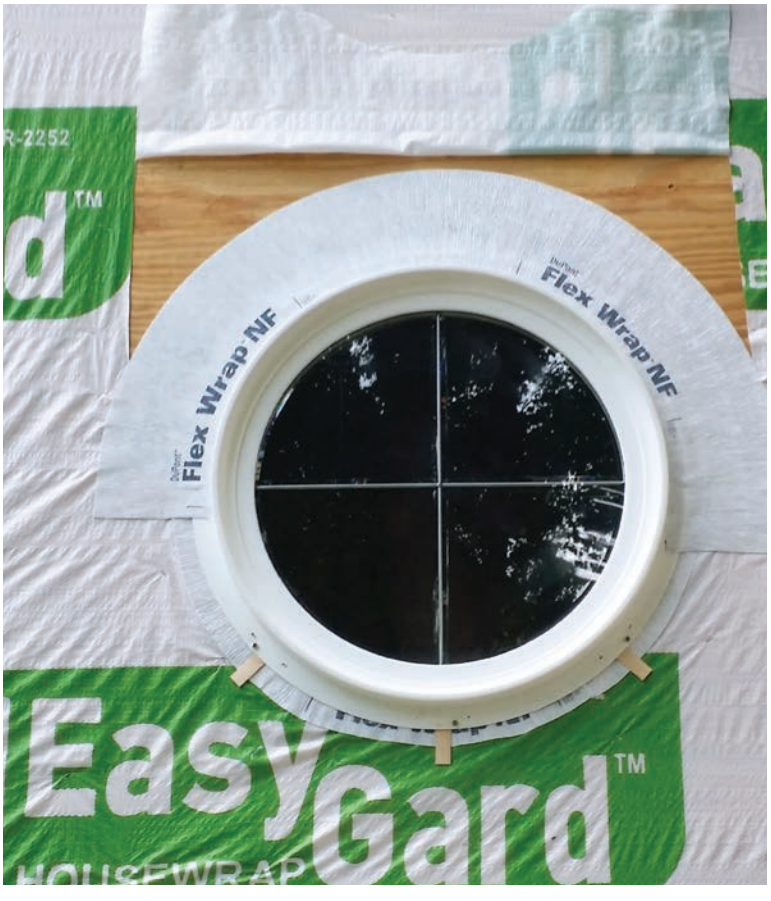
"INSTALLING FLANGED WINDOWS: TWO STRATEGIES COMPARED," BY GENE SUMMY (JAN/16)

jkcllc (online, 1/21/16): Both of the methods [ASTM A1 and B1, covered in the article] assume that the weather-resistive barrier (WRB) is 100% effective. The comment "If taping the head flap in place, use short pieces with gaps between them so if any water gets behind there, it can drain out" (in step 9, online) indicates that it is assumed some water will find its way behind the WRB. What keeps that same water from finding its way behind the WRB wrapped into the jambs under the self-adhered flashing (SAF)? I like the "B" method, except that I would detail the rough opening with SAF applied directly to the substrate. The WRB wraps *over* the edge of the SAF and is sealed with either tape or more SAF. That way the framing is completely protected. I think with that minor change, the "B" method is bulletproof. My 2 cents!

Gene Summy responds: Thanks for the thoughtful response. In your strategy, you are still faced with placing the SAF before or after the window is set, after the WRB is in place. I say more power to you if you decide to place SAF on the rough opening before the housewrap is applied. I agree it is more protection for the framing in the event something fails. Most builders will not spend that kind of money or time. Additionally, it is not totally necessary. Remember the WRB is protection for the framing and the rest of the home. Flashing is supposed to help (strengthen) the WRB at locations where it faces the most challenges, specifically penetrations. Basically we are strengthening the WRB at penetrations. I believe the best way to do that is what is described in the article.

Regarding the tape at the WRB at the top of the window, I suggest considering that the WRB is in place for protection from weather. If, for example, a poorly applied fastener penetrates the WRB and leads to a water leak, the gaps in the tape simply provide a path of least resistance for water to escape.



A flexible butyl-based flashing material works well for flashing round-top windows, but the sill is tricky. In this case, the installer has left the bottom uncaulked and added shims to promote drainage.

"RETHINKING WINDOW FLASHING," BY HARRISON MCCAMPBELL (NOV/15)

Mike Schuler (email, 1/10/16): I have a job requiring installation of small (24-inch diameter) flanged circular windows. We have installed several already, using Dupont Flex-Wrap both at the head and in forming the equivalent of a sill pan for the lower half of the circular assembly.

First, we cut circular holes through the sheathing. We then blocked-in the framing for the bottom half of the window to form a round sill to match the shape of the opening. We angled the cut at the bottom so any water would drain to the outside. We then installed the window, applying sealant to the back of the top half of the flange. We slipped thin (1/16-inch) shims under the screws at the bottom, again to provide a way for water to escape. We followed with FlexWrap applied over the top half of the flange and stuck (mostly) directly to the sheathing (see photo, left). Next time, we will cut back the moisture barrier farther at the sides so every bit of

the FlexWrap is adhered directly to sheathing.) As a final step, we lapped and taped the moisture barrier over the FlexWrap.

What we did seemed logical to us, but it was a first attempt at this detail. Do you have recommendations for such installations similar to the one published in *JLC* for rectangular windows?

Harrison McCampbell responds: The details you propose sound right if I am understanding your approach correctly. In addition to the weather barrier and flashing details, an important detail you provided is to continuously caulk the top half of the circle, applying the caulk as the window gets installed. I would extend the caulk a little below the top half, but leave the bottom open. The shims at the bottom should help promote positive drainage of any water that leaks through the window unit, but I would still be inclined to create a raised edge along the inside of the sill (maybe 6 inches wide and ½ inch high in the center at the bottom of the window, which is the only place where this will matter on a circle window). This raised edge could be hidden with trim but would effectively act as a dam to prevent water that gets past the window from leaking inside.

oreganocrk (online, 10/26/15): Do these flashing rules apply with a peel-and-stick housewrap, such as WrapShield SA (vaproshield.com/products/wrapshield-sa)? Is it OK to wrap those types into the rough opening, or should the peel-and-stick flashing still adhere to the wood frame?

Harrison McCampbell responds: I'm not familiar with WrapShield SA, in particular, but it should still work. One thing I look for in any of the "peel-and-stick" membranes is whether or not they are asphalt-based compounds with a polymer modifier. Some of this genre are just a thin, polymer-based material that may or may not seal around a fastener where needed. One way to check is to take the membrane and stick it to your finger or, better yet, to a piece of paper and let it sit for a couple of minutes. If there is any asphalt, the oils will bleed out and leave a dark residue. Or, of course, you can read the manufacturer's literature.

Richard Bergman (email, 11/26/15) Great article. I am a green builder in Buffalo, N.Y. Window flashing is definitely a moving target, especially with Zip Wall and other systems that provide thermal blocking. I do not tape the bottom window flange. Should I? I wasn't clear on what you recommend.

Harrison McCampbell responds: Thank you for your interest. I would *not* tape or caulk along any sill, because that is where any water that gets past the

window should be able to escape.

Also, since you use ZipWall sheathing, the one question I have with that system is how to install through-wall flashing? I assume that this is to be done by adhering (only) a sheet flashing to the wall. However, how does one know, years down the road, that the adhesive on the tape is still stuck to the ZipWall? I've seen tape flashing used across windows fail on a lot of projects. In many cases, it starts to peel down along the top even before the exterior finishes are installed. This creates a "catch-all" for water coming down the outer face of the ZipWall sheathing. All face-applied membranes and tapes that can't be lapped shingle-fashion are at risk of this failure.

"BUILDING BARN DOORS," BY DAVID FRANE (DEC/02)

Mighty One (online, 1/18/16): The diagonals on the rustic doors are run in the wrong direction. They should be run from bottom to top. This keeps the doors from sagging at the ends as pressure from the top of the doors is transferred to the door frame through the hinge. Old timers knew what they were doing. Copy their work.

Clayton DeKorne responds: This was a hotly debated topic when this article first ran in the magazine and it continues to be now, online. The writer would be correct if this were a picket fence gate or lichgate, which is built like a box frame supported by hinges, with pickets applied to the face of the structure. In this case, you do want a diagonal acting in compression (low at the hinge side) to support the frame. Wood works well in compression to support this instance.

But on a barn door like this, the door is a slab and the diagonals are face applied. There is no frame, just a slab stiffened by face-applied members. The diagonals are providing racking resistance to support the slab solely on the basis of the fasteners that hold the horizontal and diagonal braces to the door slab, regardless of which direction the braces are positioned. Force is transferred to the diagonals by the fasteners, plain and simple. You might think it's positioned to better handle tension (as shown in the illustration in the article) when compression is needed to support gravity. But all that is illusion. It's the shear strength of the fasteners that matters.

If you want to copy the old timers, they usually made barn doors with diagonals running in both directions to form an X on the door. This provided more surface area for more fasteners and more shear resistance to resist sagging.