



GlassLock® Attachments and Security Films

In response to the market demand for increased glazing security, GlassLock is offering the patented GlassLock Attachment System for Security Films.

Security window films are traditionally applied on a retrofit basis to windows using a “daylight” application method. This method involves installing the film on the vision area of the glass only, the area up to, but not touching, the glazing frame or gasket. This method, when used on annealed lites of 30-35 ft² or smaller, offers a generally sufficient level of protection against typical “smash-and-grab” burglaries. Tempered glass, though it has four times the break-strength of annealed glass, has a tendency to break with “total failure,” resulting in breaking and dicing into a massive number of very small, non-lethal fragments. One consequence of this is the “wet-blanket” effect, with the entire lite often collapsing from the frame as a single, flexible unit held firmly together by the heavy gauge film and its mounting adhesive. However, with the GlassLock Attachment system, fractured annealed or tempered glass lites over 40 ft² in size will remain securely in the frame. Perpetrators must, with great difficulty, chop their way through glass and film in order to gain entrance.

The GlassLock system is designed to securely mount a 7-mil security film (manufactured or approved by GlassLock) to the glazing frame via a customized, extruded aluminum assembly. By matching the existing frame color, the GlassLock system yields a pleasing architectural unity that is virtually undetectable. Moreover, GlassLock can be installed with minimal disruption to the daily activities of the building’s occupants.

Assessing a job site:

1) Inspecting the frame system: When assessing a job site for installation feasibility, first examine the size and character of the glazing framework. A surface of at least 3/4” in depth is required for attachment of the film and extruded frame material. Most glazing systems are of extruded aluminum mullion bars with a 1 1/2” to 3” surface depth.



2) Determining glass type and thickness: Determine the type of glass that has been installed in the glazing unit. If a tempered or laminated “bug” is not present on one of the borders of the glass, it is generally safe to assume the glass is annealed or heat-strengthened. Determine the thickness of the glass with a commonly available thickness gauge (one that works by reflection). Most commercial glazing is 1/4” nominal thickness or greater.

In summary, the GlassLock system is a true retrofit design, available in a number of configurations to suit a range of protection levels. Typical GlassLock/ GlassLock™ Security Film installations are considerably more cost-effective than the alternative of complete glass replacement with laminated glass, the latter often requiring the costly replacement of the complete framing system to accommodate the thicker laminated glass. The potential market for the GlassLock system is sweeping in scope, ranging from college campus buildings, banks, hospitals, and government facilities, to jewelry stores and airport terminals.

(Revised March 2016)

Attachment and Film Installation Procedures

All skilled technicians have their own repertoire of tricks and techniques, honed by personal experience and polished by daily practice. We have outlined below a basic set of guidelines for the installation of the GlassLock Attachment Security System, with the aim of giving installers a framework within which to begin the development of their professional expertise.

Overview of Procedures:

1. **Tool requirements:** Figure 1 and the accompanying list specify the tools and supplies required for installation. Each tool is essential for the GlassLock installation. In addition, the standard set of GlassLock approved window film installation tools and supplies will be needed.
2. **Window preparation:** The window is cleaned in the same manner as for any other window film installation, but with this difference: extreme care should be taken in cleaning the mullions to which you will be attaching the GlassLock hardware. Use a non-scratch scrub pad to remove dirt and oils from the inner mullion surface. Clean and dry wipe with good quality paper towels. Further, there may be some situations where the existing vinyl gasket may need to be slightly trimmed back or even replaced. The lower the profile of the gasket, the better. A 90-degree angle from glass to mullion is ideal. (More discussion follows.)
3. **Mounting the transfer adhesive to mullions (Figure 2):** After the window is prepped, run a towel around the inside of the mullions to be sure these surfaces are dry. Figure 2 shows how to next install the transfer adhesive along the inner surface of the mullions, close to the vinyl gasket. For a two-sided installation, only the vertical sides require the transfer adhesive. At this point, *leave the protective red adhesive-carrier in place!* It will be removed later in the installation process.
4. **Security film installation:** Do a final cleaning and spray (squeegee-pass & border-wipe) over the glass area just prior to the film lay-up. This should preferably be done using a solution of demonized or distilled water and GlassLock recommended Slip Fluid. The film should be cut a minimum of 2 inches longer than the glass width. This extra film is required for the overlap onto the mullions and will be “sandwiched” between the base plates and the transfer adhesive strips. *The use of a GlassLock Film Cutter (Figure 3) is highly recommended for rapid, and precise, precutting.* After you have positioned the film on the glass (with a balanced overlap on left and right sides), begin your squeegee strokes from the top middle of the pane and work out to left and right, stopping short of the vertical edges by 5 or 6 inches (Figure 4). Then, with the 5-way tool or a metal edge tool, crease the film at a 90° angle along the vertical edges (at the glass/frame joint) (Figure 5). Then proceed with a final hard squeegee all the way out the edges and allow the film to set up. On a warm, sun-lit day, this set-up process can occur very quickly. High humidity and cool temperatures may necessitate waiting until the following day to install the GlassLock components.
5. **GlassLock component installation:** After the film has had time to set up, you can prepare the unit for the GlassLock components. First, inspect the film for excess trapped water, pushing out any excess with your towel-wrapped hard card or edge tool *only* if water moves freely under the film. Forcing water dimples out can damage mounting adhesive if it has begun to adhere to the glass. Next, again with your edge tool, lift the film off the mullion and peel away the red adhesive carrier, laying the film back down on the adhesive strips (Figure 6). Make sure you have a 90° angle from glass to mullion. Press down along strip to establish a good bond.
6. **Base-plate installation:** Cut the mill-finish aluminum base plate to size using the chop saw. Apply a strip of transfer adhesive to the underside, but do not remove the red carrier strip until ready for installation (Figure 7). Again, do a final inspection for excessive trapped moisture under the film and remove it as needed. Slip the placement (“set-back”) gauge onto the base plate (onto the non-adhesive side) (Figure 8). The placement gauge should be slid down a few inches from the top end of the base-plate. Remove the red adhesive carrier only down to the bottom of the placement gauge (also Figure 8), allowing the strip to hang freely off to one side (away from the glass). Carefully lay up the base-plate (with gauge) alongside the glass (Figure 9). *Bear in mind that the purpose of the gauge is to set the proper distance from the base-plate (to be mounted on the mullion) to the glass.* With the gauge in place, install the self-drilling #8 hex-head metal screws every 6-8 inches (Figure 10), pulling away the red adhesive carrier ahead of the screws as you go down the length of the base plate, sliding the placement gauge down to maintain proper distance from the glass. If there is any difficulty in getting the screws to self-tap, simply pre-drill small pilot holes. After the base plate is fully screwed down, trim away any excess film protruding past the base plate (Figure 11), using the base plate itself as a trim-guide.
7. **Trim-Cap Installation:** The trim-cap is usually anodized or painted to match the color of the existing mullions. *(Note that most painted trim-caps are considered custom colors.)* After the trim cap has been cut to size (for the two vertical sides), it is ready for installation. Place one piece over the full length of a base plate. Be sure to start by placing the edge of trim-cap with the extruded channel nearest the window. This channel will serve to hold the vinyl gasket to be installed in the next step. Press the channel-side of the trim-cap until it is in place. With the shot-filled mallet, tap the outside edge of the trim-cap along its length until it snaps into place (Figure 12).
8. **Roll-in Vinyl Gasket Installation:** Starting at one of the upper corners of the glazing unit, place the 3-edged side of the gasket towards the glass (Figure 13). Push the end of the gasket into place and pull out enough gasket from the roll to run the length of the window along that side. Run the roller gasket tool along the length of the edge, forcing the gasket into place, cutting off the excess at the bottom corner. If the gasket is a little tight, use a spray of Slip Fluid solution as a lubricant. **Use extreme caution with the roller tool**—it rides very close to the glass and care must be taken not to scratch the film. Do a final cleanup on the glass and mullions to wipe away any remaining Slip spray or fingerprints.

GlassLock Photo Gallery: Attachment and Film Installation Procedures

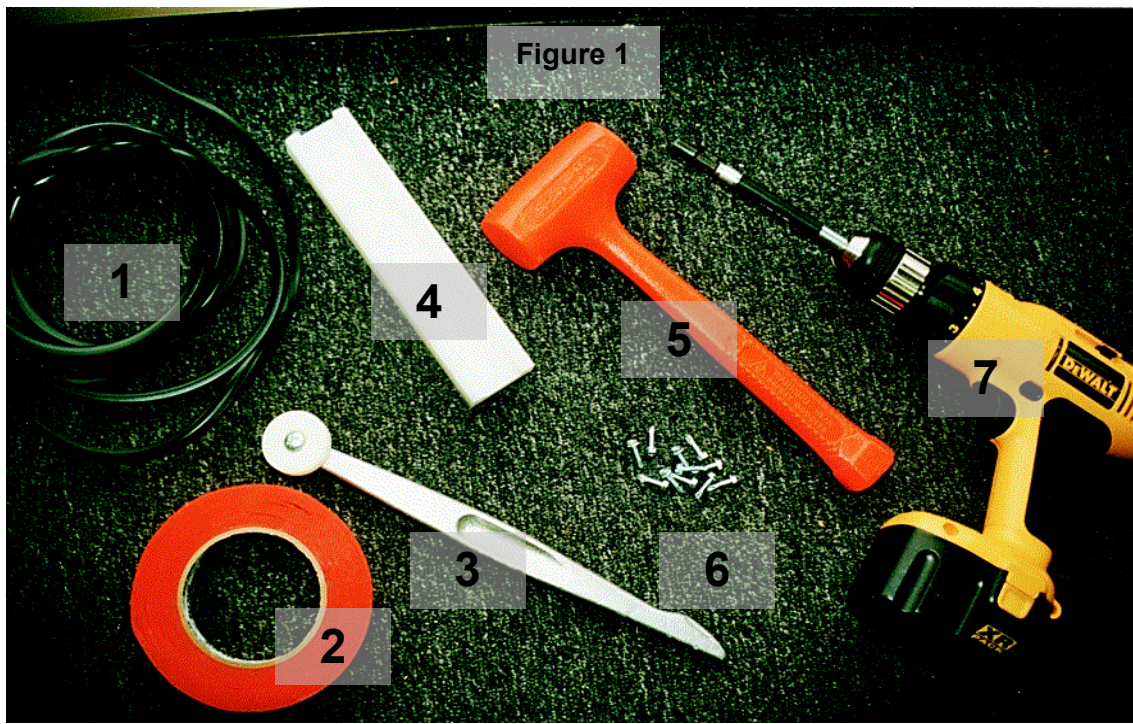


Figure 1

Figures 1 and 1a

Tools and Supplies

- (1) GlassLock Attachment gasket
- (2) GlassLock adhesive film
- (3) GlassLock glazing gasket tool
- (4) GlassLock Installation ("set-back") gauge
- (5) Shot-filled mallet ("Dead-blow" hammer)
- (6) Hex-head (TEK) self-drilling screws
- (7) TEK drill with hex-head socket
- (8) Chop saw (not shown)
- (9) GlassLock Film Cutter



Figure 1a

Figure 2

***Applying the GlassLock
Transfer Adhesive***

Make sure the surface area of the frame is DRY! Leave the GlassLock red adhesive carrier in place for later removal.



Figure 3

Pre-cutting the film

We strongly suggest the use of a GlassLock Film Cutter for the pre-cutting process.

Figure 4

Security Film Installation: positioning the film and squeegeeing

Position the film with an equal frame-overlap on the two vertical sides. Standard squeegee technique is required, but stop squeegee strokes short of the vertical sides.



Figure 5

Overlapping the Film

With GlassLock Edge tool, crease the film at a 90° angle.

Figure 6

Removing the GlassLock Adhesive Carrier

With the edge tool, lift back the film flap and peel away the GlassLock red adhesive carrier strip underneath. Press the film flap onto the exposed adhesive, maintaining the 90° angle.



Figure 7

Applying the GlassLock adhesive strip to base-plate

Apply the adhesive to the underside of the base plate, but do not remove the GlassLock red protective carrier strip until ready for installation

Figure 8

Fitting the GlassLock set-back gauge to the base-plate

Slide the set-back gauge onto the base plate (the non-adhesive side). Partially remove the GlassLock red protective adhesive carrier, pulling it down just past the set-back gauge.



Figure 9

Laying up base-plate to window frame

Lay up the base plate to the vertical mullion bar, using the GlassLock set-back gauge to determine the precise distance from the glass.

Figure 10

Screwing base-plate to frame

Begin screwing the base plate to the mullion bar using the (TEK) hex-head self-drilling screws. Use the GlassLock set-back gauge carefully as the base-plate may shift during this process. Pull out the GlassLock red adhesive carrier ahead of the screws as you move down the base plate.



Figure 11

Trimming excess film

After the base-plate is set and screwed in place, trim away the excess film along the outside edge of the base-plate.

Figure 12

Installing the trim-cap

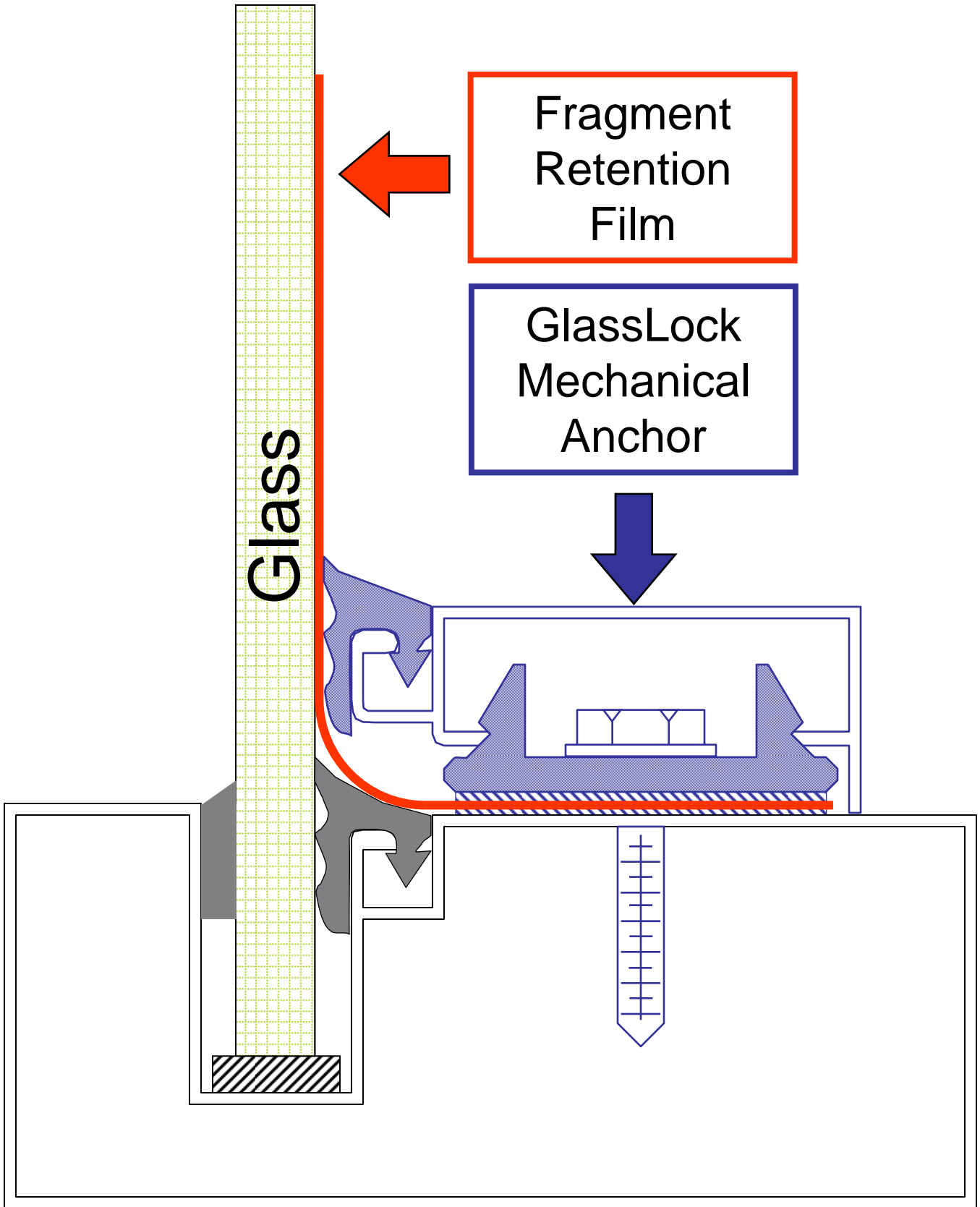
Lay up the trim-cap over the base plate, being sure the inside gasket channel is toward the glass. “Tap and snap” into place with the dead-blow hammer.

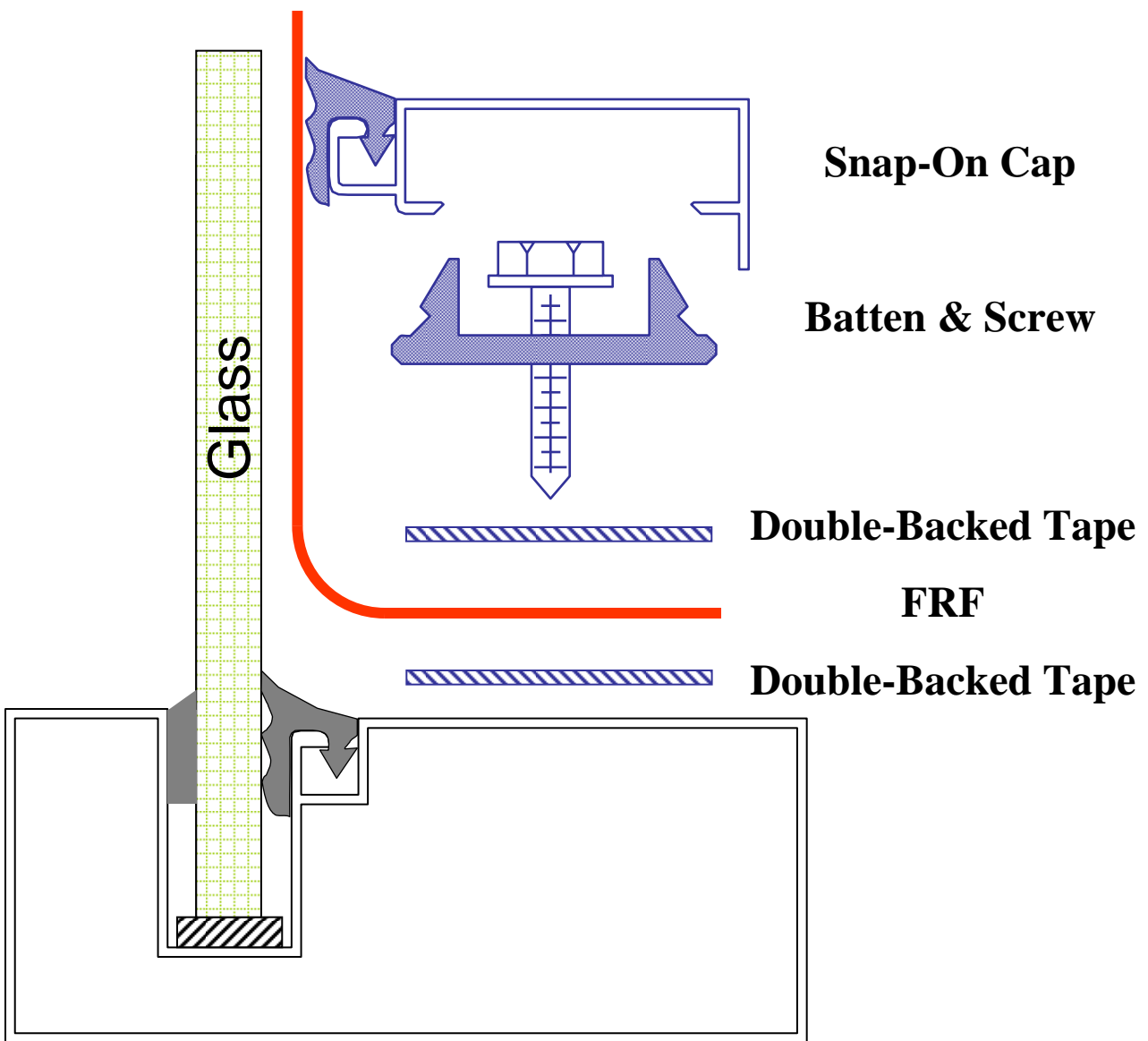


Figure 13

Rolling in the GlassLock gasket

Lay up the GlassLock gasket between the trim-cap and glass, using the roller-tool to push it into place, using caution to avoid scratching the film.





Snap-On Cap

Batten & Screw

Double-Backed Tape

FRF

Double-Backed Tape



2 side attachment

Before installation

After installation

