

# Evaluating Wind Resistance of Metal Edge Flashing

## About Edge Flashing:

Also known as the “fascia” or “drip edge,” edge flashing can be found along the roof edge of a building where the roof meets an exterior wall. This is where the roof cover terminates at the edge of the building and it is the roof cover’s first line of defense against wind damage. Securement of the edge flashing is critical in keeping the roof cover intact during high winds. Loose flashing will allow wind and rain to get underneath the roof cover where wind action will add to uplift pressure on the roof system and water entry will create moisture problems within the roof cover system. A roof cover system can also peel away from the edge if the flashing fails. This is a common failure point that can result in partial or total loss of a roof cover system.

## Installation Methods:

- Typical edge flashing includes a vertical metal fascia crimped over a concealed metal cleat that has been secured to a wood nailer or the wall.
- The preferred method for the installation of a metal cleat is for the cleat to be continuous (see Figure 1), but short pieces of metal cleat may be installed every 2 ft. to 6 ft.
- Mechanical fastening of the fascia (screws or nails installed directly through the fascia) is also very common.

Note the flashing in Figure 1 is being installed on a membrane roof. One layer of membrane is folded over the edge of the roof and a second layer that is heat welded to the top of the bottom layer is rolled back to allow the top edge of the flashing to be inserted between the two layers of membrane. After the top flange of the flashing is attached to the wood nailer below, the top layer of the membrane will be adhered to the top surface of the flashing.

## Inspecting Edge Flashing

It is possible to perform a quick evaluation of the flashing that keys on obvious issues from the ground, but the best inspections will be made by gaining access to the edge of the roof to conduct a physical evaluation. Spot check multiple sections of flashing and pay particular attention to corner areas, as these areas are most vulnerable to damage.

## From the Ground

Look for the following while walking around the perimeter of the building, focusing on any visible metal edge flashing:

1. Gaps, bowing or waviness between fascia metal (the part of the edge flashing running down the face of the wall) and the wall (See Figure 2 on next page)
2. Signs that attachment of the fascia metal to the wall is not made with a continuous cleat (the fascia metal is pulled tight against the wall at certain locations and bows out some between these points) – Record estimated distance between the anchorage points (intermittent cleats). Distance is \_\_\_\_\_ ft.
3. External fasteners that anchor the fascia metal to the wall – Record estimated distance between the fasteners. Distance is \_\_\_\_\_ in.



*Figure 1. Metal flashing being installed over a continuous metal cleat.*

## Accessing Edge Flashing

The flashing attachment is best evaluated with the kind of physical assessment described below under “From the Edge of the Roof.” If you are limited to a visual inspection from the ground you can use the results from these observations to make a rough qualitative assessment.



Figure 2. Roof edge flashing with gap between flashing and wall.

1. If you see large gaps that extend for more than about 2 feet, flashing is likely not very well attached.
2. Most metal fascia flashing has a drip edge kick-out at the bottom that helps to keep water from running down the face of the wall. A return on the back of that kick-out usually snaps over a cleat that is fastened to the wall to restrain the bottom of the fascia metal and to keep it from pulling away from the wall. Flashing systems with continuous cleats as well as some with 6-inch (+/-) cleats spaced along the top of the wall have obtained good wind ratings depending on the thickness of the metal and other details. If a continuous cleat is used or if the distance between the small cleats is less than about 6-feet, the system is more likely to perform well in high winds.
3. If the spacing between external fasteners is approximately 12-inches to 24-inches, the system is likely to perform well in high winds.

## From the Roof Edge, Using Appropriate Safety Precautions and Personal Protective Equipment:

Gently pull up and out away from the wall at three or four points along the edge of each wall including corner areas. Check for the following:

Yes	No	
		1. Can you pull the bottom edge of the fascia flashing more than 1-inch or so away from the wall?
		2. Did you find any areas where the bottom edge of the flashing was not tightly crimped over a continuous or intermittent cleat or was there no sign of a cleat?
		3. Are the seams between sections of the flashing where it overlaps not closed or tight?

## Assessing the Edge Flashing:

The first two items in the table above deal with the basic installation of the flashing while the last one indicates a maintenance issue.

- If the answer is “Yes” to either of the first two questions, then it is likely that the flashing is not well installed and that it could come loose in a windstorm, allowing water entry and potentially initiating a progressive failure of the membrane.
- If the answer is “Yes” to the last question, the joints may require sealing.

## Upgrading to Stronger Edge Flashing

- Replacement of an entire flashing system will be most cost effective at the time of a major roof repair, recover, or replacement. For details on replacement information, please see: <http://disastersafety.org/hurricane/evaluating-flashing-and-coping/>
- For flashing that is not securely crimped to the metal cleat, the flashing should be re-crimped.
- Seams and gaps in the flashing should be repaired.
- Strengthening the fascia with exposed fasteners is a cost effective option in lieu of replacement of the entire edge flashing system.
  - Ensure that the screws penetrate at least 1 inch into the structure behind the flashing to engage a structural part of the wall or a properly secured wood nailer.
  - The type of exposed fastener will depend on the type of substrate and may require the use of stainless steel self tapping concrete, sheet metal, or wood screws. Pre-drilling for metal anchors may be needed in some cases.
  - To prevent leaks and the contact of dissimilar metals, fasteners with a metal backed EPDM, butyl rubber, or similar gasket should be used.
  - The fasteners should be installed in the lower portion of the fascia and spaced approximately 12 to 24 inches and no greater than 12 inches apart in the corners of the building.