
Bullet Resistant Glazing Installation and Cleaning Guidelines

These guidelines are in addition to, and are to be read in conjunction with, the guidelines in the latest edition of the Glazing Manual published by the Glass Association of North America.

These should be included as part of the glazing specification.

Setting Blocks

All laminated glass should be installed on setting blocks positioned on the lower edge at the quarter points. The setting block should have a Shore A Durometer of 85 ± 5 and be compatible with silicone. They should be deep enough to support the entire thickness of the glass and should be 0.1" long for each square foot of glazing but not less than 4" in length. Ensure that the setting blocks are manufactured from Santoprene, Silicone, EPDM or any other compatible material. Pay particular attention to compatibility when the laminated glass contains a polycarbonate.

Clearances

Adequate clearances must be maintained to prevent glass damage or breakage as a result of glass to metal contact. A minimum of 1/8" face clearance should be maintained using a cushioning material. Edge clearance should be a minimum of 1/4" however due to the expansion of polycarbonate any laminate containing this material should have 1/16" edge clearance per foot of glass. Avoid excessive clamping pressures on bullet resistant materials otherwise breakage may occur in service.

Edge Engagement

All forced entry glass must have a minimum of 1" edge engagement. Clearances and setting block allowances are in addition to this engagement. Any reduction in this edge engagement can cause the performance of the product to be reduced and the test certificate may no longer be applicable.

Weep System

The edges of laminated glass must not be exposed to standing water. All framing systems must be designed to accommodate a reliable weep system as no cap seal is 100% reliable. In addition, it is extremely important that any cleaning solutions used on either face of the glass be allowed to drain out of the frame. It is the responsibility of the designer to ensure that the weep system works correctly. Do not glaze any laminated glass in a system without adequate drainage.



Sealants and Caulking

Appropriate sealant should be used to seal the glazing to the frame. Manufacturers of Sealants and Caulking regularly change the components therefore it is essential that the installer checks for compatibility of any product with the appropriate manufacturer before use. This is particularly important for security glazing containing polycarbonate as some solvents used in sealants can cause crazing and ultimate failure of the product. This warning applies also to any varnishes, primers or paints used on the framing system. These finishes should be allowed to fully dry before glazing commences. Any warranties will be void if damage occurs due to material incompatibility

Threat Surface

Most bullet resistant glazing products are not symmetrical and have a threat side, attack face or impact face. All glass of this type supplied by PRL Glass Systems, Inc. is shipped with a removable label specifying the impact face. This side **MUST** be installed toward the threat. Failure to do this can seriously affect the ability of the product to resist the specified threat. This label should be left on until final inspection and/or sign off.

Storage

Shipments should be scheduled so that glass is stored on site for a maximum of 30 days. If the glass is to be stored for longer than this, it should be removed from the construction site to a controlled environment. When on site, store crates indoors and keep dry. Ensure that the stored glass remains above the dew point at all times otherwise condensation and staining can occur. Protect the crates from other construction trades.

Handling

Only remove the glass from the crates when ready to be installed. Remove glass from the front of the crate – never by sliding to the side. On security glass with exposed polycarbonate pay particular attention to this face. Never allow glass to rest on un-cushioned surfaces. Never allow anything to rest against the glass. **DO NOT** install any glass that has been damaged however slight. Even small cracks at the edges can ultimately ‘run’ due to thermal expansion in service.

PRL Glass Systems, Inc. does not provide warranties against glass breakage.



Cleaning

Do not expose the edges of any laminated glass to organic solvents, acids or any cleaner containing ammonia which can react with the plastic components.

Once the glazing is installed the glazing contractor should ensure that the glazing is protected from possible damage caused by the construction practices of other trades.

Take particular care during the initial cleaning, especially if the surfaces are severely soiled. Never attempt to remove dry deposits. NEVER use a sharp blade or scraper to remove deposits. First flush with water to soften and remove as many contaminants as possible. Then use a clean squeegee to remove excess water ensuring that abrasive deposits do not get trapped between the squeegee and the glass surface. Then use a mild non-abrasive, non-alkaline cleaner and a soft grit free cloth to clean the glass. Rinse immediately with water removing excess water with a squeegee.

For routine cleaning a mild soap or detergent with lukewarm water can be used with a clean grit free cloth. Dry the surface immediately and never allow metallic or hard objects, such as razor blades, to come into contact with the glass.

Cleaning Exposed Polycarbonate

All exposed polycarbonate has a mar resistant coating however extra care must be taken to avoid scratching or other damage. Do not use any abrasive cleaners or solvents. Wash with a mild detergent such as Formula 409 and lukewarm water using a clean, grit free cloth. Rinse immediately with clean water and dry with a chamois or moist cellulose sponge to avoid water spots.

Fresh paint splashes, grease and smeared glazing compounds can be removed using isopropyl alcohol. Afterward wash with warm water and mild detergent as above.