

# Forti-Facts

A Technical Bulletin From The Fortifiber Building Systems Group®

March 2007

## Flexible Flashing: Should you Staple or Stick?

The Fortifiber Building Systems Group offers a wide range of flashing products, in two distinct varieties – self-adhesive and mechanically-attached. Since both have major advantages over older metal flashings, it's easy to choose to use a flexible flashing versus the alternative. Both types are designed to conform to inside and outside corners, arches and odd shapes, and create a water/weatherproof seal. However, deciding whether to use self-adhesive or mechanically-attached is another matter.

### Popularity vs. Suitability

Self-adhesive flashings are a more recent innovation than their mechanically-attached counterparts. One might think that since self-adhesive is newer, it is better for every application. The “just peel and stick” idea is very compelling, because it seems that it would be easier to install than a mechanically-attached flashing product.

But “newer” does not always equal “better” and these assumptions are only true under certain circumstances. Testing evidence shows that both systems work well when properly installed, under the right conditions. Before making a decision to use one or the other, there are a number of factors to consider. Most of these involve climate conditions, the substrate to which the flashing is attached, local code requirements, cost and the skill level of the installer.

### Self-Adhesive Sensitivity

The performance of self-adhesive flashing varies with temperature. If the weather at the time of installation falls below 40°F, the product may not stick to the substrate. It can also be sensitive to certain substrates and wet, uneven substrate surfaces can cause adhesion problems. Self-adhesive products must be applied to a clean, dry surface, which can be a rare commodity on a job site. So, a builder must decide whether to hold off flashing installation for a warm, dry day. Self-adhesive products must also be applied over a solid surface, without holes or gaps. While one could argue that all flashing should be installed over solid surfaces, few builders want to caulk and perfect their rough construction.

### The Cost Factor

Material cost is another factor. The least expensive self-adhesive products cost about 40% more than mechanically-attached alternatives and the most expensive can cost nearly ten times as much. Some manufacturers recommend applying a primer over



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certain substrates (e.g. concrete, masonry, OSB) with their products. So, the installer must apply the primer (to a clean, dry surface) and wait for it to cure. Then the installer must wait to apply the self-adhesive flashing on a dry day, when the temperature is conducive to proper bonding. Some manufacturers recommend using a mechanical roller during installation, rather than hand pressure. This involves extra time, processes and materials – which can interfere with schedule, productivity and bottom line costs.

### Advantages of Self-Adhesive Flashings (FortiFlash® & Moistop E-Z Seal®)

Self-adhesive flashings do have a number of clear advantages:

- They provide better integration with the window flange,
- They eliminate the need for an additional bead of sealant on the outside flange,
- They are available in a wider choice of product widths, to better match the application,
- Due to their self-sealing properties, some self-adhesive flashing can be a good fit for use on horizontal surfaces, like a recessed window sill.

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# Should you Staple or Stick?

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- Since they require no fasteners, the use of self-adhesive products results in fewer penetrations and thus, (with proper adhesion) a better, more watertight seal, and
- They are also designed to self-seal around fasteners that may penetrate the adhesive, to create a true waterproof membrane.

By contrast, mechanically attached flexible flashings are well-suited to vertical surfaces but not recommended for horizontal applications, where water could pond.

## Advantages of Non-Adhesive Flashings (Moistop neXT® & Moistop PF®)

Low material cost and ease of installation make mechanically-attached flashings a viable contender. In addition:

- Mechanically-attached flashing requires no special preparation of the substrate, which presents advantages in cold, dirty or wet conditions. Instead, non-stick flashings are simply stapled up – overcoming some of the sensitivities of self-adhesives.
- They are proven, familiar, and have a long, successful history of use. That also means that installation crews may not require special instruction or supervision to properly install them.
- Mechanically-attached flashing typically is not susceptible to the same sealant compatibility issues that self-adhesive products can experience, especially bitumen/asphalt based flashings. This can take some of the guess work out of selecting your materials.

The fact is that both products work, and even the best products can fail if poorly installed.

## The Impact of Jobsite Sequencing

Job sequencing also plays a role in deciding which flashing to use and how it should be applied. In most geographic regions, there are a number of different subtrades involved in exterior wall construction. So flashing needs to be coordinated with weather-resistive barrier, window and exterior cladding installation.

Regardless of the preferred order of installation, flashing should always be shingle lapped to shed water. While there is some debate over the matter, the physics of drying within wall systems dictate that building paper and/or WRB must go under the sill flashing. In this case, fully adhesive flashings, applied before the WRB, can create problems when trying to integrate them with the WRB around a window or door. When using a fully adhesive flashing, which has adhesive across the full width of the material, leaving a portion of the release paper attached until after the WRB is installed can make the integration of the sill flashing easier.

Partially adhesive flashings such as Moistop E-Z Seal (which have an adhesive strip of about 3 inches wide, down one side) make for easy sequencing. Since only 3 inches of the flashing

## A Case Study

A national homebuilder, building 15,000 homes a year, was routinely using self-adhesive flashing for windows, doors and through-wall penetrations. But they were running into problems. Workers would apply flashing, and the next day the material was no longer adhered to the substrate. When the builder called the manufacturer's technical support, they found that the self-adhesive material was being applied over OSB – the properties of which (resins, smoothness, etc.) vary greatly from manufacturer to manufacturer. An incompatibility of materials created an adhesion problem between the flashing and the OSB.

This builder switched (as advised) to Moistop PF, and the problem was eliminated. In addition, this simple change saved money, time and trouble.

surface adheres to the substrate, the non-adhesive part remains loose, for simple integration with the WRB. This is true whether the flashing is to be tucked under or lapped over the WRB.

## Sealant Compatibility

The adhesives used on self-adhesive flashings can be sensitive and/or reactive to other building products with which they may have direct contact. Certain plasticizers, which are found in some sealants on the market, have been found to be incompatible with rubberized asphalt self-adhering flashings. Over time, rubberized asphalt can be softened and liquefied by contact with an incompatible sealant product.

These incompatibilities among the various materials can interfere with the proper functioning of all materials and compromise the building envelope. To improve the chance for a successful flashing installation, a systems approach (advocated by both AAMA and ASTM) may be the best answer. Following manufacturer's recommendations and using flashings, WRB and sealants that are designed to work together, in combination with the substrates, will help eliminate potential compatibility problems.

## Conclusion

The choice between self-adhesive and mechanically attached flashing is not an easy one. It's complicated by the many variables associated with compatibility of materials, climate, preparation, installation, regional preferences and so on. These factors increase the potential for failure and – since these variables are specific to each region and project – there are no hard and fast rules for product selection that will serve the builder in every situation. The only area of general agreement is that flashing must be part of the overall design and construction of modern wall systems.

If you are having trouble deciding which flashing solution would suit your situation, please call one of the many technical experts on staff at Fortifiber who can advise you on which products might best meet your needs. Our staff can be reached at (800) 773-4777.