

Dow Corning 995 silicone installation techniques

This attaching system is used to anchor the edges of the film and to hold the glass in the window frame. This creates a protective system that helps absorb energy and allow the window frame to still bend and twist. If the glass breaks it will remain adhered to the film and to the frame increasing personal safety. Dow Corning 995 silicone structural adhesive offers high tensile strength of 150 psi and tear strength of 49 ppi. This is the only approved sealant for impact/ hurricane structural glazing standards and meets bomb blast requirements.

The safety film should be applied for a “daylight” installation. The gasket between the frame and the glass needs to be cut back or removed and backer rod installed. This will expose the maximum amount of surface area close to the glass. Also, Dow 995 silicone will not adhere to gasket material. Application should form a triangular joint with a bite of 3/8 to 1/2in. of the film and 3/8 to 1/2in. of the frame. The exposed surface of the sealant should be flat and not concave.

There are two methods to apply the sealant. One is using painters tape and a putty knife or spatula to tool the sealant. This method is more time consuming but offers easy cleanup and better consistency. The other method is to free hand the sealant. This method requires much less set up but usually does not look as finished as the taped and tooled method and can leave gaps between sealant and frame/film. This also has a considerable learning curve to keep the sealant consistent with little cleanup.

Installation using tape method:

The window film and frame should be clean and dry. Use a half inch block to set the distance for the tape. Remember the half inch of adhesive on the frame area does not include the gasket or backer rod.

Once the frame and glass have been taped, the tip of your gun should be cut big enough so you can have material touch the tape on both frame and film, usually about 1 1/8 opening cut at about a 20° to 30° angle (see diagram #1). Start in the corner and work around the glass. Hold the gun so the opening touches across from tape to tape. Lean back the gun about 10° to 15°. As you start dispensing material you should have a slight “ball” ahead of your tip (see diagram #2), as you continue try to keep a consistent “ball” this will allow the material to flow deeper between the glass and frame reducing air gaps and the amount of tooling that will be required. As you approach a corner ease up on the gun and allow the material to “ooze” to the corner. As you rotate the gun around the corner, place the tip at the corner and slowly start running the material until you see “the ball” and continue around the frame. When you finish lift the gun slightly and back toward your last run to avoid stringing.

Now you may tool the sealant as necessary. Start by forming a 45° line in the corner. Always keep your tool at an angle and close to the sealant to avoid stringing. When completed, remove the tape. Keep the tape at a very narrow angle to the sealant to avoid stringing. Clean any excess sealant with a plastic razor blade or general purpose cleaner.

Installation using free hand method:

The window film and frame should be clean and dry. Use a half inch block to mark the distance to cut the caulking gun tip. Remember the half inch of adhesive on the frame area does not include the gasket or backer rod. The tip of your gun should be cut big enough so you can have material touch ½ inch on both frame and film, usually about 1 1/8 opening cut at about a 20° to 30° angle (see diagram #1). Start in the corner and work around the glass. Hold the gun so the opening touches across your marks. Lean back the gun about 10° to 15°. As you start dispensing material you should have a slight “ball” ahead of your tip (see diagram #2), as you continue try to keep a consistent “ball” this will allow the material to flow deeper between the glass and frame reducing air gaps and the amount of tooling that will be required. As you approach a corner ease up on the gun and allow the material to “ooze” to the corner and as you rotate the gun around the corner, place the tip at the corner and slowly start running the material until you see “the ball” and continue around the frame. When you finish lift the gun slightly and back toward your last run to avoid stringing. Clean any excess sealant with a plastic razor blade or general purpose cleaner.

