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01 Essential Tools:

Item	Tool Description
01	Cross Head 2PH (Philips Head No.2) screwdriver.
02	Sealant Gun (400ml capacity).
03	'Stanley' Type Knife (sharp blade).
04	Spirit level.
05	Wedge Gasket Insertion Tool (SUPPLIED if NOT pre-assembled)
06	Protective gloves (if installing glass panels as the glazing media).
07	Metal File.

02 Tools that will make installation easier:

Item	Tool Description
01	Power Drill/Driver (ideally with hammer action/SDS capability).
02	2PH driver bit.
03	Screwdriver to suit fixings for securing frame to existing window frame or (into) window reveal.
	Driver bit(s) to suit fixings for securing frame to existing window frame or (into) window reveal.
04	Bowl of hot soapy water (to soften and lubricate wedge gasket to make wedge gasket insertion easier).

03 Items to be supplied by Installer

Item	Item Description
01	Fixings to secure (Vertical) Outer Frame sections to existing window frame (Face-Fix), or, Window Reveal (Reveal-Fix)..
02	Drill bits for fixings in 01.
03	Silicone sealant (normally white to match white secondary glazing unit powder coating finish).
04	Dry Lube Spray Silicone Lubricant (200ml) – may be useful to aid 'sliding' movement of glazed panels on runners.

04 2-Panel Horizontal Slider Main Components

Secondary Glazing Component	Note: <i>Components 1.to5. and 10. Are labelled to identify them. This is important in distinguishing between Right and Left Hand Glazed Frames.</i>
1. Outer Frame - Horizontal	
2. Outer Frame – Vertical	
3. Glazing Frame – Standard (fitted with gaskets, brush gaskets, glazing spacer)	
4. Glazing Frame – RHS Vertical (fitted with gaskets, brush gaskets, glazing spacer)	
5. Glazing Frame – Hook Vertical (fitted with gaskets, brush gaskets, glazing spacer)	

Secondary Glazing Component	
6. Handle fitted with 4mm (retaining) set-screw	
7. Outer Frame Corner Brackets	
8. Glazing Frame Corner Brackets	
9. Slider/ Finisher	
10. Glazing Panel Plate Polycarbonate/ Acrylic panel shown with protective film rolled back.	

05 Overview of Installation Process (Main Stages):

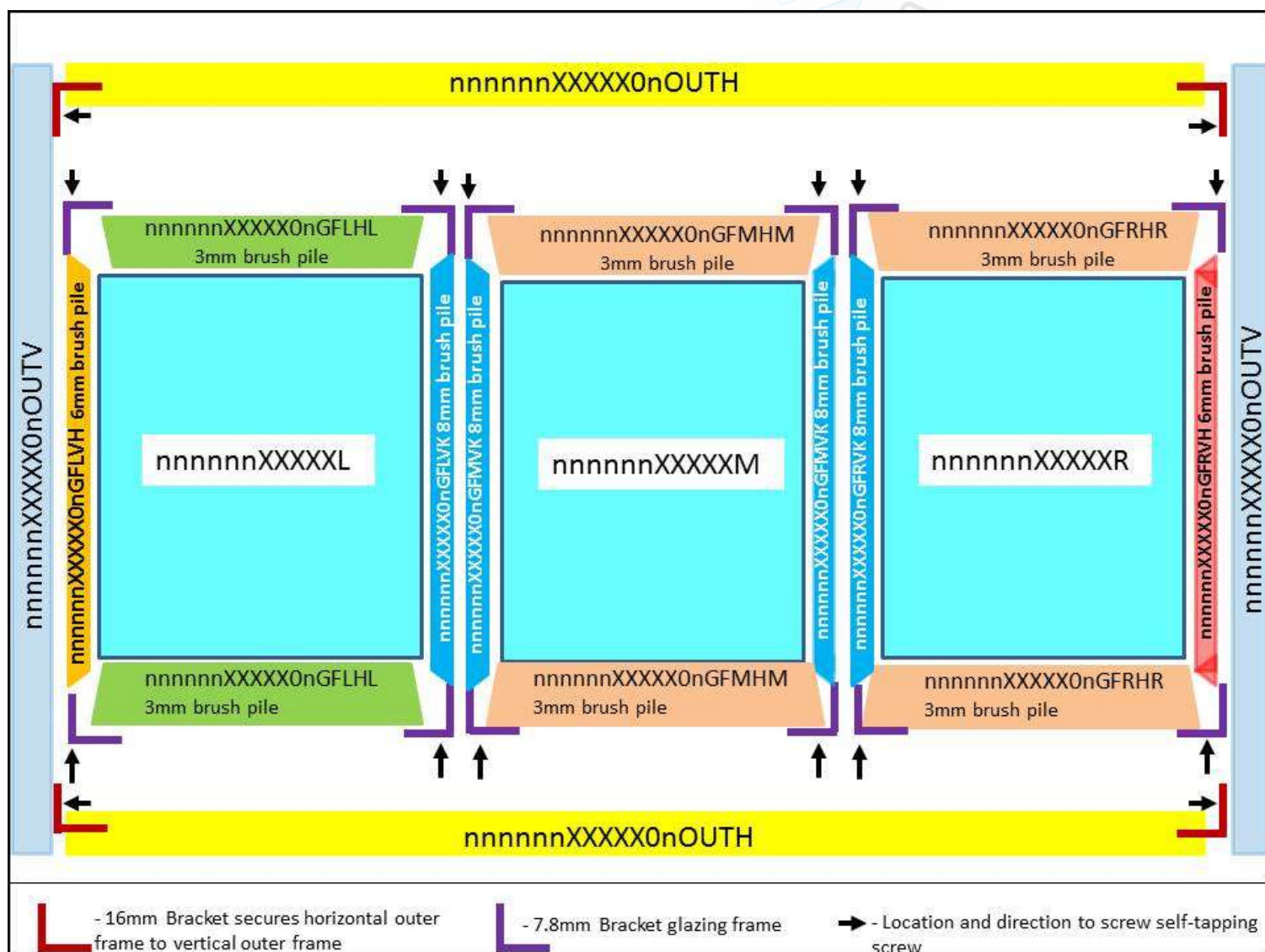
Stage	Stage Description
01	Measuring the (existing window) reveal dimensions.
02	Securing Vertical Outer Frames to Window Reveal or Existing Window Frame.
03	Securing Horizontal Outer Frames to (Fitted) Outer Vertical Frames.
04	Installing Glazed Frames into Outer Frames
05	Finishing Outer Frame/Window Reveal Join.

06 Schematic Layout showing location of main components.

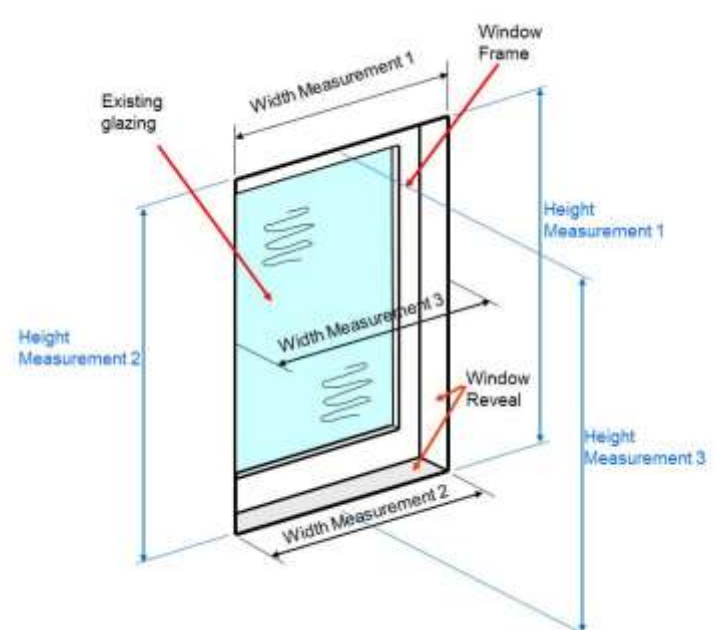
Note: 1. Viewed from inside room.

2. Components show the component identification label I.D. and

3. the specific brush pile used on the Glazing Frame components.



07 Installation Process; Main Stages in Detail:

Process Step	Description
	<u>Stage 01: Measuring the (existing window) reveal dimensions</u>
01	 Measure the vertical and horizontal dimensions of your window reveal as shown in the schematic (above) using a metal measuring tape. Take these measurements as close to the position of the new secondary glazing unit as possible. <u>Note 1:</u> <i>Sometimes these dimensions can vary quite widely (+ 5mm). This is the nature of building dimensional tolerances. The Omega Smart Secondary Glazing system can be fitted directly where the variation is 5mm or less. If the dimensions vary by +5mm then the unit can still be fitted, but, the outer frames may require 'packing out' and additional finishing to achieve a pleasing and neat installed finish.</i>

01 (cont'd.)	<u>Note 2:</u> <i>To operate effectively the outer frames of the new secondary glazing unit should be fitted as close to perfectly horizontal and perfectly vertical.</i> <i>During the manufacturing process allowances are made dimensionally to the reveal dimensions supplied. This is to allow for a degree of window reveal 'out-of-squareness' so that the new secondary glazing unit can be fitted and still operate effectively.</i> <u>Note 3:</u> <i>There are (2) 'fixing' methods for securing the new secondary glazing unit in position:</i> 1. <i>'Face-Fix'. This is where the new secondary glazing unit (exterior frame) is screwed directly into the existing window frame.</i> <i>In this case the measurement positions should be taken at the junction of the existing window reveal and the existing window frame.</i> 2. <i>'Reveal-Fix'. This is where the new secondary glazing unit (exterior frame) is screwed into the existing window reveal. The position here can be anywhere within the 'depth' of the existing window reveal.</i> <i>So, it might be helpful to mark a position with a pencil on the window reveal at the depth (from the existing window frame) where the new secondary glazing unit is to be fitted.</i> <i>This will help make sure that the height and width dimensions are taken in the correct locations. This can be a little tricky using retractable metal tape measure so taking the measurement several times to check that you are happy with the measurement is advisable (if a little trying).</i>
02	For each secondary glazing unit required record the minimum dimension (of the (3) dimensions recorded) for window reveal width and height. These (2) dimensions will form the basis of the secondary glazing unit price and also the dimensions for manufacturing the components for the secondary glazing unit kit of parts.

	<u>Stage 02: Securing Vertical Outer Frames to Window Reveal or Existing Window Frame.</u>
03	‘Face-Fixing’ (securing new secondary glazing outer frames to existing window frame). ‘Reveal-Fixing’ Securing new secondary glazing outer frames to Window Reveal (Rebate). The Vertical Outer Frames are fitted first. Check that the Vertical Outer Frames fit in place before undertaking any marking out. Also check that the Horizontal Outer Frames fit within the Vertical Outer Frames at this stage.
04	Mark the hole-positions in Vertical Outer Frames in the positions that you wish to secure the Vertical Outer Frames to your existing window frames. There are parallel fixing ‘channels’ that are intended as a guide for these fixing holes in the Vertical Outer Frames. A minimum of (2) holes in each Vertical Outer Frame are required, near the top and bottom of the Vertical Outer Frames. Additional fixing points maybe required especially where the new secondary glazing unit is greater than 1.0m in height. Round-head wood screws are recommended for fixing the Vertical Outer Frames to the existing window frame. Drill the fixing holes in the Vertical Outer Frames. These should be clearance holes for your chosen fixings.



05	Mark the fixing positions for the new Vertical Outer Frames on your existing window frame using a pencil or felt-tip marker pen and using the Vertical Outer Frames with the drilled holes for the exact hole positions. Use a Level to make sure that the Vertical Out Glazing Frames are 'perfectly' vertical in both directions. Drill pilot holes to suit your chosen fixings in your existing window frame.  <u>Note:</u> 1. It is at this point that you may need to 'pack-out' the Vertical Outer Frame to achieve the 'perfect' vertical. 2. If there are gaps of +5mm then this is an indication that packing may be required. 3. THIS IS IMPORTANT In order that the pre-drilled holes (for securing the Horizontal Outer Frames to the Vertical Outer Frames (Stage 02) are in line horizontally you WILL need to temporarily fix the Horizontal Outer Frames in position to check with a Spirit Level (see Steps 11 and 13).
06	Achieving a good seal against your existing window frame is very important for the performance of the new secondary glazing unit. Apply silicone sealant to the Vertical Outer Frame prior to securing the Vertical Outer Frame in position. The minimum application is to the face of the Vertical Outer Frame that will 'butt' against your existing window frame. You may also apply silicone sealant to the face of the Vertical Outer Frame that is immediately adjacent the existing window Reveal.  

PLEASE NOTE:

The flat face of the vertical frame needs to be fitted to the back of the unit. Therefore the grooved face will be room side and covered by the finisher (see section 16)

07	Secure the Vertical Outer Frame in position. <u>Note:</u> <i>Make sure that there is no deflection along the length of the Vertical Glazing Frame (no deviation) from the vertical. This is important for the effective operation of the new secondary Glazing unit.</i>	
08	Repeat steps 03 – 09 for the Vertical Outer Frame on the other side of the existing window reveal.	

	<u>Stage 03: Securing Horizontal Outer Frames to (Fitted) Outer Vertical Frames.</u>
09	Assemble Outer Frame Corner Brackets to Horizontal Outer Frames.  
10	This step is optional. It will provide a more secure installation and may be particularly appropriate where the width of the new secondary glazing unit is greater than 1.0m. If you wish to additionally fix the Horizontal Outer Frames to the window reveal using your own fixings this step must be undertaken now. Mark the position of your fixings in the Horizontal Outer Frame channel(s). Drill these fixing holes. <u>Note:</u> <i>These fixing holes must be centrally located between the vertical walls of the Horizontal Outer Frames.</i> <i>This will require some care and patience as the screw hole will almost certainly interfere with the side walls of the Outer Frame Corner Bracket guides.</i> <i>The fixings used should be Round Head.</i> <i>The diameter of the fixing head should be less than 12mm (the inside dimension of the Slider component).</i> <i>This is important so that The Slider component can be correctly installed and ensure the smooth operation of the sliding glazed frames.</i> <i>Mark the position of the fixing pilot holes in the horizontal window reveal using the Horizontal Outer Frame with the drilled holes as a guide for positioning these pilot holes.</i>

11	Achieving a good seal against your existing window frame is very important for the performance of the new secondary glazing unit. Apply silicone sealant to the Horizontal Outer Frame prior to securing the Horizontal Outer Frame in position. The minimum application is to the face of the Horizontal Outer Frame that will 'butt' against your existing window reveal. You may also apply silicone sealant to the face of the Vertical Outer Frame that is immediately adjacent the existing window Frame.  
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11 (cont'd.)	Insert the Horizontal Outer Frame/Outer Frame Corner Bracket Assembly inside the (2) installed Vertical Outer Frames.  Use the No.8 Self-Tapping Screws supplied to secure the Outer Frame Corner Brackets in position into the pre-drilled holes in the Vertical Outer Frames.  This secures the Horizontal Outer Frame in position. At this point, if you are undertaking the optional additional fixing of the Horizontal Outer Frame to the existing window frame use your chosen fixings to secure the Horizontal Outer Frame in position. <u>Note.</u> <i>It is important that the Horizontal Outer Frames are perfectly horizontal to ensure the smooth operation of the secondary glazing unit.</i> <i>If using additional optional fixings to secure the Horizontal Outer Frames make sure that the Horizontal Outer Frames do not deflect along their length.</i>
12	Repeat Steps 11 – 13 for the other Horizontal Outer Frame.

13

Insert Slider component into bottom Horizontal Outer Frame.

There (4) Slider/Finisher components supplied.

Normally, there will be:

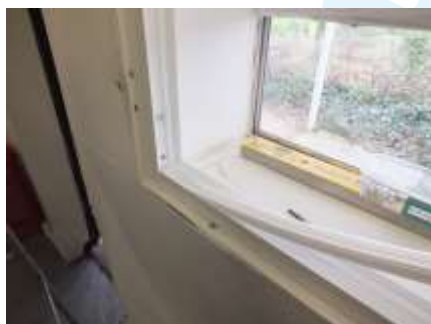
1. (2) Slider/Finisher components of length 'A', and
2. (2) Slider/Finisher Components of length 'B'.

'A' and 'B' are different lengths.

These components have been pre-treated with a dry lube silicone based lubricant. The surface will feel greasy. (This is important for the smooth operation of the secondary glazing unit).

Make sure that you use the correct Slider/Finishers by presenting them into the channels before any cutting is undertaken.

The (2) Slider/Finishers used in the bottom Horizontal Outer Frame will be slightly oversized for the (2) channels where they are to be installed.



The reason for this is that the material is easy to cut and therefore the slider/finisher can be cut-to-size using a Stanley Knife so that when installed in the channels the slider/finishers fit snugly. The ends of the Slider/Finisher will 'butt' upto the inside of the Vertical Outer Frames.

	<u>Stage 04 – Installing Glazed Frames into Outer Frames</u>
14	Install Right-Hand Glazed Frame first. (as viewed from inside the room). The Right-Hand Glazed Frame is installed into the Horizontal Outer Frame channel closest to the existing window (as viewed from inside the room). Insert Right-Hand Glazed Frame upwards into the top Horizontal Outer Frame first. Then tilt towards the existing window and lower into the bottom Horizontal Outer Frame.    Note: this photograph shows the handle already assembled to the Right-Hand Glazed Frame.

15

Install Left-Hand Glazed Frame.
(as viewed from inside the room).

The Left-Hand Glazed Frame is installed into the Horizontal Outer
Frame channel

Closest to the existing window (as viewed from inside the room).
Install to the left of Right-Hand Glazed Frame.

Insert Left-Hand Glazed Frame upwards into the top Horizontal
Outer Frame first.

Then tilt towards the existing window and lower into the bottom
Horizontal Outer Frame.



Slide the Left-Hand and Right-Hand Glazed panels together so that
these panels are centrally located within the Outer Frame.

16

Install Middle Glazed Frame.

The Middle Glazed Frame is installed into the Horizontal Outer **Frame channel closest** to the inside of the room. (as viewed from inside the room).

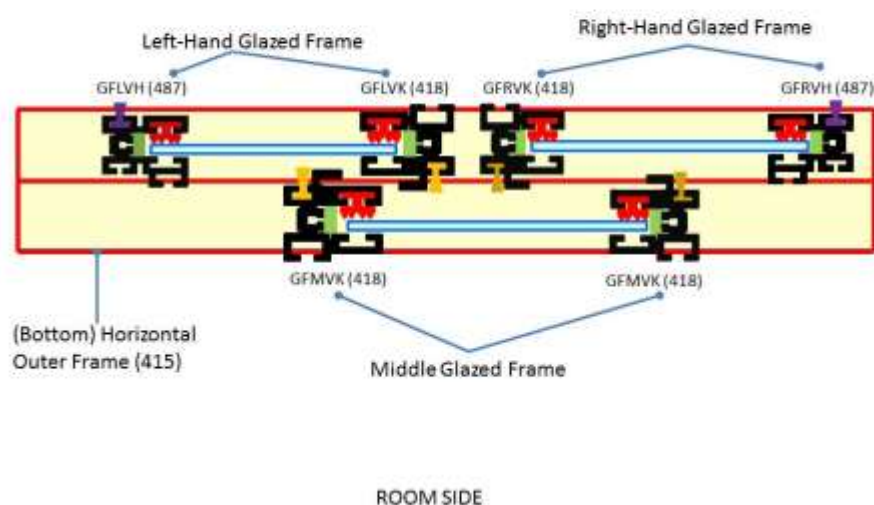
This is the only glazed panel to be located in this channel.

The Left-Hand and Right-Hand Glazed Panels are located in the channel closest to the window.

Insert Middle Glazed Frame upwards into the top Horizontal Outer Frame first.

Then tilt towards the existing window and lower into the bottom Horizontal Outer Frame.

Plan View – 3 Panel Horizontal Slider (3PHS)
Bottom Horizontal Outer Frame + Section of Glazed Panels



The Middle Glazed Panel is located so that it overlaps both the Left-Hand and Right-Hand Glazed Panel.

Slide the Left-Hand and Right-Hand Glazed panels outwards. These panels will lock into the Middle Glazed Panel and the 3 glazed Panels will align so that the brush seals seal against the outer frame and the glazed panels providing an airtight seal.

Ensure that:

1. The 3 glazed panels slide freely and smoothly.
2. The glazed panels do not 'shave' the slider when sliding.

17 Assemble Handles to Glazed Frames.

The handles are supplied assembled together with an M4 Set Screw.

The handle and Set Screw are located on the Right-Hand side of both Glazed Frames.

The hexagonal head of the Set Screw locates into the 'Set-Screw channel' in the Right-Hand vertical frames of the Glazed Frames. The Set-Screw/Handle assembly will fit into the 'Set-Screw Channel' with the Glazed Frames 'installed' in the Outer Frame.

When positioned in the final position the cylindrical handle can be tightened (turned clockwise) until tight.

The final position is established by partially tightening the handle in various positions and sliding the panel.

The final position will be within a range where the panel does not tilt when moved in either (right or left) direction.



	<u>Stage 05 – Finishing Outer Frame/Window Reveal Join.</u>
18	Finish the 'join' between the Outer Frames of the new Secondary Glazing Unit and Existing Window Reveal. In most installations (where the window reveal is square and level) the 'gap' between the existing window reveal and the outer frames of the new secondary glazing unit will be small and uniform. Finish this 'gap' with a silicone sealant.   If the 'gap' described (above) is variable and wider (+4mm) then it maybe more appropriate to apply some proprietary trims. Finally, remove the protective film (if glazing material is Plate Polycarbonate or Acrylic) from both sides of the glazing panel.
19	Install Slider/Finisher as finisher into Vertical Outer Frames. These components will be supplied slightly longer than required. Present the finisher to the vertical outer frame and mark the length required. Cut the finisher to the length required using Stanley Knife. Push the finisher into the recess in the vertical outer frame. The sides of the finisher should be flush with the vertical outer frame.   

Document: Installation Guide

Guide No: 024

Description: Omega Secondary Glazing Unit.

3 Panel Horizontal Slider – Glazed Panels Pre-Assembled



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08 Care and Maintenance

Your Omega Secondary Glazing Unit will require very little care and maintenance.

The aluminium frames are powder coated in polyester.

The glazing panels can be:

1. Acrylic.
2. Plate Polycarbonate, or
3. Glass.

Cleaning

1. The metalwork can be cleaned with a soft cloth and soapy water.
2. The Polycarbonate or Acrylic Glazing Panels can be cleaned:
 - a. Gently wash sheet with a solution of mild soap and lukewarm water, using a soft, grid-free cloth or sponge to loosen any dirt or grime.
 - b. Fresh paint splashes, grease and smeared glazing compounds can be removed easily before drying by rubbing lightly with a soft cloth using petroleum ether (BP65), hexane or heptane. Afterwards, wash the sheet using mild soap and lukewarm water.
 - c. Scratches and minor abrasions can be minimised by using a mild automobile polish. Test on a small area of sheet before using on the entire sheet is recommended.
 - d. Finally, thoroughly rinse with clean water to remove any cleaner residue and dry the surface with a soft cloth to prevent water spotting.
3. Glass Glazing Panels can be cleaned using proprietary glass cleaners.

Operation:

The sliding operation of the Glazed panels can be improved with the application of **Dry Lube Spray Silicone Lubricant** to the sliders located in the bottom Horizontal Outer Frame.

There are various proprietary brands available (200ml aerosols or larger)

Other important instructions for Polycarbonate and Acrylic Glazing Panels:

1. Never use abrasive or highly alkaline cleaner on polycarbonate materials.
2. Never use aromatic or halogenated solvents like toluene, benzene, gasoline, acetone or carbon tetrachloride on polycarbonate materials.
3. Use of in with polycarbonate sheet can cause structural and/or surface damage.
4. Contact with harsh solvents such as methyl ethyl ketone (MEK) or hydrochloric acid can result in surface degradation and possible crazing of polycarbonate sheet.
5. Never scrub with brushes, steel wool or other abrasive materials.
6. Never use squeegees, razorblades or other sharp instruments to remove deposits or spots.
7. Do not clean polycarbonate in direct sunlight or at high temperatures as this can lead to staining.
8. For all mentioned chemicals consult the manufacturers' material safety data sheets for proper safety precautions.