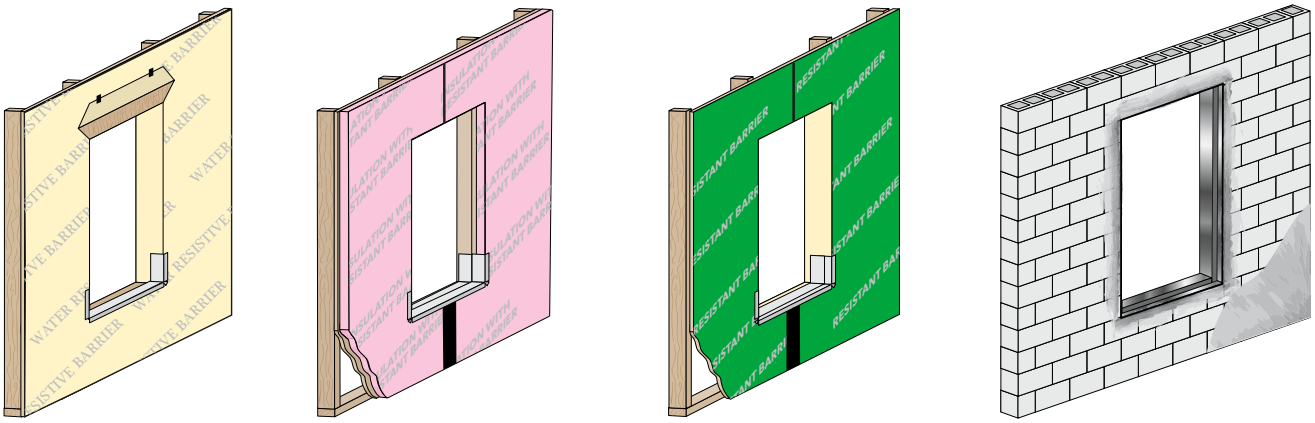
TECHNOTES

Integration of Pella Products with Various Types of Weather Barrier Systems



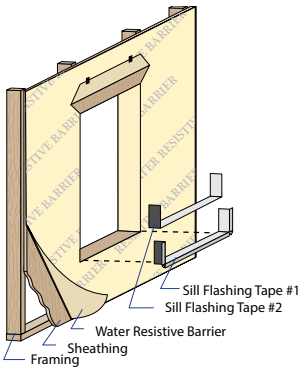
Building codes such as the International Building Code (IBC 1402.2) and International Residential Code (IRC R703.11) require the use of weather resistant barriers (WRB) behind wall claddings (like siding and brick) installed in such a way as to protect the buildings wall structure from moisture. The intent of this Technote is to provide an overview of the properties associated with the integration of Pella products utilizing installation fin attachment methods with the variety of weather barrier systems being utilized by the industry in new construction. Common WRB systems include sheet (similar to Tyvek sheet wrap), fluid applied, fully adhered (similar to Henry Blueskin), weather resistant sheathing and seam flashing membranes (similar to ZIP System), weather resistant insulation and tape (similar to Dow Thermax), and hybrid weather barriers (similar to VaproShield). Reference Pella installation instructions for standard fin at Window Link, Sliding Door Link, and Hinged Door Link, and the Installation Method Options Link in the Architectural Design Manual (ADM) for additional information on the integration of a Pella window installation fin with various types of weather barrier systems.

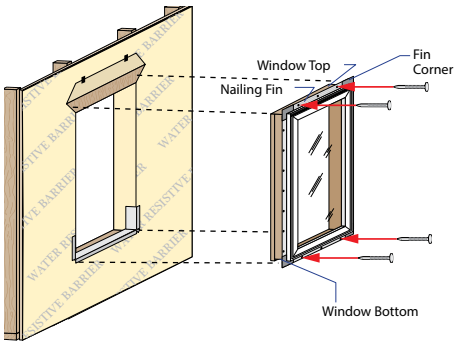
Common characteristics

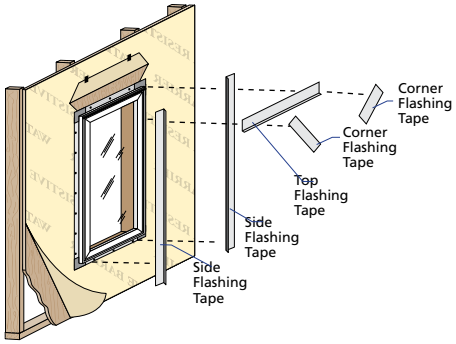
In general, the integration of a Pella product with an installation fin into a walls weather barrier system has the following characteristics:

- Integrates with the wall's weather barrier systems in a watershed overlap fashion.
- While not required by Pella or most fluid applied weather barrier manufacturers, some weather barrier manufacturers commonly require a line of sealant behind the window installation fin at the head and both jambs. If sealant behind the window installation fin is requested at the sill Pella installation instructions require that the sealant line have significant weep gaps to prevent the trapping of incidental moisture.
- It is generally required that the walls weather barrier system tie into the window and door interior line of perimeter sealant; however, sheet, weather resistant sheathing and seam flashing membranes, and weather resistant insulation and tape weather barrier systems typically do not require that it tie into the interior line of sealant at the head. In the highest performing sheet and virtually all fluid applied and fully adhered weather barrier system installations the wall's weather barrier does tie into the window and door interior line of perimeter sealant on all four sides, including at the head.
- Pella installation instructions require that flashing membranes not be placed over the installation fin at window sills to prevent the trapping of incidental moisture.

- Pella installation instructions call for the integration of Pella products with most weather barriers using Pella flashing tape or equal, fluid applied and fully adhered weather barrier systems generally being an exception. All weather barrier manufacturers typically recommend the use of a compatible flashing membrane that they produce and warrant as a part of a system to integrate windows and doors with their weather barrier product; however, the supply of Pella flashing tape for standard low-rise residential new construction below 40 feet in height may be considered and approved as acceptable. In marine climate zones, high exposure projects, or mid-rise construction 40 feet or greater in height the use of Pella flashing tape is generally not recommended. For this reason when the supply of Pella flashing tape is a consideration on a project it is recommended that the Project Architect, General Contractor, and weather barrier manufacturer's representative be consulted to confirm requirements of the weather barrier system warranty and the use of Pella flashing tape as acceptable.



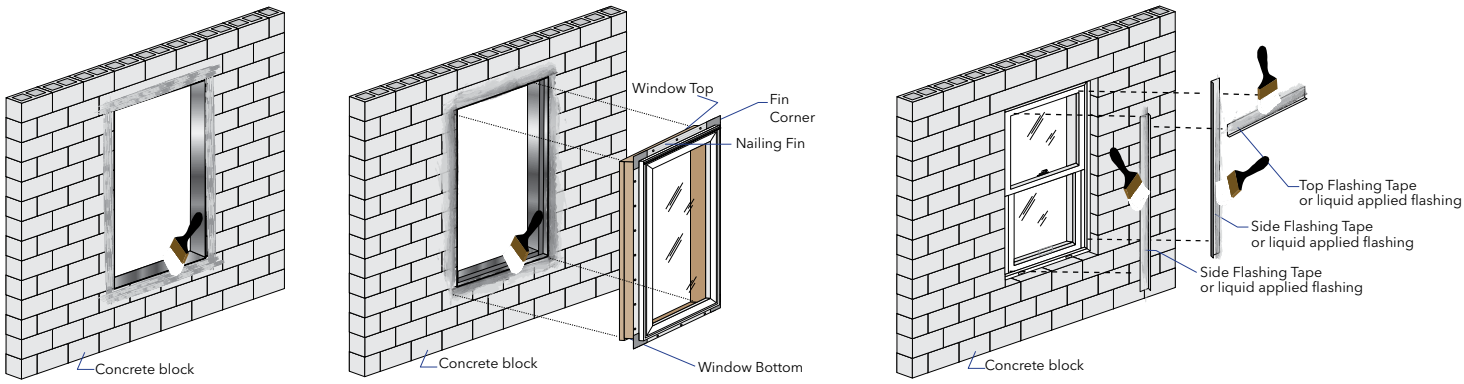




Sheet Weather Barrier Systems

Additional properties associated with a sheet weather barrier system:

- Sheet weather barrier systems wrap into the opening at the jambs and sill, and over the installation fin at the head.



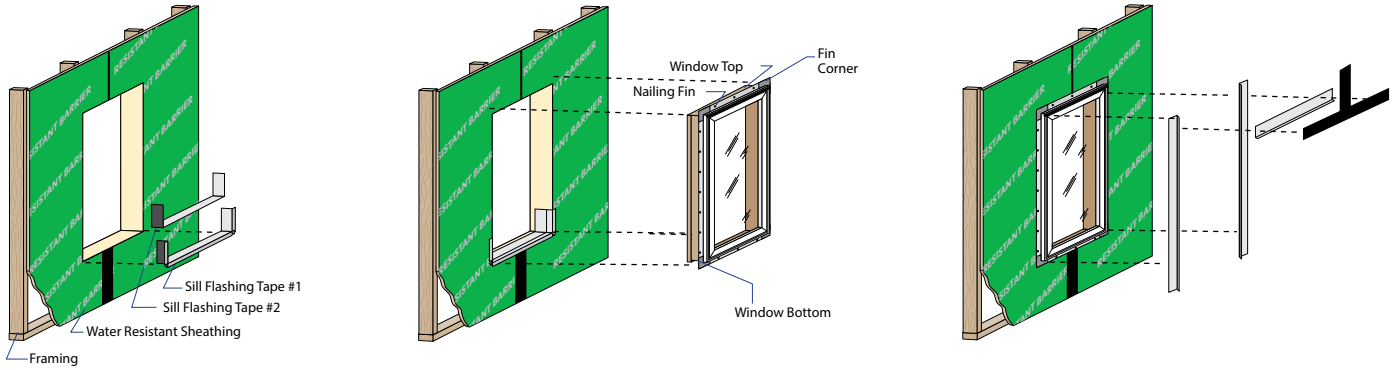
Fluid Applied Weather Barrier Systems

Additional properties associated with a fluid applied weather barrier system:

- Fluid applied weather barrier systems wrap into the opening on all four sides.
- Due to the flexible, almost gasket-like qualities of fluid applied membranes it is recommend that shimming behind the fin at the sill be provided to prevent the trapping of incidental moisture.
- Integration of a window or door with an installation fin into a concrete masonry wall is commonly accomplished using a treated wood buck; however, it is possible to install with an installation fin without the use of a wood buck. This can be accomplished by integrating the installation fin with the weather barrier without the use of fin fasteners and instead adding installation clips or anchor through frame fasteners as the method of structural attachment. An example of this can be seen at this Minimum Sill Height Dimensions for Windows Technote Link

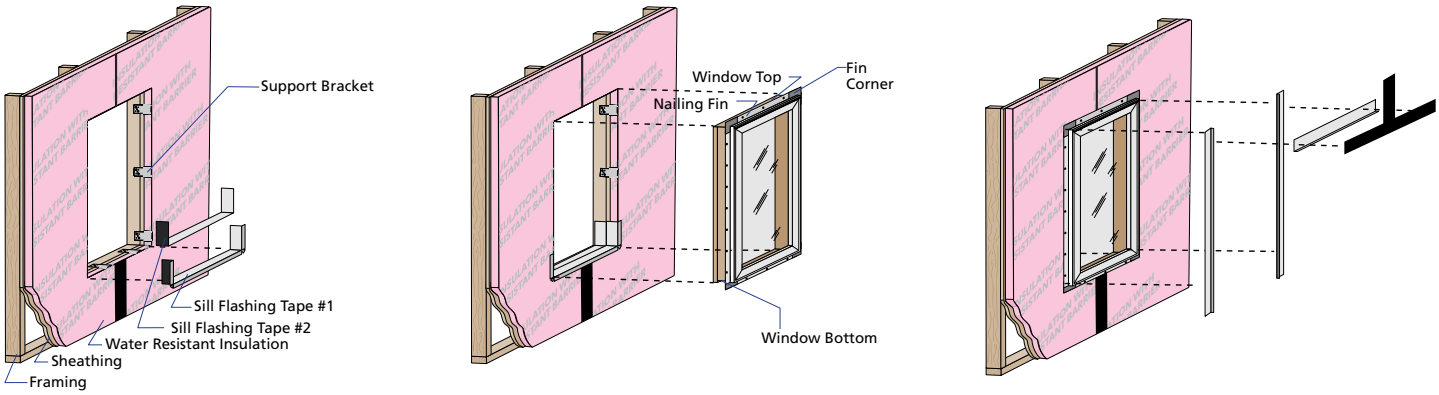
Fully Adhered Weather Barrier Systems

Additional properties associated with a fully adhered weather barrier system aligns with the fluid applied weather barrier system above.



Weather Resistant Sheathing and Seam Flashing Membrane Weather Barrier Systems

- Sheathing joints beside and below the window or door should be flashed before window or door installation.
- As noted in the list of Common Characteristics above the weather barrier should be tied back to the interior line of perimeter sealant at both jambs with a flashing membrane.



Weather Resistant Insulation and Tape Systems

Additional properties associated with a weather resistant insulation and tape weather barrier system:

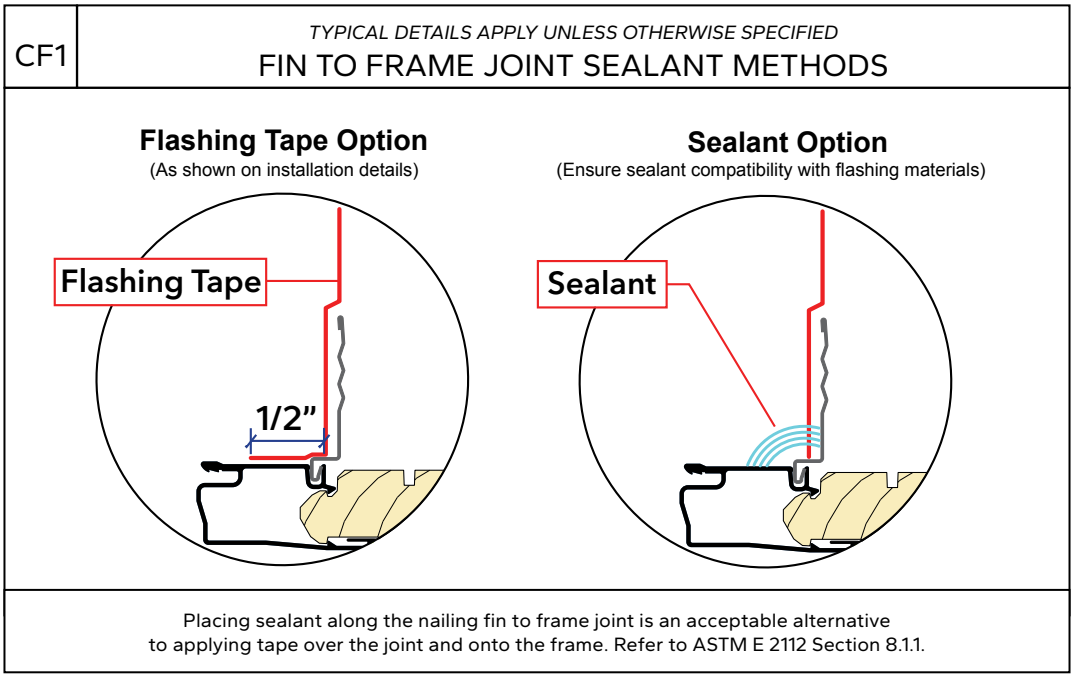
- Sheathing joints beside and below the window or door should be flashed before window or door installation.
- As noted in the list of Common Characteristics above the weather barrier should be tied back to the interior line of perimeter sealant at both jambs with a flashing membrane.
- The addition of Pella Insulation Support Brackets or a perimeter wood buck are typically required for the structural support of Pella products when insulation boards are greater than one inch.

Hybrid Weather Barrier Systems

- Weather barrier systems exist that utilize a non-fluid applied weather barrier in the plain of the wall, and a fluid applied flashing membrane to prepare the opening for integration of a window or doors installation fin. The properties associated with the integration of Pella products with these types of weather barrier systems are typically similar to a fluid applied system.

Special Notes - Fin to Frame Joint Sealant Methods

- There are two approved methods for sealing mechanically attached (non-integral) installation fins to window or door frames that are not pre-flashed as with Steady-Set or the heads of units with factory applied drip cap. The purpose of both methods is to seal the non-flashed mechanically attached installation fin to frame joint. The first method for sealing this joint requires the flashing membrane wrap over the fin to frame joint and the second allows the flashing membrane to be sealed to the fin to frame joint (see Figure 1). Executed correctly both methods are acceptable and perform equally well.



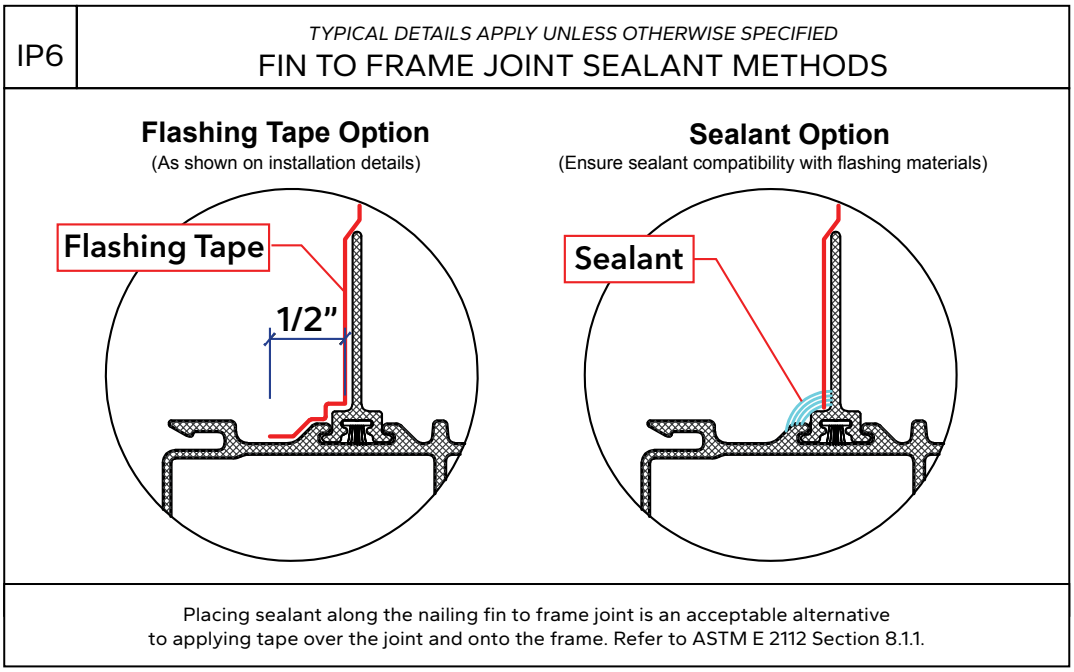


Figure 1: Fin to frame joint sealing options.