

GT6300 Fixed Windows



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**Assembly and
Installation Guidelines for
GT6300 Fixed
Human Impact Window**

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Installation Guideline Disclaimer

This document contains general installation guidelines for Graham Architectural products and does not address each particular condition or installation. Shop drawing installation details may vary from these Guidelines as these Guidelines do not address each particular condition so any variances should be addressed by the design professional. These Guidelines do not address the structural adequacy on any installation and such should be addressed by a design professional. Anchorage to existing or proposed wall conditions are not addressed in this document. Sealant compatibilities and application details should be reviewed by the sealant manufacturers. This document does not address the interface between the window system and the buildings weather barrier system and should be reviewed by the waterproofing consultant. It is generally recommended that insulation be installed in all voids created in the installation of a thermally improved system, but the application of insulation in wet areas needs to be addressed by the design professional and the particular type of insulation may need to be specified.

Graham adjusts the hardware in the factory, however due to installation tolerances, final adjustments to the hardware is the responsibility of the installer.

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These instructions include the installation and initial adjustment instructions of the GT6300 Fixed windows. Read these instructions before starting any installation.

Receiving, Handling, and Storage

The proper receiving, handling and storage of windows and doors is critical to the performance of the products throughout their service life. Abuse of the products during these processes will affect their operation and appearance. Even if the effects are not immediately noticed, they could surface later in the life of the product. The following are precautions that need to be followed.

Receiving: Prior to receiving the shipment of the windows, ensure that there is an adequate location to receive the windows and enough manpower and equipment to off load the products.

- Depending on the glass configuration and the size of the windows, the windows may be extremely heavy. A loading dock or glass manipulator may be needed to offload the windows or doors without damaging them. Contact Graham Architectural to determine the weight of any windows that are over 40 square feet.
- Most trucking companies allow a 3 hour off-loading time, and will charge a detention fee if the truck is not off-loaded within that time period. That should be considered when determining the location where the truck will be off-loaded and how much manpower will be needed to complete the process.
- Ensure that the storage location is close to the off-loading area. The product storage area must meet the requirements listed in the “Storage” section below.

Handling: HANDLE CAREFULLY – DO NOT DROP.

- It's recommended to use a glass manipulator for large or heavy units. Ensure that there is enough manpower to lift and maneuver the windows. Use glass cups when possible. Only use material handling equipment that will not damage the finish of the products.
- Do not use glass cups or manipulators on the polycarbonate glazing
- Do not use any of the hardware or grids for lifting or manipulating the window or door. Glazed products must always be transported vertically.

Storage:

- The storage location for any finished products must be cordoned off to prevent damage from other trades, such as moving equipment.
- Stack vertically and on their sills with adequate separation so window parts (including hardware) will not rub together, including any protruding hardware such as handles. All products should be stored on top of wood blocking to protect the finish and weather-strip. Blocking will also be needed between the frame and any object that can damage the window or door frame.
- Do not remove the protective film from the polycarbonate until the windows are installed.

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- Ensure that the products cannot be blown over by the wind, and limited to stacking of five (5) units before alternate support is given. If the windows are going to be stored for a short period of time (less than 1 month), they can be leaned at a 15° – 20° angle from vertical, with blocking to prevent them from rubbing/deforming. If they are going to be stored for an extended period of time, they will need stacked vertically (<3° from vertical) with strapping to prevent them from being blown over by the wind.
- Protect windows completely from moisture and dirt prior to installation. It is important that all windows that are not installed, are protected from direct contact with rain, snow, or ice so as to protect the finish and glazing of the product. If water gets into, and is retained in the glazing pocket it will cause the edge seal of the insulating glass to fail.
- Storing the windows or doors in the building is preferred, as long as they are not in a high traffic area. If stored in a trailer, or under clear plastic, there must be adequate ventilation to prevent the temperature of the products from exceeding 110° F (43.3° C). Temperatures exceeding this threshold can damage the sealants in the insulating glass. Heat build can also cause stress fractures in the glass. If storing outside, the products must be covered in a manner that will prevent water from getting into the products, while allowing ventilation to prevent excessive temperature or humidity build-up.
- Construction debris and dirt within the frame will affect the operation of the window. Protect all products from paint, weld spatter, construction debris, cement, plaster, terrazzo, and other construction materials, which include, but are not limited to, alkali based materials or caustic cleaners. This must be removed immediately to prevent damage to the finish of the aluminum or to the clarity of the glass.
- If the windows have been wrapped in a transparent plastic protective wrap, this wrap cannot be on the product for more than 90 days from the date of manufacturing, otherwise, it will be very difficult to remove protective wrap from the window finish.
- Prior to applying sealants, the surfaces must be cleaned and prepared as directed by the sealant manufacturer.

CAUTION – Windows are not to be used as ladders, scaffolds, or supports. Installed window openings are not to be used as construction entrances, unless adequate protection to the window sill and jambs is provided. Damage to any products from any construction activity will void the product warranty for the products in question.

Note: Copies of these instructions can be downloaded from www.grahamwindows.com/architectural-resources/technical-information/

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General Installation Instructions

A. Upon delivery carefully check that all windows have been received undamaged. If any of the windows have been damaged, immediately notify your Graham Representative.

B. The sill will need adequate support. The sill must be level in accordance with Table #1.

Table #1	Installation Tolerances (+/- Target)		
	Inches/ foot	Inches Maximum	Method of Measurement
Level (Horizontal Measurement)	1/32"	1/8"	Measure sill using level
Plumb (Vertical Measurement)	1/32"	1/8"	Measure jambs using level or plumb bob
True (In Plane Measurement)	1/32"	1/8"	Attach strings across corners. Measure where they cross
Extrusion Straightness	1/64"	1/16"	Measure with straight edge.
Square (Diagonal Measurement)	N/A	1/16" ^{**} 1/8" ^{***}	Measure diagonal corners (Difference/2)
* Openings up to 20 sq. ft. **Openings 20 sq. ft. and over			

C. All work should start from established bench marks and column center lines established by the architectural drawings and the general contractor.

D. The sequence of installation should be coordinated with the job superintendent so delays are prevented.

E. It is not recommended to drill through the sill. If fasteners are required to penetrate the sill; sealant must be applied in the pre-drilled hole first. Drill the hole, clean out the drill shavings/debris, clean around the hole area, apply sealant in the hole, install the fastener, and then seal over the fastener head.

F. Be aware of allowable edge distance requirements for the fasteners into the substrate, especially when the substrate is masonry. Refer to the fastener manufacturer's instruction for proper usage.

G. Seal the exterior in accordance with the shop drawings.

H. Insulate between the window frame and the rough opening (or receptor, if used).

I. If the windows are to be installed using panning, refer to the Graham Installation Guidelines for the type of panning being used. www.grahamwindows.com/architectural-resources/technical-information/

Note: Panning cannot support the weight of a window.

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J. The window frames and impact panels are shipped separately to be installed. Install the windows first and then install the impact panels.

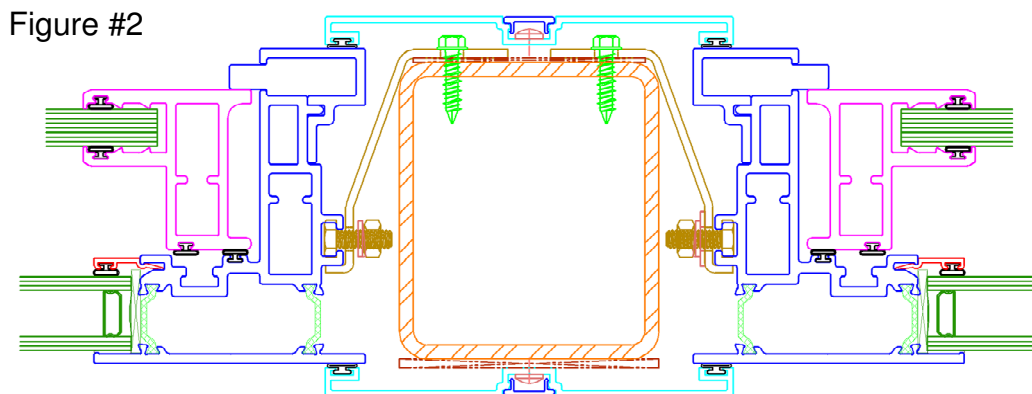
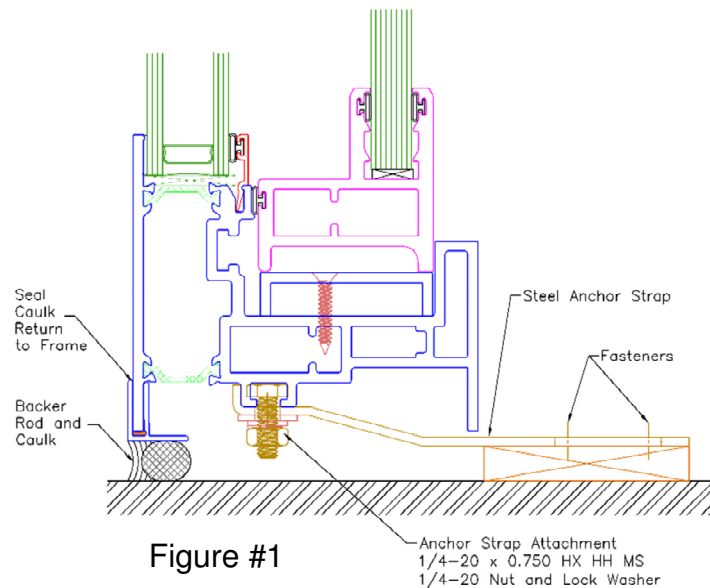
K. In order to meet the Human Impact requirements, the S6300 windows must be installed using strap anchors. Heads of the 1/4"-20 machine bolts are inserted into a slot at the end of the track and then are slid to the proper location for attachment to the strap anchors with the supplied nut with flat and lock washer (See Figure #1).

L. Attach the strap anchors to the building structure using the fasteners approved for the specific project. The fastener type will depend on the substrate. Fasteners must be installed as specified in the structural calculations. If there is no specified fastener spacing, attach the fasteners 6" from each corner and a maximum of 12" on center. Install the fastener through the strap anchor at the end of the slot closest to the window.

M. Install backer rod and sealant on the exterior perimeter (See Figure #1).

N. Check the window for square, level and plumb.

O. If a mullion is needed, Graham can supply a steel mullion (See Figure #2). The mullion will need attached to the opening with slotted angles, in accordance with engineering calculations. Then the strap anchors are attached to the steel mullion.



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P. Once the frame is installed in the opening, the panel can be installed. If the panel has blinds, cut the zip tie(s) that are holding the blind up (See Picture #3).

Q. Use the string to lower the blind and insert the bottom pins in the hole in the panel (See Picture #4). Check the tilt control to make sure the blinds function properly.

R. Insert the top of the panel into the head of the frame and push it firmly into the head (See Picture #5).



Picture #3



Picture #4



Picture #5

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S. Swing the bottom of the panel into the frame (See Picture #6).

T. While holding onto the spring-loaded sash retainer, back-out the set screws on the jambs using a Torx T9 Security bit (See Picture #7).

U. Once both sash retainers are in place, screw the set screws back into the frame until they are flush, or just a little under the surface of the window frame. (See Picture #8)

V. Remove the protective covering from the polycarbonate.



Picture #6



Picture #7



Picture #8

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Polycarbonate Glazing:

Polycarbonate sheet should be washed with a mild solution of soap and warm water, using a soft cloth or sponge. To prevent water spots, thoroughly dry with a chamois or sponge. Do not use abrasive cleaners or sharp instruments such as razor blades or scrapers that may gouge the surface. For graffiti removal, organic solvents, such as butyl cellosolve, kerosene, VM&P naphtha or mineral spirits, work very well. Denatured ethanol, and isopropyl alcohol are also excellent cleansing agents. It is important to rinse the surface thoroughly after cleaning with solvents.

Fresh paint splashes, grease and smeared glazing compounds can be removed easily before drying by rubbing lightly with a good grade of naphtha or isopropyl alcohol. Follow the alcohol rub with a mild detergent wash and warm water, and end with a thorough rinsing with clean water.

To minimize hairline scratches use a mild automobile polish. Three such products that tend to polish and fill scratches are Johnson Paste Wax, Novus Plastic Polish #1 and #2, and Mirror Glaze Plastic Polish (MG M10). It is suggested that a test be made on a sample of the polycarbonate with the product selected prior to polishing the entire project.

Products such as abrasive or highly alkaline cleaners, acetone, carbon tetrachloride, benzene or leaded gasoline should NOT be used, and the sheet should not be cleaned in hot sun or at high temperatures.