General Information

- Product is qualified for Large and Small Missile Impact
 Product meets requirements of the High Velocity Hurricane Zone; water infiltration requirements: overhang (OH) ratio is equal to or more than 1, OH ratio = OH Length/OH Height

Group	Impact Speed (ft/sec)	Max. Design Pressure (lbf/ft²)	Door Series	Maximum Opening Size	Single/ Pair	Swing	Minimum Door Skin Gauge	Glazing	Hardware
1	50	50	607, 707	3'0" x 7'0"	Single	Out- Swing	20	None	Cylindrical Lock; Mortise Lock; Rim Exit
2	50	60	607, 707, 727, 747, 847	3'0" x 7'0"	Single	Out- Swing	18	Glasslam, Polycarbonate or Louver	Concealed Vertical Rod; Cylindrical Lock; Mortise Lock; Mortise Exit; Rim Exit; Surface Vertical Rod
3	50	60	607, 707, 727, 747, 847	3'0" x 7'0"	Single	In- Swing or Out- Swing	18	Glasslam, Polycarbonate or Louver	Cylindrical Lock; Mortise Lock; Interconnected Lock
4	50	60	607, 707, 727, 747, 847	6'0" x 7'0"	Pair	Out- Swing	18	Glasslam, Polycarbonate or Louver	Concealed Vertical Rod; Rim Exit; Surface Vertical Rod
5	50	60	707, 727, 747, 847	3'0" x 8'0"	Single	Out- Swing	16	Glasslam, Polycarbonate or Louver	Concealed Vertical Rod; Mortise Lock (latch bolt and dead bolt); Rim Exit; Surface Vertical Rod
6	50	60	707, 727, 747, 847	3'0" x 8'0"	Single	In- Swing	16	Glasslam, Polycarbonate or Louver	Mortise Lock (latch bolt and dead bolt)
7	50	60	607, 707, 727, 747, 847	6'0" x 8'0"	Pair	Out- Swing	16	Glasslam, Polycarbonate or Louver	Concealed Vertical Rod; Mortise Lock (latch bolt and dead bolt) active, Surface Bolts inactive; Rim Exit; Surface Vertical Rod
8	50	70	607, 707, 727, 747, 847	3'0" x 7'0"	Single	In- Swing or Out- Swing	16	Glasslam, Polycarbonate or Louver	Mortise Lock (latch bolt and dead bolt); Cylindrical Lock with Cylindrical Dead Bolt; Interconnected Lock
9	50	70	707, 727, 747, 847	4'0" x 8'0"	Single	Out- Swing	16	Glasslam, Polycarbonate or Louver	Concealed Vertical Rod; Mortise Lock (latch bolt and dead bolt); Rim Exit; Surface Vertical Rod
10	50	70	707, 727, 747, 847	4'0" x 8'0"	Single	In- Swing	16	Glasslam, Polycarbonate or Louver	Mortise Lock (latch bolt and dead bolt)
11	50	70	707, 727, 747, 847	6'0" x 7'0"	Pair	In- Swing or Out- Swing	16	None	Mortise Lock (latch bolt and dead bolt); Flush Bolt
12	50	70	777	6'0" x 7'0"	Pair	In- Swing or Out- Swing	18	None	Mortise Lock (latch bolt and dead bolt); Flush Bolt
13	50	70	707, 727, 747, 847	8'0" x 8'0"	Pair	Out- Swing	16	Glasslam, Polycarbonate or Louver	Concealed Vertical Rod; Mortise Lock (latch bolt and dead bolt) active, Surface Bolts inactive; Rim Exit; Surface Vertical Rod
14	50	100	757	3'0" x 7'0"	Single	In- Swing or Out- Swing	16	None	Cylindrical Lock; Mortise Lock (latch bolt and dead bolt)
15	50	100	707, 727, 747, 847, 777	3'0" x 7'0"	Single	In- Swing or Out- Swing	18	None	Cylindrical Lock; Mortise Lock (latch bolt and dead bolt)

16	50	100	707, 727, 747, 847, 777	3'0" x 7'0"	Single	In- Swing or Out- Swing	18	None	Rim Exit
17	50	115	757	3'0" x 7'0"	Single	Out- Swing	16	None	Mortise Lock (latch bolt and dead bolt)
18	50	115	707, 727, 747, 847	3'0" x 7'0"	Single	In- Swing or Out- Swing	16	None	Mortise Lock (latch bolt and dead bolt)
19	50	115	707, 727, 747, 847	3'0" x 7'0"	Single	Out- Swing	16	None	Rim Exit
20	50	150	707, 747, 847	4'0" x 8'0"	Single	In- Swing or Out- Swing	14	Vetrotech Keralite Ultra IGU HI	Multi-Point Lock
21	50	150	707, 747, 847	8'0" x 8'0"	Pair	In- swing or Out- Swing	14	Vetrotech Keralite Ultra IGU HI	Multi-Point Lock active, Surface Bolts inactive
22	50	150	707, 747, 847	4'0" x 8'0"	Single	Out- Swing	14	Vetrotech Keralite Ultra IGU HI	Surface Vertical Rod Exit Devices
23	50	150	707, 747, 847	8'0" x 8'0"	Pair	Out- Swing	14	Vetrotech Keralite Ultra IGU HI	Surface Vertical Rod Exit Devices
24	80	150	707, 747, 847	4'0" x 8'0"	Single	Out- swing	14	none	Surface Vertical Rod Exit Device
25	80	150	707, 747, 847	8'0" x 8'0"	Pair	Out- swing	14	none	Surface Vertical Rod Exit Device

Additional Door Information

- 1) 707 18 gauge 3'0" x 7'0" embossed doors are permitted
- 2) 707 16 gauge CURRIStain doors are permitted, 115 lbf/ft2 maximum design pressure
- 3) Door Edge: "S" (visible seam), "N" (seamless), or "T" (seamless)
- 4) Door Undercuts:
 - a) 3/8" maximum undercut for doors with vertical and concealed exit devices and 150 lbf/ft² doors
 - b) 3/4" maximum undercut for all other doors not included in 4a above
- 5) Cold rolled or galvanized steel may be used, gauges as noted
- 6) 16 gauge stainless steel 707 doors are permitted

Door Glazing Information

- 1) Any louver with a valid Florida Building Code (FBC) component approval is permitted in doors with design pressure of 60 lbf/ft² or 70 lbf/ft²; maximum louver size: 34" x 78" on 4'0" x 8'0" door, 6" minimum stile
- 2) Type 2 or Type 3 vision light kits are permitted for Glasslam impact rated glass
 - a) 60 lbf/ft²: 24" x 66" (1584 in²) maximum visible size per leaf
 - b) 70 lbf/ft²: 32" x 42" (1344 in²) maximum visible size per leaf
 - c) 6" minimum stile and rail
- 3) Type 1 or Type 3 vision light kits are permitted with approved polycarbonate
 - a) 60 lbf/ft²: 32" x 42" (1344 in²) maximum visible size per leaf
 - b) 70 lbf/ft²: 32" x 42" (1344 in²) maximum visible size per leaf
 - c) 6" minimum stile and rail
- 4) Type 8 vision light kit may be used with Vetrotech Keralite Ultra IGU HI
 - a) 150 lbf/ft² maximum design pressure
 - b) 10" x 30" (180 in²) maximum visible size per leaf
 - c) 6" maximum stile and rail
- 5) All glazing and louver cutouts require channel surround

Hardware Information

Hardware, vision light kits, and louvers may be used with the products listed above. The components must have a valid FBC Approval for use as a door component. Components used in the High Velocity Hurricane Zone must have a valid FBC Product Approval or a Dade County Product Control Component NOA for use in the High Velocity Hurricane Zone.

Auxiliary Hardware

- 1) Windstorm rated electric power transfer
- 2) Windstorm rated or non-rated door position switch with maximum 1" diameter preparation
- 3) Windstorm rated or non-rated door position switch with maximum 1.25" x 4.875" cutout in 3'0" x 7'0" maximum single opening, 60 lbf/ft² maximum Design Pressure
- 4) Windstorm rated or non-rated magnetic locks with the latching hardware listed above
- 5) Windstorm rated or non-rated auxiliary deadbolts

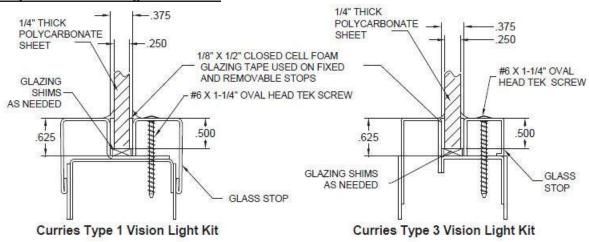
Hinges

- 1.) 4-1/2" x 4-1/2" 0.134" thick steel butt hinge or any Florida Building Code (FBC) approved hinge
- 2.) Florida Building Code (FBC) approved continuous hinge or pivot

Thresholds and Weatherstrip

- 1) Thresholds
 - a) McKinney MCK177, MCK181, MCK2005
 - b) Pemko Part Nos. 177, 181, 2005
 - c) Florida Building Code (FBC) approved threshold
- 2) Weather-strips
 - a) McKinney MCKS88, MCK303 (Use MCK303 with continuous hinges)
 - b) Pemko Part Nos. S88, 303 (Use 303 with continuous hinges)
 - c) Florida Building Code (FBC) approved threshold

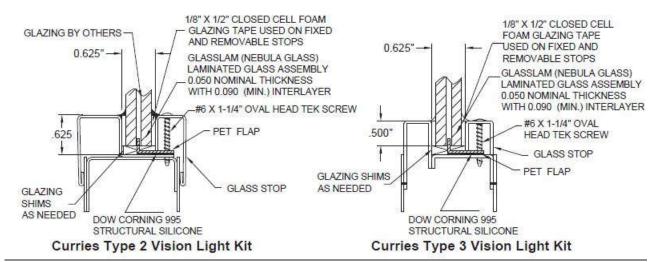
Polycarbonate Glazing Instructions



- 1) Before removing the removable stops, check to be sure there are screws in every hole. Pre-drill holes with a #36 bit where there are screw holes but no screws. Do not remove stops.
- 2) Using a pencil, make alignment marks on the removable stops and the door.
- 3) Unscrew the #6 x 1-1/4" oval head TEK screws from the removable stops and remove the removable stops. Keep the screws.
- 4) Apply 1/8" x 1/2" closed cell foam glazing tape to the fixed stop.
- 5) If there is plastic release on the foam glazing tape, pull the plastic release back about 2" from each end of the foam tape. Pull the plastic release around the fixed stop so it can be grasped after placing the polycarbonate on the unexposed foam tape.

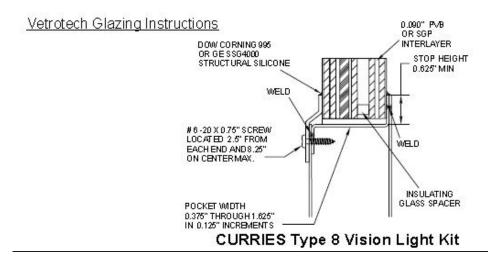
- 6) If there is paper release on the foam glazing tape, remove the paper release before glazing. Spray the exposed foam tape with a mild soap solution immediately before placing the polycarbonate on the exposed foam tape.
- Place glazing shims, as needed, then set the polycarbonate on the foam glazing tape.
- 8) Adjust the polycarbonate, as necessary, to center the polycarbonate in the cutout.
- 9) If the release is plastic, grasp the free end of the plastic release, while holding the polycarbonate to keep it from moving. Then slowly pull the plastic release off the foam tape that was applied to the fixed stop.
- 10) Apply 1/8" x 1/2" closed cell foam glazing tape to the removable stop.
- 11) If there is plastic release on the foam glazing tape, pull the plastic release back about 2" from each end of the foam tape. Pull the plastic release around the removable stop so it can be grasped after placing the removable stop on the polycarbonate.
- 12) If there is paper release on the foam glazing tape, remove the paper. Spray the exposed foam tape with a mild soap solution immediately before placing the removable stops against the polycarbonate.
- 13) Using the alignment marks, position the removable stops against the polycarbonate.
- 14) Install and tighten the #6 x 1-1/4" oval head TEK screws in the removable stops. Be careful not to over tighten.
- 15) If the release is plastic, grasp the free end of the plastic release, and slowly pull the plastic release off the foam tape that was applied to the removable stop.
- 16) Using the Dow Corning 995 silicone or other high quality silicone, apply a cap bead over the closed cell foam tape on the exterior side of the door vision light kit

Glasslam Glazing Instructions



- 1) Before removing the removable stops, check to be sure there are screws in every hole. Pre-drill holes with a #36 bit where there are screw holes but no screws. Do not remove stops.
- 2) Using a pencil, make alignment marks on the removable stops and the door.
- 3) Unscrew the #6 x 1-1/4" oval head TEK screws from the removable stops and remove the removable stops. Keep the screws.
- 4) Apply 1/8" x 1/2" closed cell foam glazing tape to the fixed stop.
- 5) If there is plastic release on the foam glazing tape, pull the plastic release back about 2" from each end of the foam tape. Pull the plastic release around the fixed stop so it can be grasped after placing the Glasslam on the unexposed foam tape.
- 6) If there is paper release on the foam glazing tape remove the paper release before glazing. Spray the exposed foam tape with a mild soap solution immediately before placing the Glasslam on the exposed foam tape.
- 7) Place glazing shims, as needed, then set the Glasslam on the foam glazing tape.
- 8) Adjust the Glasslam assembly, as necessary, to center the assembly in the cutout.
- 9) If the release is plastic, grasp the free end of the plastic release, while holding the Glasslam to keep it from moving. Then slowly pull the plastic release off the foam tape that was applied to the fixed stop.
- 10) Trim the PET flap so it does not extend beyond the removable glass stop.

- 11) Take a putty knife and insert it between the PET flap and the edge of the cutout in the door. Using the putty knife pull the PET flap away from the cutout in the door.
- 12) While holding the PET flap back away from the cutout with the putty knife, use a caulking gun to apply Dow Corning 995 silicone between the PET flap and the steel in the cutout of the door. **IMPORTANT: Ensure** that the Dow Corning 995 silicone fully wets out or covers the PET flap and comes in contact with the steel around the cutout in the door.
- 13) Slowly move the putty knife around the door ahead of the caulking gun and apply the 995 silicone around the entire cutout in the door.
- 14) Apply 1/8" x 1/2" closed cell foam glazing tape to the removable stop.
- 15) If there is plastic release on the foam glazing tape, pull the plastic release back about 2" from each end of the foam tape. Pull the plastic release around the removable stop so it can be grasped after placing the removable stop on the polycarbonate.
- 16) If there is paper release on the foam glazing tape remove the paper. Spray the exposed foam tape with a mild soap solution immediately before placing the removable stops against the Glasslam.
- 17) Using the alignment marks, position the removable stops against the Glasslam.
- 18) Install and tighten the #6 x 1-1/4" oval head TEK screws in the removable stops. Be careful not to over tighten.
- 19) If the release is plastic, grasp the free end of the plastic release, and slowly pull the plastic release off the foam tape that was applied to the removable stop.
- 20) Using the Dow Corning 995 silicone or other high quality silicone, apply a cap bead over the closed cell foam tape on the exterior side of the door vision light kit.



Glass	Glass Thickness	Impact Resistant Product
Vetrotech Keralite Ultra 90 HI	1-1/2"	DuPont Butacite PVB DuPont Sentry Glass Plus (SGP)
Vetrotech Swissflam 45 HI	1-3/8"	DuPont Butacite PVB DuPont Sentry Glass Plus (SGP)

- 1) Before removing the removable stops, check to be sure that there are screws in every hole. Pre-drill holes with a #36 bit where there are screw holes but no screws. Do not remove stops.
- 2) Using a pencil, mark alignment marks on the removable stops and the door.
- 3) Unscrew the #6 x 1-1/4" oval head TEK screws from the removable stops and remove the removable stops. Keep the screws.
- 4) Wipe the fixed stop clean and then apply closed cell foam tape to the fixed stop.
- 5) Wipe the removable stop clean and then apply closed cell foam tape to the removable stop.
- 6) Use 1/8" thick max glazing shims at the sill. Glazing shims should be the full thickness of the glass.

- 7) Run a generous toe bead of Dow Corning 995 or GE structural silicone around the opening.
- 8) Remove the release tape from the closed cell foam tape on the fixed stop.
- 9) Place glass down on glazing blocks and press up against closed cell foam tape.
- 10) Run a heel bead around the perimeter to the glass.
- 11) Using the alignment marks, position the removable stops against the glass. Lightly grind the end of each stop for additional clearance.
- 12) Install and tighten the #6 x 1-1/4" oval head TEK screws in the removable stops. Be careful not to over tighten.
- 13) Using Dow Corning 995 or GE SGG 4000 apply a cap bead over the closed cell foam tape.

Test Protocols Used

Testing and Rating of Severe Windstorm Resistant Components for Swinging Door Assemblies
Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by
Uniform Static Air Pressure Difference
Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors and Storm Shutters
Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials
Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors and Impact
Protective Systems Impacted by Windborne Debris in Hurricanes
Impact Test Procedures
Criteria for Testing Impact and Non-Impact Resistant Building Envelope Components Using Uniform
Static Air Pressure
Criteria for Testing Products Subject to Cyclic Wind Pressure Loading