HEAD FLASHING FOR WINDOW WITH BEVEL-BACK AND CAVITY

E2/AS1 and WANZ WIS offer two different solutions to window head flashing details with bevelback weatherboard cladding installed over a drained and ventilated cavity. What are the differences?

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E2/AS1 provides an Acceptable Solution for head flashing design with bevelback weatherboards, while WANZ WIS complies with the NZBC Clause E2 *External moisture* because it has passed the verification method E2/VM1 for this cladding.

The principal difference between the systems is the position of the head flashing. E2/AS1 requires the head flashing to be fixed under the cavity battens against the timber framing and WANZ WIS requires it to be fixed over the cavity battens (see Figures 1 and 2). As a result, the two systems differ on how water that gets into the cavity is directed to the outside of the cladding, and on the construction sequence.

Detailing the systems

Installation for both systems begins with the wall underlay folded into the window opening followed by flexible flashing tape applied across the sill and at the upper corners. From there the detailing is different (see Table 1).

Table 1: Differences between the head flashing systems.

E2/AS1 head flashing requirements	WANZ WIS head flashing requirements
Fixed to framing (battens fixed over head flashing).	Fixed over battens (cavity closer fixed to framing).
15° fall.	15° fall.
10 mm stop-ends that finish at the back face of the cladding to prevent water flowing past the ends of the head flashing.	No stop-ends, but extends 30 mm minimum either side of window unit, so any water flowing past the ends of the head flashing goes down the back of the cladding in the cavity.
35 mm minimum cladding cover to upstand; 5 mm capillary gap to exterior face.	40 mm cladding cover to upstand; no gap.
No sealant.	50 mm length of sealant at each end between cladding and head flashing, and continuous sealant between window frame and head flashing.
Flashing overlap with scriber/trim – 20 mm minimum.	Flashing overlap with scriber/trim – no minimum dimension given.

E2/AS1 DETAILING

E2/AS1 requires the head flashing to be fixed against the timber framing over the underlay (see Figure 1). A second layer of underlay, or flexible flashing tape, is lapped over the head flashing upstand. Cavity battens and a vented cavity closure are then fixed over the head flashing. The flashing has 10 mm stop-ends which finish at the back face of the cladding at both ends (see Figure 1), and has a minimum 15° slope to the exterior.

WANZ WIS DETAILING

WANZ WIS requires a proprietary WANZ cavity closure to be fixed against the timber framing over the underlay, with a second layer of underlay, or flexible flashing tape, lapped over the cavity closure upstand, followed by the cavity battens. The cavity closure must have a camber falling from the middle to the ends and have an overhang of 60 mm minimum at each end of the window unit.

The head flashing is fixed against the cavity battens. It must overhang the window by a minimum of 30 mm at each end and also have a minimum 15° slope to the exterior.

Water management differs

In the E2/AS1 system any water that gets into the cavity above the window, and all water that falls onto the head flashing,

will be directed to the exterior by the head flashing. The stop-ends help direct water to the outside rather than past the flashing ends where it would continue down through the cavity.

In the WANZ WIS system the cavity closure closes the cavity above the window and acts as a flashing, directing water in the cavity above to the back face of the cladding on either side of the opening. From there it continues down through the cavity to exit at the next horizontal joint or the bottom of the wall. The head flashing diverts only the water that has fallen onto the flashing directly to the outside.

Comparing buildability

E2/AS1

Although the cavity battens and weatherboards can be fixed up to the level of the top of the opening before the window is installed, the E2/AS1 detail requires the window to be installed before the rest of the weatherboards can be fixed.

Once the window is installed, the head flashing can be fitted over the window flange, followed by an additional layer of underlay lapped over the flashing upstand. Cavity battens and the cavity closure are fixed over the head flashing, and the cladding can then be fixed in place.

WANZ WIS

The first stage of the WANZ WIS detail is to install the proprietary cavity closure. Additional underlay overlaps the closure upstand, then the cavity battens are installed. The cladding can be installed next, although this is not the sequence suggested by WANZ WIS. Weatherboards can be aligned with the trimming studs and cavity battens at the jamb faces, and temporarily tacked in place at the window head, as has traditionally been done with direct-fix weatherboard installation. This allows the insertion of the head flashing later. The window can be installed after the weatherboards have been fixed, and finally, the head flashing installed under the temporarily-fixed weatherboards.

WANZ WIS may be easier to build

In both systems the water is directed away from the window to the outside. The E2/AS1 system directs all water from above a window to the outside face of the cladding, whereas the WANZ WIS system directs the water down the back face of the cladding.

However, the practicality of the WANZ WIS construction sequence may prove easier on-site for window and door installation.

Although this article refers to window installation, it applies equally to door installation details.

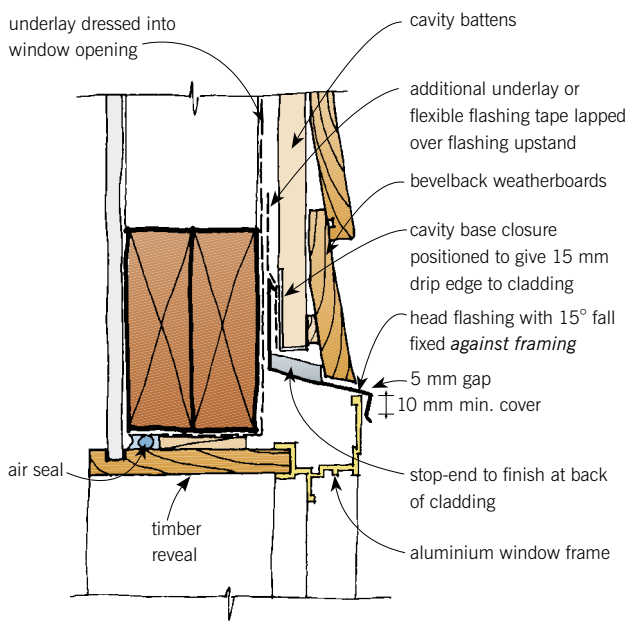

Figure 1: E2/AS1 detail of window head flashing with cavity-fixed, bevelback weatherboards.

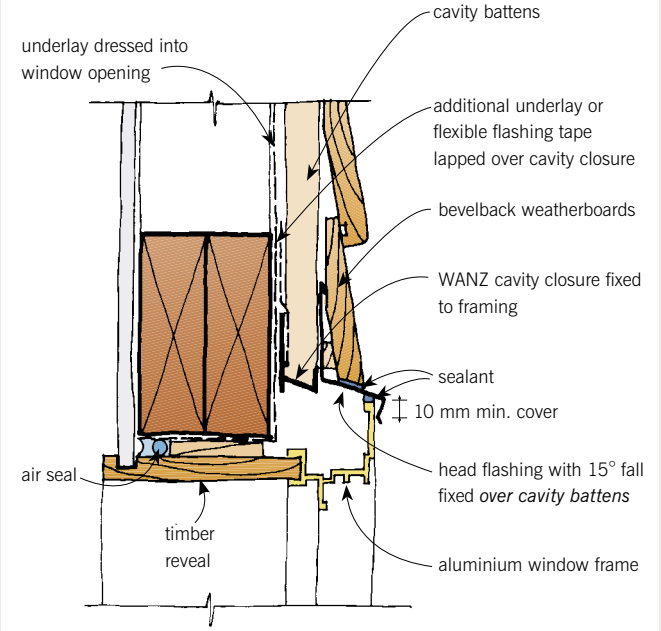

Figure 2: WANZ WIS detail of window head flashing with cavity-fixed, bevelback weatherboards.