. When it's time


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to install a window, my first step is to cut the wrapped window opening. I start by making a level head cut **(1)**, then two 45-degree cuts upward from the lower corners **(2)**. I finish with a vertical cut **(3)**.

X-cutting the opening should be avoided: The head flap of an X-cut will direct any moisture that manages to get behind the housewrap into the structure.

Next, I trim the flaps of housewrap just a bit shy of the interior face of the studs and tape them to the framing **(4)**. This holds the flaps tight to the studs and makes the gap at the jambs much easier to foam. I also fasten a piece of beveled siding to the rough sill, with the thick edge toward the interior **(5)**. This sloped sill will direct any moisture toward the exterior of the wall.

Finally, I create a head flap by making two 45-degree cuts 6 inches long in the housewrap at the window head corners **(6)**, and temporarily fold and tape this flap up out of the way **(7)**.

Next Step, Sill Flashing

After I've taped the housewrap to the studs, I install

the sill flashing. I prefer to use Tyvek FlexWrap, a butyl-based self-healing flashing product I call "peel-and-stick on steroids." It has all the self-healing characteristics of generic peel-and-stick, but it also can be stretched to form seamless sill corners.

I cut the sill flashing one foot longer than the width of the window opening, so the flashing will extend up the jambs 6 inches. Then I peel off the release paper **(8)**, center the flashing in the opening **(9)**, and lower it onto the sill. I press it into place, working from the middle toward the corners **(10)**, where I carefully stretch the flashing out to create seamless protection **(11)**. The flashing has a memory, so to prevent it from curling back, I drive a cap nail **(12)** at the outer edge to hold it in place until the adhesive achieves its full grip (24 to 48 hours). Finally, I smooth the vertical portion of the flashing against the housewrap **(13)**.

Installing the Window

Before installing the window, I apply a heavy bead of elastomeric latex caulk at the jambs and the head **(14)**, but I *never* caulk the sill flange area. Should any moisture find its way into the rough opening, this caulk-free sill

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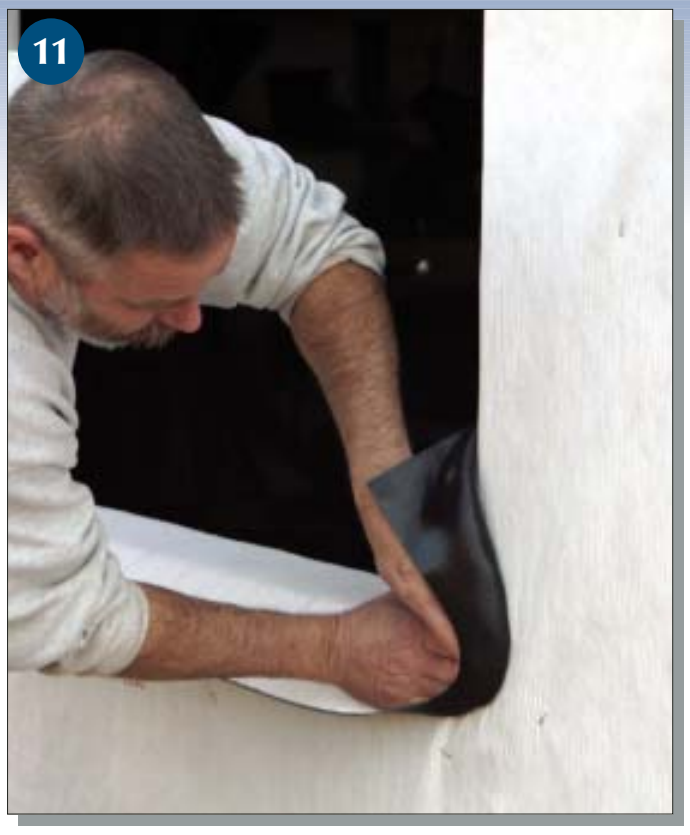
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flange, coupled with the sloped sill, will provide a weep area for water to escape.

Next, I install the window, driving roofing nails through the preformed holes in the flanges, spacing them approximately 6 inches apart **(15)**. Check your window manufacturer's specifications for the correct spacing.

Flashing the Jambs and Head

Starting 2 to 3 inches above the window head, I apply flashing membrane over the jamb flanges **(16)**, letting the tape extend at least to the bottom of the sill flashing.

I like to use a J-roller **(17)** to apply strong, even pressure to all flashing membranes and tapes. Although the tool is designed for countertops, it works great for this application.

I then apply flashing membrane over the window head flange **(18)**, lapping it over the tops of the jamb flashings **(19)**.

Applying the head flashing directly to the sheathing provides another level of protection. If any moisture were to find its way behind the housewrap and seep down to the window, it would encounter the head flashing and be directed *over* the window head flange, not behind it.

Once I've applied the head flashing, I fold the housewrap flap down over it **(20, 21)**, tape the 45-degree corners **(22)**,

and "skip-tape" (apply short pieces of tape with gaps in between) the lower edge of the flap in place **(23)**. I also skip-tape the bottom (uncaulked) sill flange **(24)**. These skip-taped gaps at the lower edges act as weeps, giving any moisture that gets to the window head a way to escape. Skip-taping also limits air leaks, though it's not entirely airtight. (For my money, I'd take an air leak over a moisture problem any day.)

Because I build in a cold climate, I apply a bead of low-expanding foam in the gaps between the window unit and the rough framing, close to the face of the interior wall. I apply only enough foam to create a seal, not to fill the entire gap: Too much foam can distort the window unit.

Working in the Cold and Wet

The DuPont flashing membranes are meant to be installed at temperatures of 45 degrees or above. In cold-weather situations, I keep the flashing in a warm area and cut pieces as I need them. As the temperature drops, it sometimes becomes necessary to heat the area that will receive the flashing (I use a heat gun). In wet conditions, I get rid of any standing water and wipe down wet surfaces with a dry rag before applying the flashing membrane. Again, when in doubt, I'll dry things off with a heat gun.

In cold or wet conditions, I'll also use a hammer stapler along the edges of the flashing membrane to hold the material in place so the adhesive remains in contact with the sheathing or housewrap.

Just Do It

Flashing windows properly isn't difficult, and adds only about 15 minutes in labor and $15 in materials per unit. Some builders substitute less-expensive contractor's tape for flashing tape. The problem with this is that when the siding or trim is fastened at the window, every fastener becomes a potential leak, whereas the flashing membrane seals around the fastener.

As a builder, there's nothing I do in one day that puts more dollars in a house than installing the windows. Spending a little extra time getting things right sure makes sense to me.

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