

CAROLINAS Roofing

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YOUR GUIDE TO ROOFING IN THE CAROLINAS

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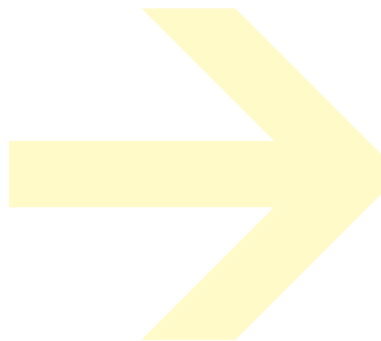
Algae Resistant Roofing System

NEW PRODUCT

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Prevent Leaks at Roof-wall Intersections

WRITTEN BY **STEVE EASLEY**



KICK-OUT FLASHINGS CAN ELIMINATE THE LEADING CAUSE OF CALLBACKS AND CONSTRUCTION DEFECTS

Millions of homes each year are reroofed. This is an excellent time for contractors to take a serious look at the building enclosure and make sure it's watertight. Water and moisture problems are one of the leading causes of callbacks and construction defects. Some experts estimate as much as 80 percent of all defect-related callbacks are caused by water and moisture issues. Thoughtful attention to proper construction details, including the installation and integration of flashings, is critical to the longevity of homes.

ROOF-WALL INTERSECTIONS

Moisture loading occurs at roof-wall intersections because of large amounts of water slowly draining off the roof. A 1-inch rain on a 2,000-square-foot roof deposits 1,250 gallons of water. If this water is not diverted away from the wall it often infiltrates at this location and is undetected for years, causing major structural damage.

The intersecting building components in these areas act like a dam and most often direct water into wall assemblies. Gravity often causes this water to travel down the wall and cause damage at multiple locations. As a result, decay, mold and even deterioration of structural



members lead to callbacks, lawsuits and unhappy customers.

Roof-wall intersections are very tricky details to flash with conventional materials. A kick-out flashing at these vulnerable locations is a simple solution and inexpensive insurance to prevent most roof-wall



intersection leaks. A kick-out diverter would reduce potential for water intrusion at this leak-prone location. A logical and economical solution to reducing water intrusion and reduce liability claims is to consider a seamless pre-molded polymer-based product.

Pre-molded, seamless, kick-out flashings, such as the one shown in Image 1, are an excellent solution for reducing leaks at roof-wall intersections. The polypropylene product works well in cold and warm climates, can be used with any roof slope and costs about \$11.

[1] This pre-molded, seamless, kick-out diverter flashing is manufactured by DryFlekt and is an excellent solution for reducing leaks at roof-wall intersections. (Learn more about this product on page 52.) [2] Water damage easily can occur at roof-wall intersections when flashing is neglected. [3] Metal kick-out diverter flashings often are poorly field-fabricated, which can lead to leaks. [4] The metal flashing is reverse-shingled over the brick, which can lead to leaks. [5] There is a gap between the step flashing and the water-resistive barrier because the barrier was improperly installed behind the step flashing. Water that gets behind the siding will run down the housewrap and penetrate between the step flashing and housewrap, leading to a ceiling leak.



SOME EXPERTS ESTIMATE AS MUCH AS 80 PERCENT OF ALL DEFECT-RELATED CALLBACKS ARE CAUSED BY WATER AND MOISTURE ISSUES.



Image 2 shows what happens when kick-out diverter flashings are not used at roof-wall intersections. Water has penetrated behind the water-resistive barriers and the area did not dry before it got wet again, leading to rapid deterioration.

Metal kick-out diverter flashings often are poorly field-fabricated, which can lead to leaks as shown in Image 3.

REVERSE SHINGLING

Another common mistake made when working at roof-wall intersections is poor

flashing design, which can lead to reverse shingling. For example, Image 4 shows a horizontal valley where the roof meets the wall. The metal flashing is reverse-shingled over the brick. Proper inspection would have avoided this situation.

There is a gap between the step flashing and the water-resistive barrier in Image 5 because the barrier was improperly installed behind the step flashing. Any water that gets behind the siding will run down the housewrap and penetrate between the step flashing and housewrap, leading to a ceiling leak.

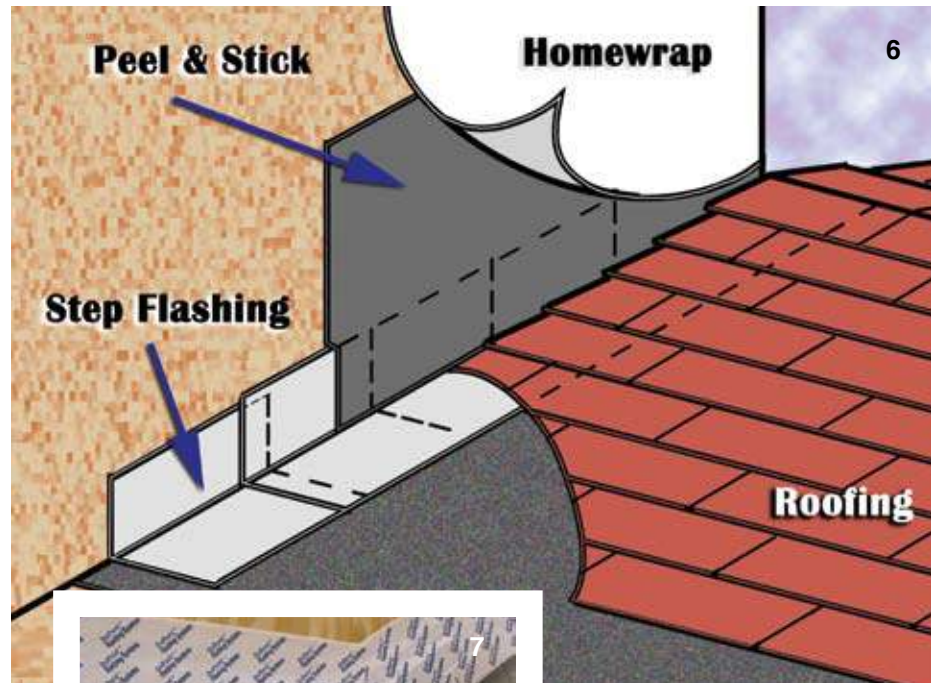
As roofing contractors, you wouldn't install roof shingles without an underlayment or flashings and would never lap the bottom shingles over the shingle courses above. In the same way, walls always should be covered by a water-resistive barrier. Then, the barrier should be installed "shingle fashion," so the upper layers overlap lower layers and step flashings.

In Image 6, a peel-and-stick flashing seals over the metal step flashing onto the sheathing. If any water gets behind the housewrap, it will run onto the peel-and-stick flashing to daylight. Image 7 illustrates a real-world, properly integrated kick-out diverter flashing with peel-and-stick flashing and housewrap.

COORDINATION IS KEY

It pays to coordinate trades to ensure building materials are installed correctly the first time. Your success does not depend on how much money you make; it depends on how much money you get to keep. Controlling callback costs starts with taking a whole-system approach to water management. Ensure crews are well trained and have detailed checklists to follow that address each step to achieving proper moisture management. △

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[6 and 7]

This is a properly integrated kick-out diverter flashing with peel-and-stick flashing and housewrap.

CREATE GREENER HOMES WITH FLASHINGS

There is a national trend to create healthier and more durable buildings. Green-building programs, like the International Code Council's 700 National Green Building Standard and Washington, D.C.-based U.S. Green Building Council's LEED, award points for specifying and installing flashings because durability is a critical component to green and sustainable building. In addition, industry associations, like Raleigh, N.C.-based RCI Inc.; government agencies, like the Washington-based U.S. Department of Energy's Building America program; and product manufacturers have developed documents recommending kick-out flashing leak-prone locations.

Thus the saying, "the greenest building you can build is one you don't have to rebuild."

Kick-out flashing requirements are found under the "Resource Efficiency" section of the National Green Building Standard for "enhanced durability and reduced maintenance." Water intrusion reduces the life of building components dramatically. In addition, more greenhouse-gas emissions are created because of the labor and energy used to remove the existing damaged materials and transport them to landfills, as well as harvest, transport, install and repair the damage with new materials.

Another important component to green-building programs is Indoor Environmental Quality, primarily because indoor air quality in buildings is of growing concern. A U.S. Environmental Protection Agency, Washington, study reports 35 percent of all indoor pollutants in buildings are a result of fungal organisms. Fungi, such as mold, are often caused from high moisture levels created by water infiltration. Again, kick-out flashings divert water away from building components reducing the likelihood of water intrusion and resulting mold.