

Flashing a curb

by Jim Picton

Most manufactured skylights can be bought with flashing kits, but if you're installing a site-built unit like the one described in the previous article, cutting and forming your own flashing is the only way to go. Even if you're working with a factory-built unit, you may choose not to buy the optional flashing kit, but to make your own instead. This is an especially attractive alternative when the manufacturer supplies strip flashing for the unit's sides instead of the superior step flashing. Buy a roll of .019-in. thick aluminum 16 in. or 20 in. wide, and follow the directions below.

Base flashing—First unroll a length of aluminum, and cut off a piece about 8 in. longer than the width of the skylight. Slice it to a width of 8 in., and save the scrap for step flashing. Bend the aluminum lengthwise along a straightedge to form a right angle, with one side about 3 in. across and the other, 5 in. Then set the 3-in. side against the bottom curb of the skylight, and the 5-in. side flat on the roof. Hold the angled aluminum so that an equal amount of flashing extends beyond each side of the skylight. Now mark a line on the vertical side of the flashing flush with the corner of the curb on each side of the skylight. This is a fold line. Next, draw a line to make a diagonal cut across the vertical side of the flashing, ending exactly at the point where the fold line meets the bent corner of the flashing, as shown in step 1 of the drawing on the facing page.

When you've cut both sides, fold the vertical half of the flashing around the skylight, and flatten the rest onto the roof. If you're not re-shingling, slide the angled tab of flashing under the first course of shingles on each side of the skylight. This is your base flashing. Folded and cut, it's ready to tack to the roof with a single nail in each upper corner.

Step flashing—Most manufactured flashings include the first two pieces of step flashing as an integral part of the bottom flashing. Each piece is bonded to the bottom flashing with a soldered or locked seam joint. You can approximate this detail using an 8-in. square of aluminum sheet from your roll, bending it at a right angle with 3 in. vertical and 5 in. flat, and making a V-cutout along its fold so that it can be bent around the base (step 2).

The rest of the step flashing, except for the two top corner pieces, consists of square or rectangular sheets with a single 90° bend. The precut sheets sold in hardware stores as step flashing are typically 5 in. by 7 in., a size that offers minimal protection. Buy larger pieces if you can, or make your own from 8-in. squares.

If you're putting on a new roof, lay the next course of full shingles when the first piece of step flashing is in place. Then mark the shingle that will fit next to the skylight and cut it, leaving about $\frac{3}{4}$ in. of space between curb and shingle edge. Position the shingle and nail it down at the top edge farthest from the skylight. Now slide the second piece of step flashing under the shingle adjacent to the skylight curb, so that the bottom edge of the flashing is about $\frac{1}{2}$ in. higher than the bottom edge of the shingle. The flashing should lie directly under the bottom half of the upper shingle, and over the entire concealed upper

half of the lower shingle (step 3). If you're step-flashing a roof that's already been shingled, be sure to lace each piece of flashing over and under the shingles before nailing its upper corner to the roof (see *FHB* #9, p. 48.)

Head flashing—The last pieces of step flashing will be cut and bent around the top corners of the curb (step 4), just like the step flashing at the lower corners. Once you've done this, the head flashing can go on. Bend, cut and fit it just as you did the base flashing, but use a full-width piece (at least 16 in.) from your roll. Before nailing it to the roof above the curb, this will shim the roof up to the level of the shingles on each side, and prevent the head flashing from sagging in the middle and collecting water and debris. Remember that the upper part of the sheet must go under the first course of shingles above the curb, while the edges rest on top of the corner step flashing (step 5).

An exception to this procedure is when you are using a manufactured skylight such as Roto Stella, which requires installing the top and bottom flashings at the time the unit is installed. In this case, you have to slide the last piece of step flashing up under the preformed corner of the top flashing, and forget about bending the step flashing around the top.

Manufactured flashings usually won't extend too far up under the shingles, so they often have a bent return on the upper edge of the top flashing. This feature prevents water that has backed up under the shingles from traveling beyond the top of the flashing and back under the roof (see *FHB* #1, p. 5 for more on this idea).

Site-constructed flashings that are run 16 in. or 17 in. under the shingles do not need a bent return, but you can make one as an added precaution. Using a straightedge and your fingers, bend the top of the flashing up, about $\frac{1}{2}$ in. from the edge. Fold it all the way over, then place a board over it and hammer it flat. Finally, use a screwdriver to pry the bent edge back up a little, so a space is visible between the top edge of the bent return and the rest of the flashing below.

The most difficult part of fitting homemade flashing is working around the four corners of the skylight curb. The points of these corners are the one area in a flashing job where, unless you are using soldered, welded or otherwise pre-formed components, no overlap is possible. The way to solve this problem is to do what carpenters and roofers always do when faced with the impossible: caulk it.

Counterflashing—Sometimes called angled or perimeter battens (drawing, p. 63), counterflashing is a piece of metal (usually a heavier gauge than roof flashing) bent lengthwise at right angles. Half of this flashing covers the top of the curb; the other half protects the sides of the curb and covers the top edges of the roof flashing. On some prefabricated skylights, counterflashing is permanently affixed to the curb, and the step flashing has to be slipped under and worked into position as the roof is shingled. Other units have a removable counterflashing that is attached quite simply with screws once the roof flashing is complete. In either case, it completes the exterior seal. □

Base and step flashing

Step 1

Bend base flashing against bottom curb, cut diagonally into bottom corner and fold flashing around curb. Secure with one nail in each upper corner.

Step 2

Make a V-cutout in the first piece of step flashing, then bend it around the corner as shown.

Step 3

Lay the step flashing into the shingles on both sides of the curb so that the top half of each piece reaches under a shingle while the bottom half extends over one. One nail is all you need to secure each piece of flashing to the curb.

Head flashing

Step 4

Cut, fold and nail the last piece of step flashing around each top corner.

Step 5

Bend and cut the head flashing to match the base flashing. Then slide the top section of flashing under the shingle course just above the top curb. The triangular edges of the head flashing should rest on top of the step flashing.