

Document: Installation Guide
Guide No: 022
Description: Smart Canopy VISTA16 with LeanToRoof

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01 Essential Tools:

Item	Tool Description
01	Metal drill, dia. 3.8mm (for pilot holes for No. 8 x 16 self-tapping screws) SUPPLIED
02	Metal drill, dia. 4.6mm (for pilot holes for No.12 x 13 self-tapping screws) – may not be required for tie-bar bracket pilot holes. SUPPLIED
03	Driver Bit, Phillips Head, PH2 (for driving No.8 x 16 self-tapping screws) NOT Pozidriv. SUPPLIED
04	Driver Bit, Phillips Head, PH3 (for driving No.12 x 13 self-tapping screws) NOT Pozidriv. SUPPLIED
03	51mm Holesaw.
04	10mm Socket (for tightening M6 Nyloc Nuts).
05	Ratchet Driver for 10mm socket (item 04).
06	Spirit Level.
07	Power Drill/Driver, Hammer Drill (ideally cordless).
08	13 Amp Extension cable.
09	Marker Pen.
10	Soft Lead pencil.
11	Robust Step Ladder(s).
12	Digging Equipment for Supporting Post foundation holes.
13	Hacksaw.

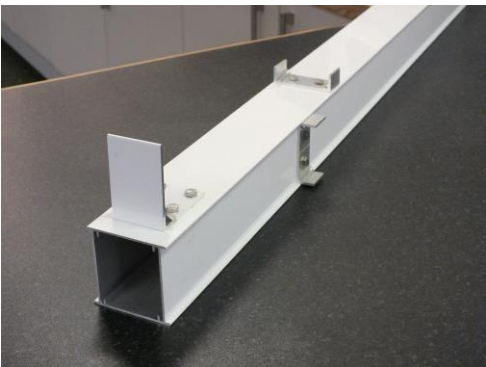
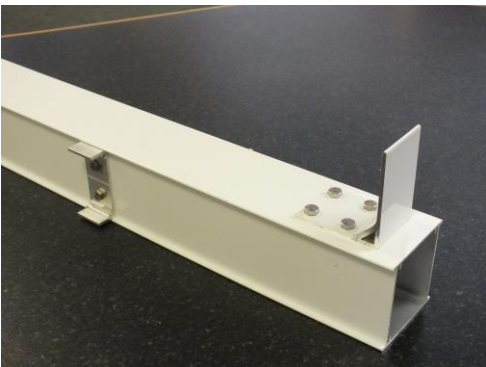
02 Tools that will make installation easier:

Item	Tool Description
01	Sliding Compound Mitre Saw, 250mm dia.
02	Mitre Saw Bench.
03	Power Drill/Driver, SDS Drill – cordless.
04	Folding Saw Horses/Trestles.
05	Cement Finishing Trowel.
06	Power Jig Saw – cordless.
07	White Rubber Mallet.
08	Variety of metal drills.
09	Variety of Masonry drills.
10	Metal File.

03 Items to be supplied by Installer

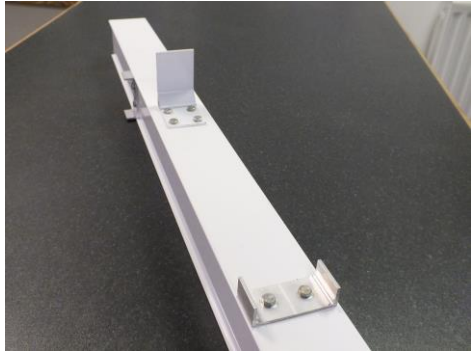
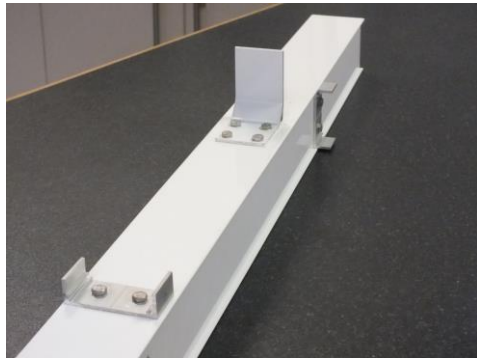
Item	Item Description
01	Fixings for securing Supporting Post Feet.
02	Drill bits for fixings in 02
03	Sand and cement/ post mix and water for supporting post foundations (if this is the foundation regime for the posts).

04 Canopy Main Components

Canopy Component	
RH Eaves End Supporting Post/Tie-Bar Bracket/Knee Brace Bracket Assembly. (labelled showing plan location and orientation)	
LH Eaves End Supporting Post/Tie-Bar Bracket/Knee Brace Bracket Assembly. (labelled showing plan location and orientation))	
Eaves Intermediate Supporting Post/Tie-Bar Bracket/Knee Brace Bracket Assembly. (labelled showing plan location and orientation)	

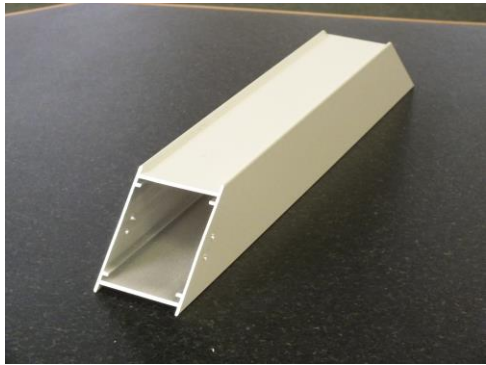
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Canopy Component	
RH Ridge End Supporting Post/Tie-Bar Bracket/Knee Brace Bracket Assembly. (labelled showing plan location and orientation)	
LH Ridge End Supporting Post/Tie-Bar Bracket/Knee Brace Bracket Assembly. (labelled showing plan location and orientation)	
Ridge Intermediate Supporting Post/Tie-Bar Bracket/Knee Brace Bracket Assembly. (labelled showing plan location and orientation)	

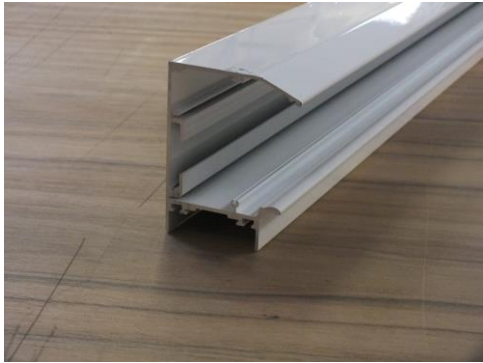
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Canopy Component	
Knee Brace (Eaves/Ridge to post – holes drilled in one end only)	
Knee Brace (Tie-Bar to Post – holes drilled in both ends)	
Post Foot/Bracket joining Eaves/Gutter and Supporting Post	

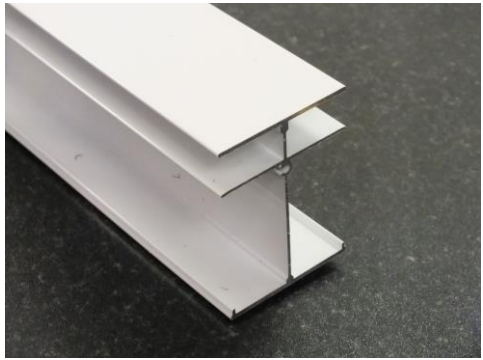
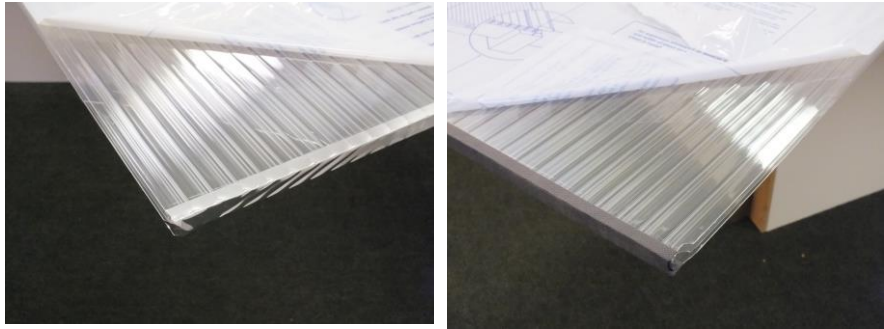
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Canopy Component	
Ridge Assembly(Ridge with Brush Gasket)	
Ridge Joint Assembly	
Eaves/Gutter	

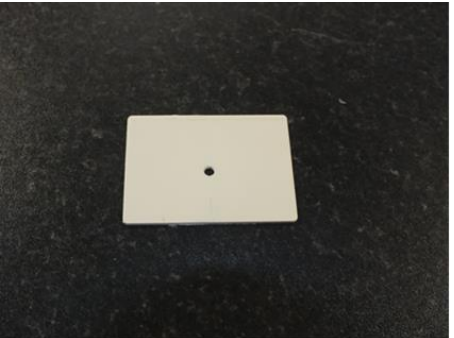
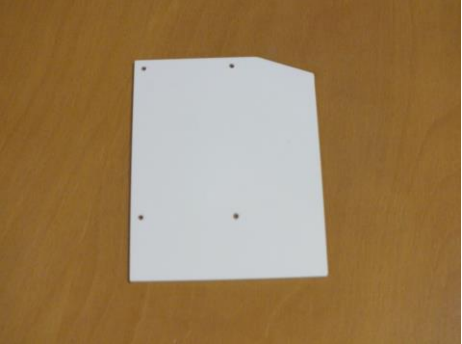
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Canopy Component	
Main Glazing Bar	
F-Section (2) per panel.	
Roof Panel with protective film on both upper and lower surfaces	

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Canopy Component	
End Cap for Edge Glazing Bar	
End Cap for Main Glazing Bar	
End Plate for Eaves/Gutter	
End Plates for Ridge	

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Canopy Component	
Tie-Bar	
Rainwater Adaptor	

05 Overview of Installation Process (Main Stages):

Stage	Stage Description	
01	Set out and dig holes for foundations for supporting posts (to accept 100mm deep pad at base and 750mm cube of concrete. (or, mark out locations for supporting posts if posts to be fixed using masonry fixings to fix to base. Make hole(s) for egress of rainwater in Supporting Post(s) where this is required. (This is not required if Supporting Posts are not to be secured by burying them in a concrete foundation).	
02	Assemble Eaves/Gutter Assembly – Assembling Eaves/Gutter End Plates and Supporting Post Brackets to Eaves/Gutter.	
03	Assemble Ridge Assembly – Assembling Ridge End Plates and Supporting Post Brackets to Ridge Assembly.	

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04	Assemble 'Goal-Post' frames (from Supporting Post/Tie-Bar Bracket assemblies and Tie-Bars). Assemble (1) Eaves/Gutter Supporting Post Assembly with (1) Tie-Bar and (1) Ridge Supporting Post Assembly for each 'Goal-Post' Frame This will require the (2) Supporting Post Brackets, Nuts and Bolts and Self-Tapping Screws. This can be undertaken at ground level adjacent Foundation Holes	
05	Install 'Goal-Post' frames onto foundation pads (with supporting post feet flat on the pad. Check levels.	
06	Fix Eaves/Gutter to 'Goal-Post/Wall-Plate assembly' frame. Secure the outside 'goal-post' frames to the Eaves/Gutter first. Do not tighten nuts at this stage. Check levels. Tighten all nuts securing the wall-plate assembly and Eaves/Gutter to the 'goal-post' frames.	

07	Fix Ridge Assembly to 'Goal-Post' frames. Secure the outside 'goal-post' frames first. Do not tighten nuts at this stage. Check levels.	
08	Fit Roof Panels, edge and main Glazing Bar assemblies (Edge and Main Glazing Bars with Main Glazing Bar End caps fitted). Fit the Edge Glazing bar and secure in position. Working from one end of the canopy fit one roof panel followed by one Main Glazing Bar assembly alternatively until the last edge glazing bar has been installed in position. Do not secure the main glazing bars or last edge glazing bar at this stage.	
09	Position and secure Main Glazing Bars – Check that the spacing between the Main Glazing Bars is correct. Mark these positions.	

10	Apply Silicone to junction of top edge of F-Sections with Glazing Panel.	
11	Installing Knee Braces: 1. Ridge to Supporting Posts. 2. Eaves to Supporting Posts. 3. Tie-Bars to Supporting posts.	
12	Secure the Supporting Post feet in position by the means that you have chosen. The recommendation is that the supporting posts feet are buried in minimum 750mm cube of concrete.	

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06 Installation Process; Main Stages in Detail:

Process Step	Description
<u>Stage 01: Set Out Foundation Hole positions and prepare foundations for Supporting Posts</u>	
01	Set out and dig holes for foundations for supporting posts (for 750 cube of concrete). Foundation hole positions are shown at the end of this guide. Make hole(s) for egress of rainwater in Supporting Post(s) where this is required. <u>See <i>Setting Out Hole Positions at end of this document.</i></u>  Getting the foundation pads level at this stage saves a lot of time levelling the canopy frame later.

02	Pour concrete mix into each hole to a depth of 100mm to provide footing for Supporting Post Feet. Concrete mix should ideally be: 1 part cement : 3.5 parts sand : 2.5 parts coarse aggregate. If using combined aggregate the mix should be: 1 part cement : 5 parts combined aggregate. Do not overwater as the mix needs to start 'skinning over' as soon as possible. <i>This can be accelerated by pouring a thin layer of cement onto the concrete footing once it has been levelled.</i> Level the footing using a Cement Finishing Trowel.  It is highly recommended that the concrete pads are made to be level with each other. This will save a huge amount of time later when levelling the canopy frame components. Therefore. It is worth getting this right. One of the simplest ways of doing this is that once you have a pad whose depth you are happy with and is one that you will work from this is to use a hose pipe and fill it with water. Hold the hosepipe at a known height above the 'datum' pad. Insert a stake in your next foundation hole and mark off the water level point on the stake. You can then pour your concrete for this pad until the pad height is the same dimension from the stake mark as the known height above the 'datum' pad. There are other ways of getting your concrete pads level with each other. This is probably the simplest using readily available kit.
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Stage 02: Assemble Eaves/Gutter Assemblies.

03

Assembling the Eaves/Gutter assembly:

This step is only required if the canopy requires (2) Eaves/Gutters to be joined together.

The aim of this process step is to align the (2) Eaves/Gutters with each other.

This work is most easily undertaken with the components resting on trestles.

Insert Joining Plate into joining plate slots on one of the wall-plates. The Joining Plate is 350mm in length and is designed to be a tight fit.

To make fitting the joining plate easier the edges of the Joining Plate can be filed using a **Metal File**.

The joining plate can also be cut down in length using a Hack Saw, again to make fitting easier.

Use a **White Rubber Mallet** to tap in the Joining Plate into the joining plate slots to half its length.

Inserting the Joining Plate can be quite difficult if there has been a build-up of the Powder-coat in the Joining Plate slots. To start the Joining Plate it may be necessary to clear some of the Powder-Coat using a thin blade screwdriver.



04	<u>Assembling the Eaves/Gutter assembly:</u> Fit End-Plate to each end of Eaves/Gutter. Again, undertake this activity whilst the Eaves/Gutter is located on the Trestles. Apply silicone sealant to the end profile of the Eaves/Gutter. If the end of the Eaves/Gutter is uneven because of the powder-coating it is sensible to file the end profile square and flat with a Metal File to provide a good surface for the joint.  Secure End-Plate to the end of the Eaves/Gutter by screwing in the (4) Self-Tapping Screws into the (4) screw ports in the Eaves/Gutter.  The (4) holes in the Eaves/Gutter End Plate align with the (4) screw ports in the Eaves/Gutter. When all (4) screws have been secured apply a bead of silicone sealant to the End Plate – Eaves/Gutter join on the inside of the Eaves/Gutter. You may want to 'smooth down' this bead of silicone sealant to ensure that the silicone seals all along the End-Plate/Eaves/gutter join.
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05

Assembling the Eaves/Gutter assembly:

Insert the required number of Set Screws into both Set Screw slots located on the underside of the Eaves/Gutter.

This is most easily achieved with the Eaves/Gutter upside down on **trestles**.

These are used to secure the Eaves/gutter to Supporting Post joint. Each bracket uses (4) Set Screws.

The End Supporting Posts (at each end of the Eaves/Gutter) employ (1) bracket.

The intermediate Supporting Post(s) employ (2) brackets.

Ensure that each Set Screw channel has the same quantity of Set Screws inserted and that this quantity is even.



06	<u>Assembling the Eaves/Gutter assembly:</u> Install Supporting Post/Eaves Gutter Brackets into Eaves Gutter. This should be undertaken whilst the Eaves/Gutter is still located on the Trestles. The aim here is to secure one bracket in position for each Supporting Post. Note that: End Supporting Posts require only one Bracket and this is located on the inside face of the End Supporting Post(s). Intermediate Supporting Posts require (2) Brackets; (1) either side of the post along the Eaves/Gutter.   In order that (1) Bracket for each Supporting Post is secured in position you will need to measure where the Posts will be located along the Eaves/Gutter and mark these positions before securing these single Brackets in position on the Eaves/Gutter. The Brackets that are required for the intermediate Supporting Posts can be loosely secured so that they move freely along the Eaves/Gutter. (This allows the Supporting Posts to be easily fitted to the Eaves/Gutter and Brackets when this process step is undertaken). The Brackets are secured via the M6 Set Screws located in the Set Screw channels. Locate the Bracket in the Eaves/Gutter so that each of the (4) Set Screws is located through the (4) drill holes in the Bracket. (This can be a little fiddly!) 
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Stage 03: Assemble Complete Ridge Assembly

07	<u>Assembling Ridge</u> <i>(This step is only required if there are (2) Ridge Assemblies supplied (as with wider canopies))</i> This work is best undertaken on a large flat area with both Ridge assemblies located in line. The aim of this process step is to assemble one complete ridge from the (2) ridge assemblies supplied. You will need: 1. Driver with PH2 driver bit 2. Soft White Mallet. Assembly steps: 1. Rest both Ridge Assemblies in line with flat face downwards. 2. <i>At this stage insert the joining plates (47mm x 350mm) into the slots in the ridge assemblies (one into each joining plate slot).</i> <i>The joining plate to ridge assembly joining plate slots can be tight and will require patience and a soft white mallet.</i> <i>Slide the (2) Ridge Assemblies together</i> <i>The joint should be visible as one line with no gaps.</i> 3. Present the Ridge Joint Assembly into its location. The Ridge Joint Assembly fits into (2) slots in the Ridge Assembly profile. The centre lines of the (2) central drilled holes should sit evenly, either side of the Ridge Assembly joint line.
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07 (Cont'd)	4. The Ridge Joint Assembly is secured to the (2) Ridge Assemblies with No.8 x 25mm Self-Tapping Screws driven through the pre-drilled holes in the Ridge Joint Assembly into the flat sections in the Ridge Assemblies. Using the dia. 3.8mm drill-bit supplied drill the pilot holes for the self-tapping screws using the pre-drilled holes in the Ridge Joint Assembly in the Ridge Assemblies. IT IS IMPORTANT that during this drilling operation both Ridge Assemblies remain tightly 'butted-up' to each other. 5. Secure the Ridge Joint Assembly to the (2) Ridge assemblies by driving the No.8 x 25mm Self-Tapping Screws through the pre-drilled holes in the Ridge Joint Assembly into Ridge Assemblies. All pre-drilled holes must be used. 6. Set the assembled Ridge to one side.
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08	<u>Assembling Post Supporting Brackets to Ridge Assembly</u> Install Supporting Post Brackets into the Ridge Assembly. This should be undertaken whilst the Ridge Assembly is still located on the Trestles. The aim here is to secure one bracket in position for each Supporting Post. Note that: End Supporting Posts require only one Bracket and this is located on the inside face of the End Supporting Post(s). Intermediate Supporting Posts require (2) Brackets; (1) either side of the post along the Ridge Assembly.  In order that (1) Bracket for each Supporting Post is secured in position you will need to measure where the Posts will be located along the Ridge Assembly and mark these positions before securing these single Brackets in position on the Ridge Assembly. <i>(It is sometimes necessary to use a 'Quick Clamp' to push the Ridge assembly together to enable the bolts to be located into the bracket holes).</i> The Brackets that are required for the intermediate Supporting Posts can be loosely secured so that they move freely along the Ridge Assembly. (This allows the Supporting Posts to be easily fitted to the Ridge Assembly and Brackets when this process step is undertaken). The Brackets are secured via the M6 Set Screws located in the Set Screw channels. Locate the Bracket in the Ridge Assembly so that each of the (4) Set Screws is located through the (4) drill holes in the Bracket. (This can be a little fiddly!)
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Stage 04: Assemble 'Goal-Post frames (from Supporting Post/Tie-Bar Bracket/Knee Brace Bracket assemblies and Tie-Bars)

- | | |
|----|---|
| 09 | <p>Fit the Supporting Post/Tie-Bar Bracket Assemblies with the Supporting Post Feet.</p> <p><i>At this stage make sure that you are happy with the length of the Supporting Post assemblies as it is still possible to change the supporting Post/Tie-Bar Bracket assembly lengths. This is driven by the need to ensure that the Tie-Bar Brackets are level in both width and projection directions</i></p> <p>Each post has (2) Supporting Post Feet attached to one end. Set out the Supporting Post on restles so that you are working at waist height.</p> <p>Insert a Post Foot into the inside of the Supporting Post.</p> <p>The Post Foot will slide into the channels on the inside of the Post.</p> <p>There is a step on the Post Foot.</p> <p>When the Foot is pushed home the Post Foot step will abut the end of the Post.</p> |
|----|---|



10

Make sure that you know the correct Supporting Post/Tie-Bar Bracket/Knee Brace Bracket Assembly location and orientation before any drainage holes are cut or any of the 'goal posts' are assembled.

There are (6) different Supporting Post/Tie-Bar Bracket/Knee Brace Bracket assemblies.

These must be located and orientated correctly at this stage.

Each supporting Post assembly is supplied with a label on the upper surface of the Tie-bar Bracket.

This label indicates the position and orientation of the Supporting post assembly.

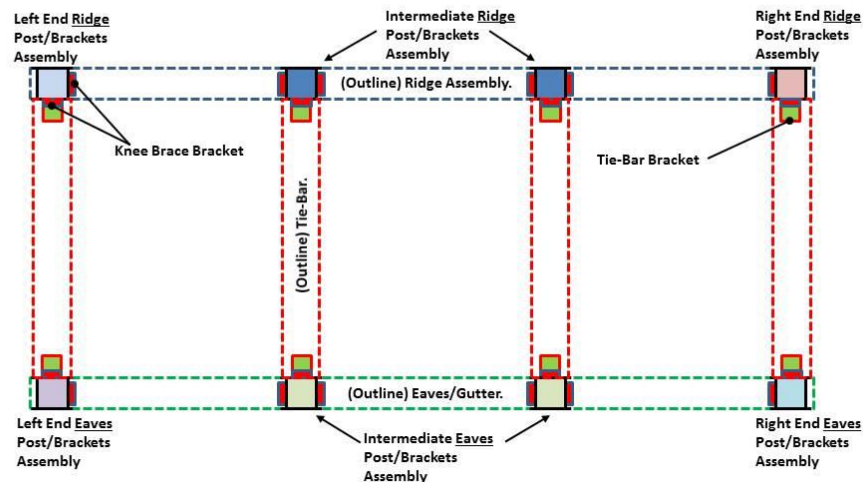
The position and orientation is shown in Plan View (Looking downwards from above the canopy).

The Plan View shown here replicates the labels on the Tie-Bar Brackets.

Free-Standing Mono-Pitch Canopy

Plan View (FROM ABOVE) Schematic showing:

Type of Supporting post/Knee Brace assembly,
 Supporting post/Knee Brace assembly Location, and
 Supporting post/Knee Brace assembly orientation



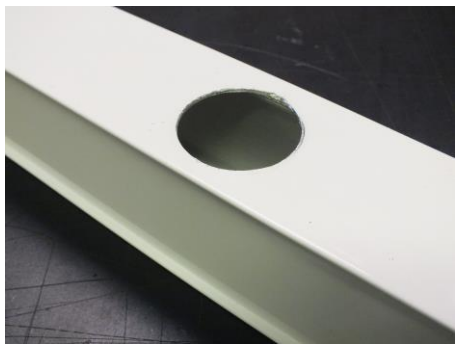
11	Secure the Post Foot to the Supporting Post. With the Post Foot located in the Supporting Post drill (2) pilot holes using the 3.8mm drill, one above the other, (roughly on the centre-line of the Supporting Post) through the Supporting Post and through the Post Foot located inside the Supporting Post. When drilling the Pilot Hole, do not apply undue downward pressure as this will potentially break the drill. <i>As you will be drilling several Pilot Holes you will get used to the appropriate pressure to apply.</i> Secure the Post Foot in position using the Phillips Head Self-Tapping Screws using the PH2 Driver Bit. When driving the Self-Tapping Screw you will need to apply sufficient pressure so that the drill bit does not slip out of the screw head. <i>You will need a medium-to-high torque setting on your Drill/Driver in combination with applying pressure on the self-tapping screw.</i> <i>Again, this will be a technique that you will get used to and learn the correct settings that work for your installation.</i> 
12	Repeat Process Steps 10 – 11 for the other foot for the same Supporting Post.
13	Repeat Process Steps 10 -12 for each Supporting Post.

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14	Cut rainwater drainage hole in Supporting Post(s). The hole is cut using a hole-cutter and Power Drill/Driver. Make sure that the hole is at the correct depth (the Supporting Post is being buried in concrete). Make sure that the hole is on the correct face of the Supporting Post(s) so that the rainwater flows out of the hole in the correct direction. A close-up photograph showing a red, cylindrical hole-cutter tool with a black handle and a silver-colored cutting edge. The tool is positioned vertically, drilling into a white, rectangular supporting post. A small amount of white material is being removed from the top of the post. A close-up photograph showing a completed circular hole in a white, rectangular supporting post. The hole is clean and deep, and the post is resting on a dark, textured surface.
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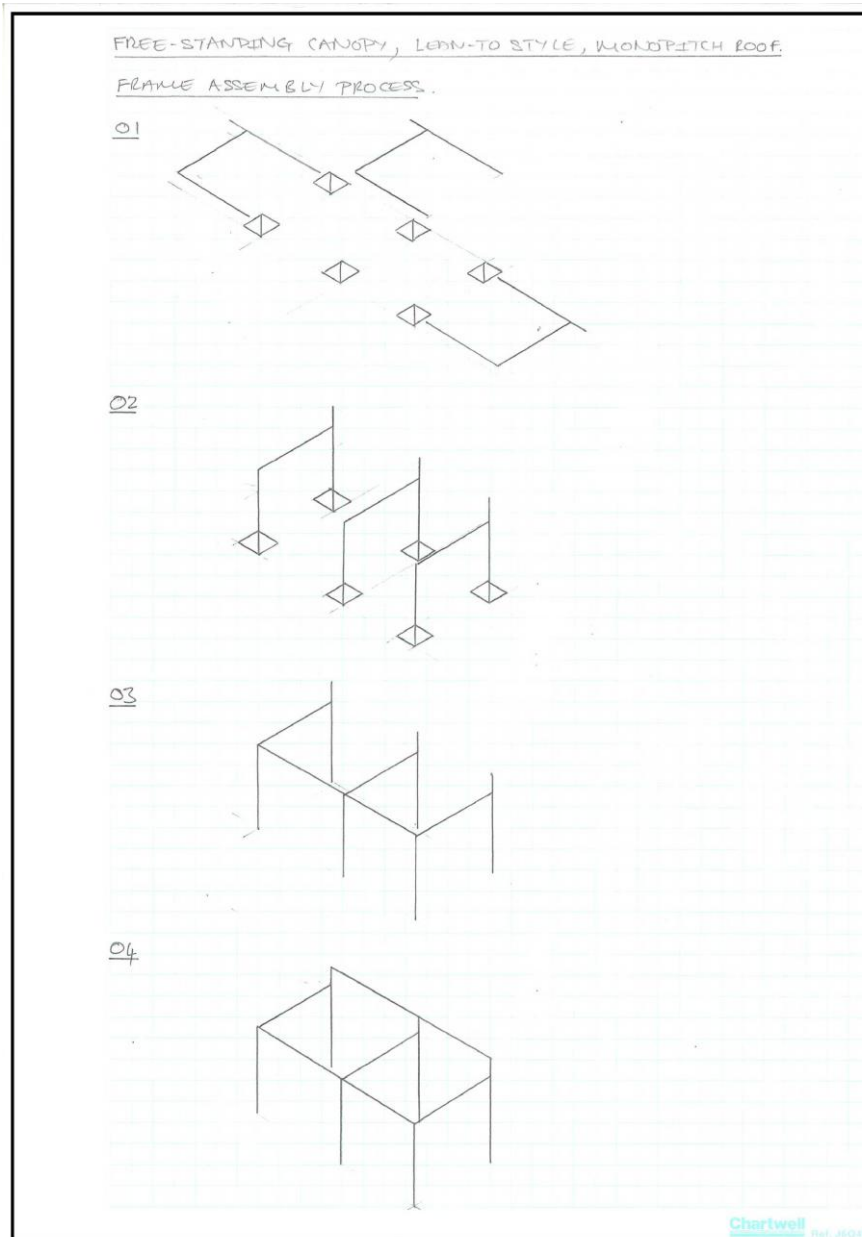
15	Fix Tie-Bar to Supporting Post/Tie-Bar Bracket assemblies to form 'goal-post' frames. <i>At this stage make sure that you are happy with the length of the Supporting Post assemblies as it is still possible to change the supporting Post/Tie-Bar Bracket assembly lengths. Any Supporting Post length changes after this stage will probably involve 'Goal-Post' dis-assembly to adjust the supporting Post/Tie-Bar Bracket assembly length.</i> This is best achieved with the Tie-Bar resting on trestles at waist height. <u>The next operation may not be required as the pilot holes are pre-drilled in the tie-bar brackets in the factory.</u> The Tie-Bar is supplied with (4) pilot holes pre-drilled in each end. Use these to mark the positions for the pilot holes in the Tie-Bar Bracket (using a marker pen or soft-lead pencil). Drill dia 4.5mm pilot holes in Tie-Bar Brackets. These operations are a little awkward because of the length of the components involved.  Fix the Tie-Bar to the Supporting Post/Tie-Bar Bracket Assemblies by driving the No.12 x 13 Self-Tapping screws through the Tie-Bar into the Tie-Bar bracket using the Drill Driver and PH3 Driver Bit. Repeat this process for the other side of the Tie-Bar. Repeat for all 'Goal-Post' frames. 
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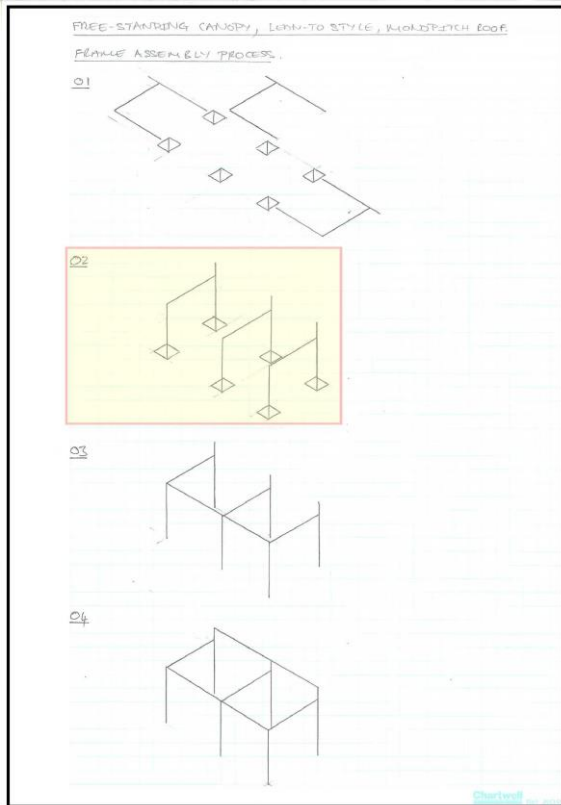
Stage 05: Install Canopy Frame

16

Installing 'Goal-Post' Frames into Foundation Holes

The stages of the **Canopy Frame Assembly Process** are shown below.



17	<u>Installing 'Goal-Post' Frames into Foundation Holes</u> Present the 'Goal-Post' Frames to the foundation holes. You are aiming at stage 02 of the Canopy Frame Assembly Process. This is a (2) person job and requires that the supporting posts are vertical (in both directions) and the Tie-Bar brackets on the supporting posts are horizontal is horizontal. Judicious use of packers may help with minor adjustments to achieve level Tie-Bar Brackets. When you are happy that the 'Goal-Post' Frames are vertical and level the frames will sit on their feet and can be propped in position if required.  FREE-STANDING CANOPY, LEAN-TO STYLE, HOLIDAYHUT Edge FRAME ASSEMBLY PROCESS. 01 02 03 04
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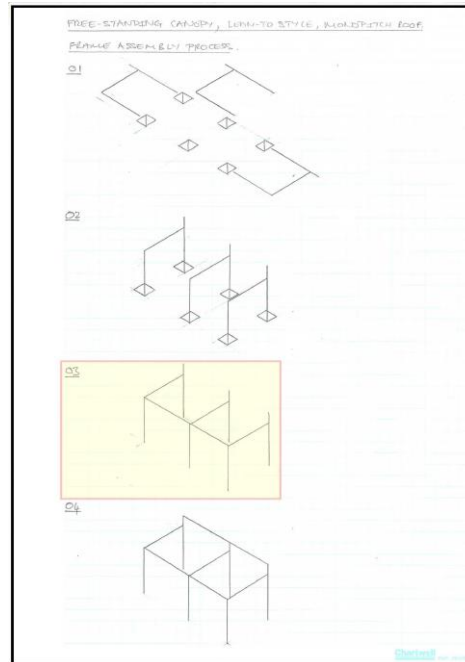
Stage 06: Install Eaves/Gutter Assembly onto 'Goal-Post' Assemblies

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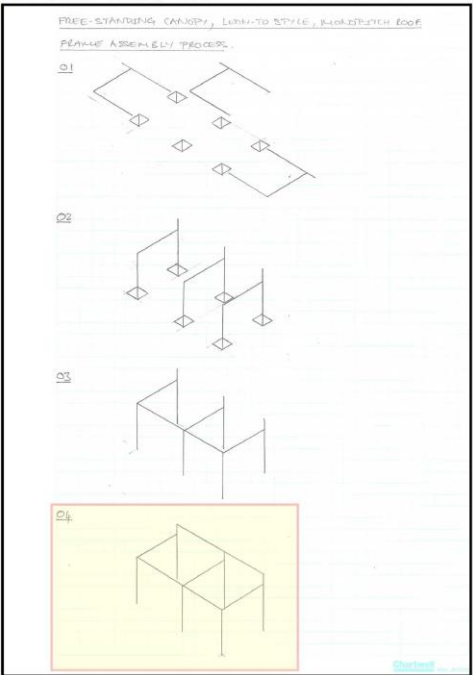
Installing the Eaves/Gutter Assembly onto the 'Goal-Post' Frames (onto the Eaves/Gutter side of the 'Goal-Post' Frames).

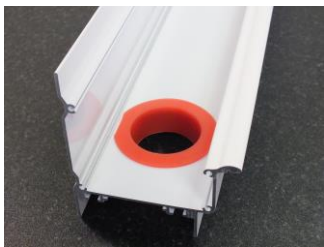
Present the Eaves/Gutter Assembly to the Eaves side Supporting Posts.
 Rest the Eaves/Gutter in its final position on the Eaves side posts and check the Eaves/Gutter is level.

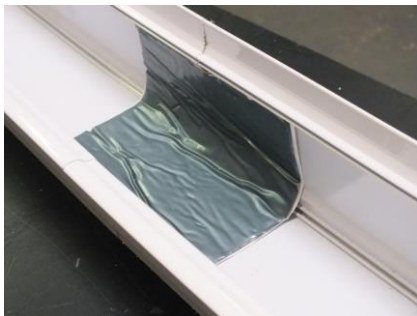
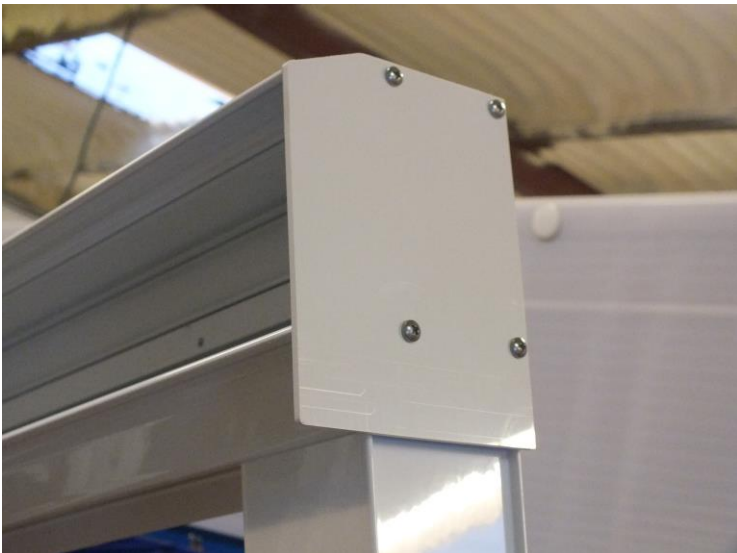
Secure the Eaves/Gutter to the Supporting Posts via the the Supporting Post brackets.

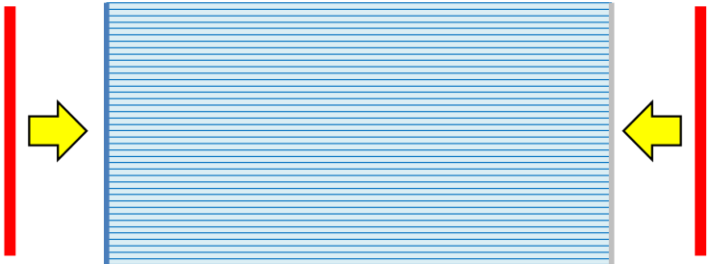


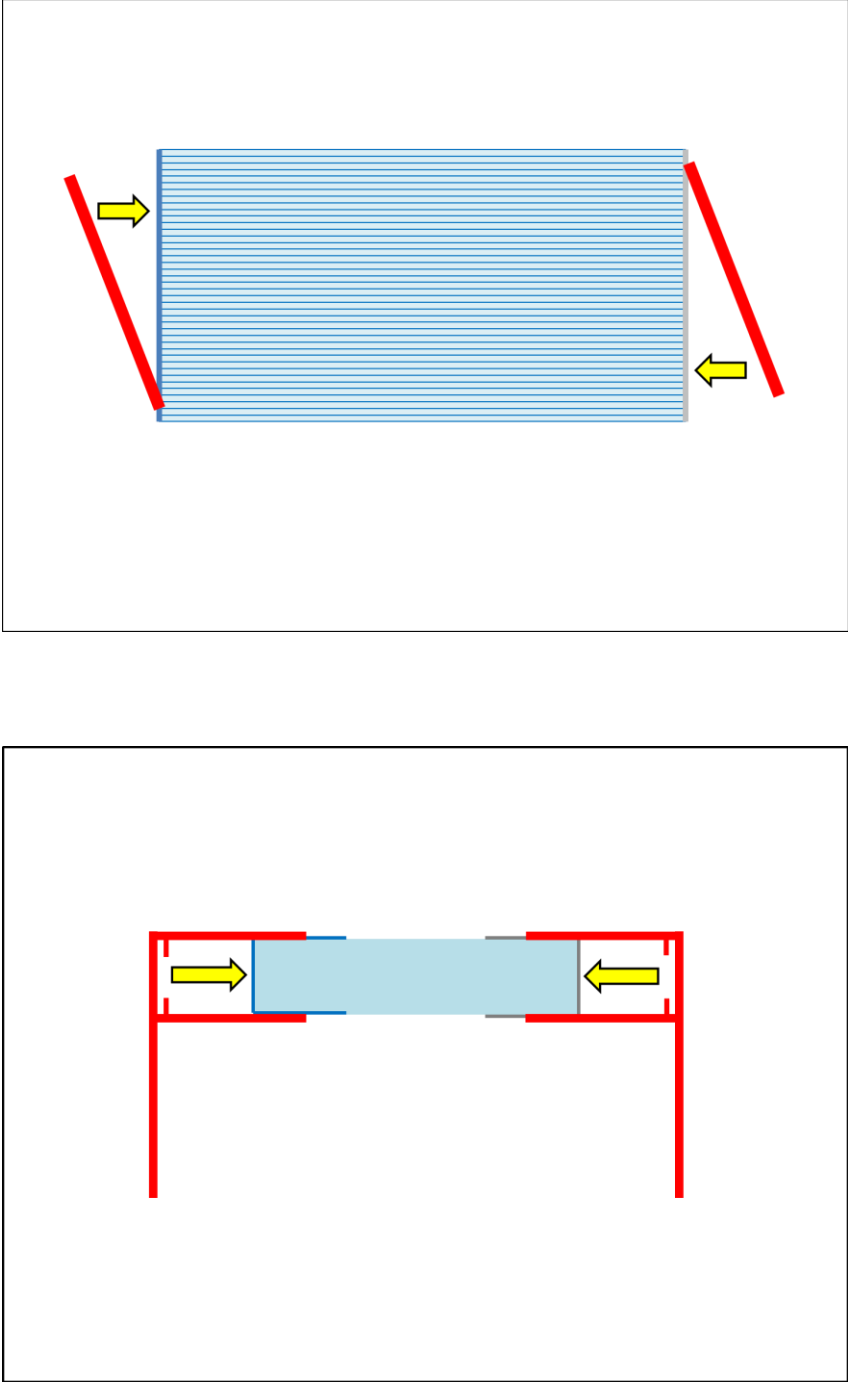
Stage 07: Install Ridge Assembly onto 'Goal-Post' Assemblies

19	<u>Installing the Ridge assembly onto The Ridge side Supporting Posts.</u> Present the Ridge Assembly to the Ridge side Supporting Posts. Rest the Ridge in its final position on the Ridge side posts and check the Ridge is level. Secure the Ridge assembly in position via the Supporting Post Brackets. 
20	Secure all joints/components with the requisite fixings. 

21	Secure <u>all</u> Supporting Post Feet to Foundation Pads.	
22	Cut Drainage holes using Hole saw in base of gutter. Ensure that the hole cut is over the Supporting Posts that are acting as down-pipes. Cut Out Rainwater Drainage Hole in Eaves/Gutter. Use 1 51mm diameter HoleSaw and the Drill/Driver to cut the hole required in the Eaves/Gutter. You will need to be above the Eaves/Gutter to do this. Therefore you will need to use a secure and stable Stepladder. Make sure that the centre of the hole to be cut is immediately central to the Supporting Post (located below the Eaves/Gutter). Please note that in this picture the Eaves/Gutter end-Plate has been removed to show the HoleSaw position.	
23	Prepare and fit Rainwater adaptor. If necessary trim the flange of the Rainwater Adaptor so that it will sit flat on the bottom of the Eaves/Gutter. Apply bead of silicone to the lower surface of the flange of the Rainwater Adaptor. Insert Rainwater Adaptor into the hole cut with the 51mm dia. Hole saw. Ensure that the flange sits flat on the bottom of the Eaves/Gutter all around the Rainwater Adaptor. On larger canopies more than one rainwater outlet will be required. The quantity of Rainwater Adaptors supplied will indicate the number of rainwater outlets recommended.	 

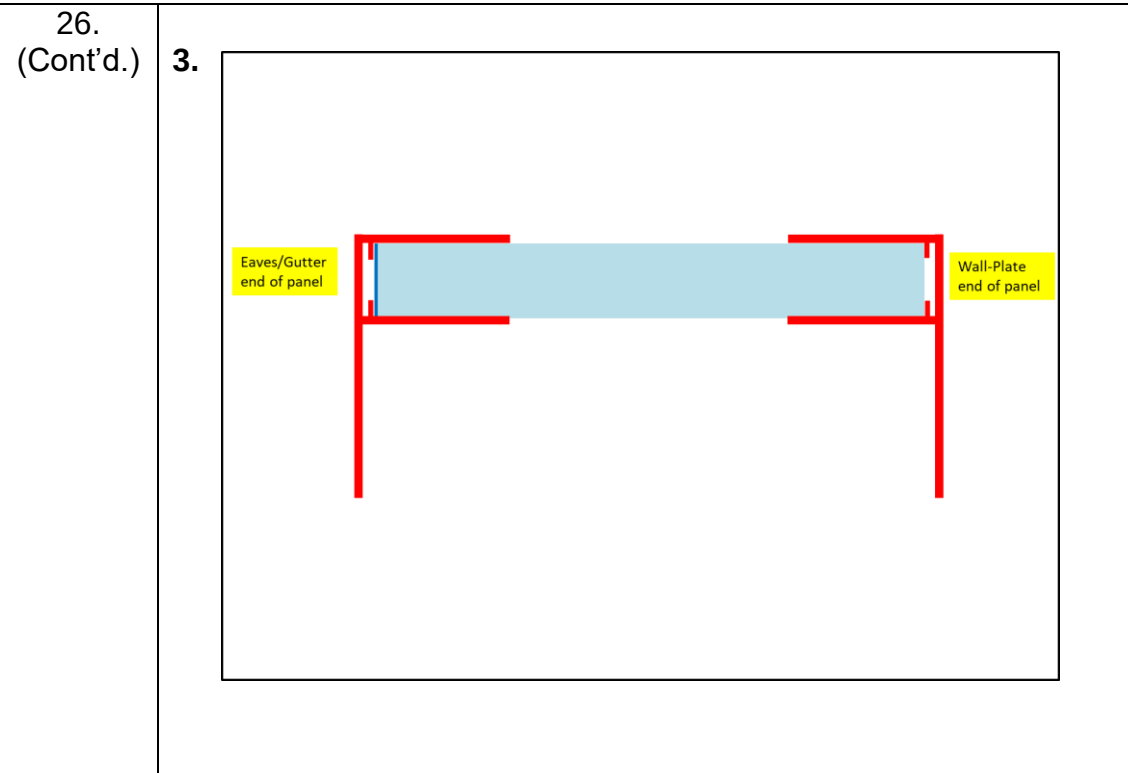
24	Seal Joints in Eaves/Gutter Smooth silicone over the join of the Eaves/Gutter on both the inside and outside of the join. Apply Flashband to internal join of the (2) Eaves/Gutters. This is to seal the join in the gutter.  
25	Install End Caps on Ridge Ends On Steps or platform install Ridge End Cap at both ends of Ridge using No.8 x 16mm Self-Tapping Screws and driver. 

	<u>Stage 08: Fit Roof Panels and Main Glazing Bars</u>
26	Fit F Sections onto Glazing Panels: 1.  

26. (Cont'd.)	2. 
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27

Starting at one end of the canopy.

Remove the protective file from the periphery of both sides of the polycarbonate panels.

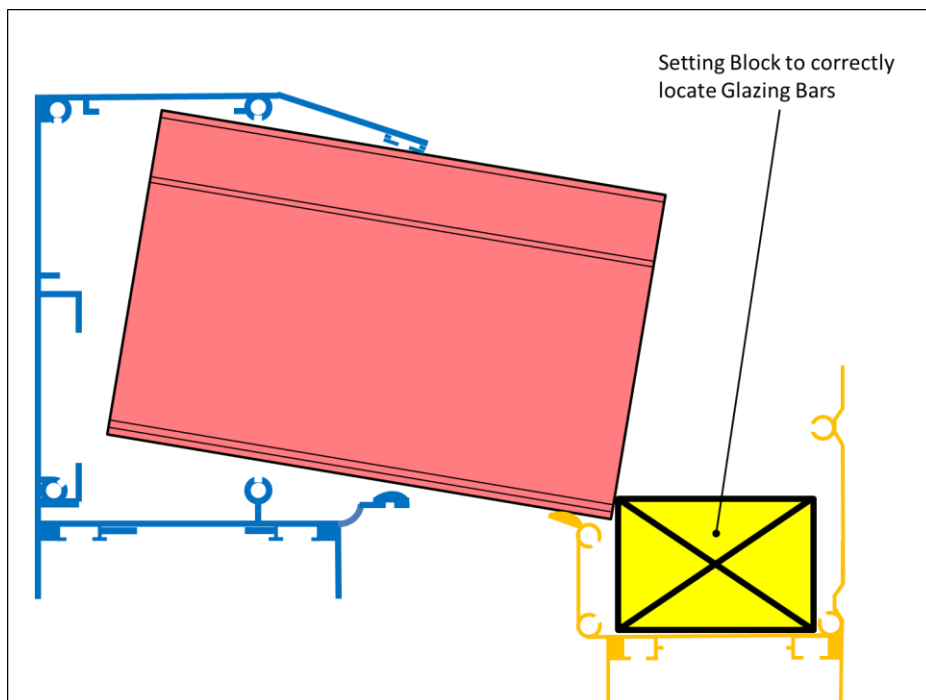
Make sure that the panel assembly is in the correct orientation:

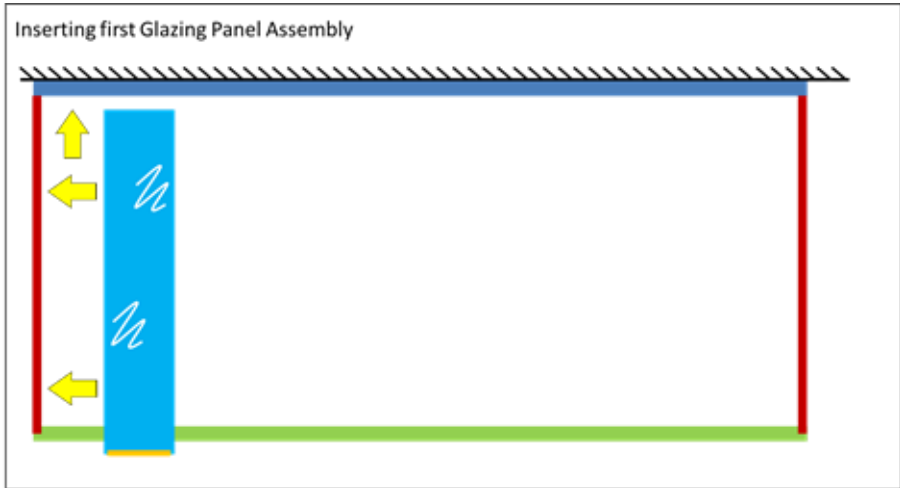
1. Top side of panel facing upwards (this will be the side of the panel with the protective film with the writing on it).
2. The end of the panel with the breather tape fitted is located at the Eaves/Gutter side of the canopy.

Slide the panel assembly into the pocket of the Edge Glazing Bar. Slide the Main Glazing Bar (pocket) onto the other side of the roof panel.

Rest this Main Glazing Bar on the Eaves/Gutter and Ridge.

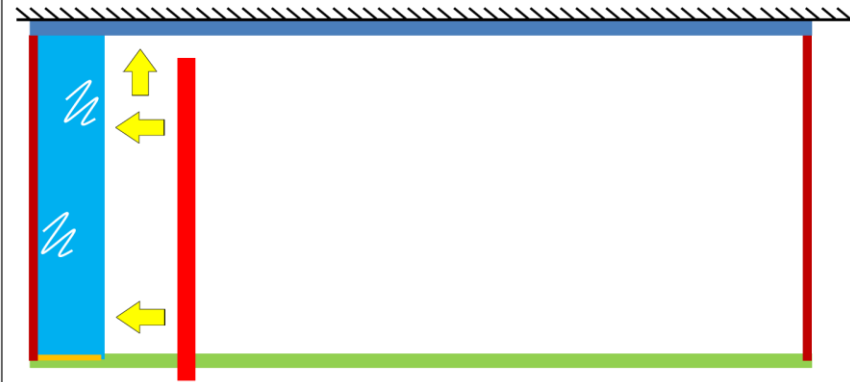
Locate the **Glazing Bar Setting Block** (at the end of the Main Glazing Bar so that the Main Glazing bar is in position and aligned with the Edge Glazing Bar.



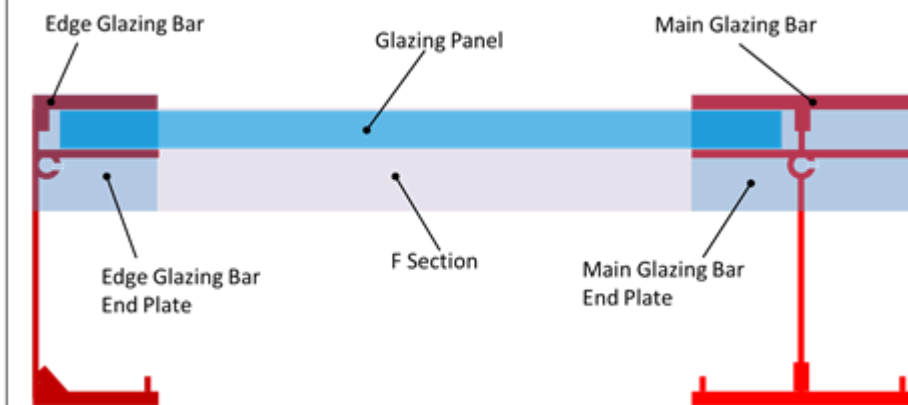
27 (Cont'd.)	<u>Laterally locating Glazed Panel Assembly and Main Glazing Bars:</u> At the Eaves/Gutter; the Glazed Panel Assembly is located by the F Section 'Butting-Up' to the Glazing Bar edges. At the Ridge the location is achieved by measuring the Gap between the Glazing Bars. (Note: F-Sections fitted at the ends of the glazing panels are the same length as this 'gap'). For standard width canopies use the 'Between Glazing Bar' Dimensions in Section 07 of this guide. . <u>Process Steps for Installing Glazing Panel Assemblies and Main Glazing Bars</u> 1. Starting at one end side of the canopy install the first Glazing Panel Assembly. 2. Then, install the first Main Glazing Bar. 3. Repeat 1. and 2. until the last Main Glazing Bar is installed. 4. Check and adjust positioning of Main Glazing Bars laterally at the Ridge and Eaves/Gutter. (This most easily achieved by ensuring that the F-Sections on the glazing panels fit snugly between the Glazing Bars). 5. Check Last Glazing Bar position at The Eaves/Gutter using the Setting Block. 6. Secure Last Glazing Bar in position with 1 self-tapping screw at the Ridge and 1 the Eaves/Gutter. 7. Remove the self-tapping screw at the Eaves/Gutter of the Edge Glazing Bar and 'swing' the Edge Glazing Bar out (pivoting at the Wall-Plate). 8. Install the last Glazing Panel Assembly. 'Re-screw' Edge Glazing Bar at Eaves/Gutter. Inserting first Glazing Panel Assembly 
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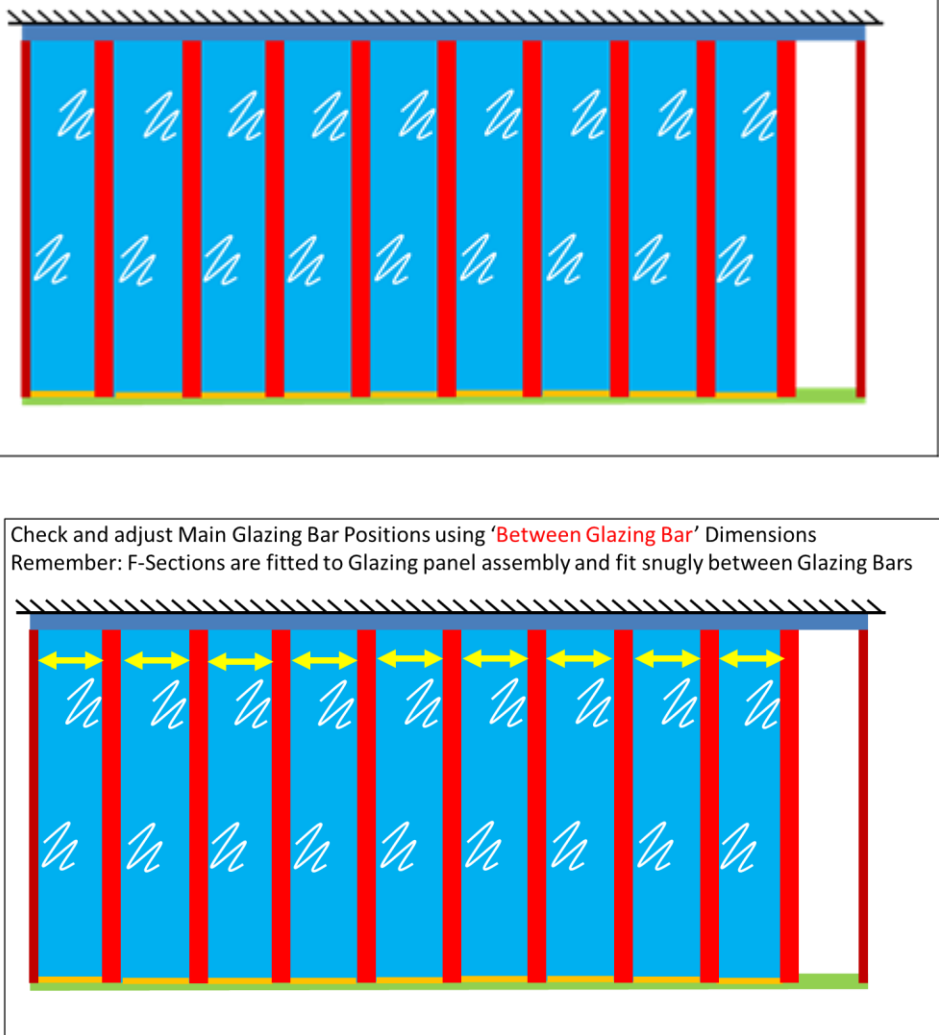
27
(Cont'd.)

Installing first Main Glazing Bar onto Glazed Panel assembly
and locating in Ridge and on Eaves/Gutter



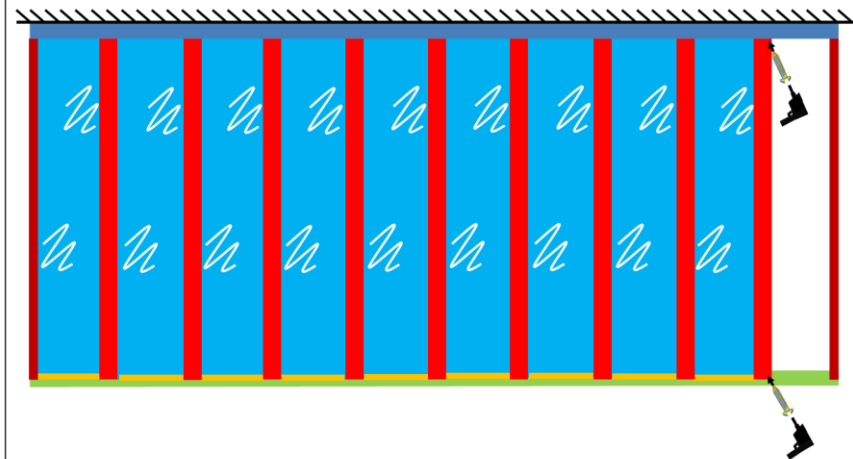
Schematic drawing showing Glazed Roof Panel Assembly installed



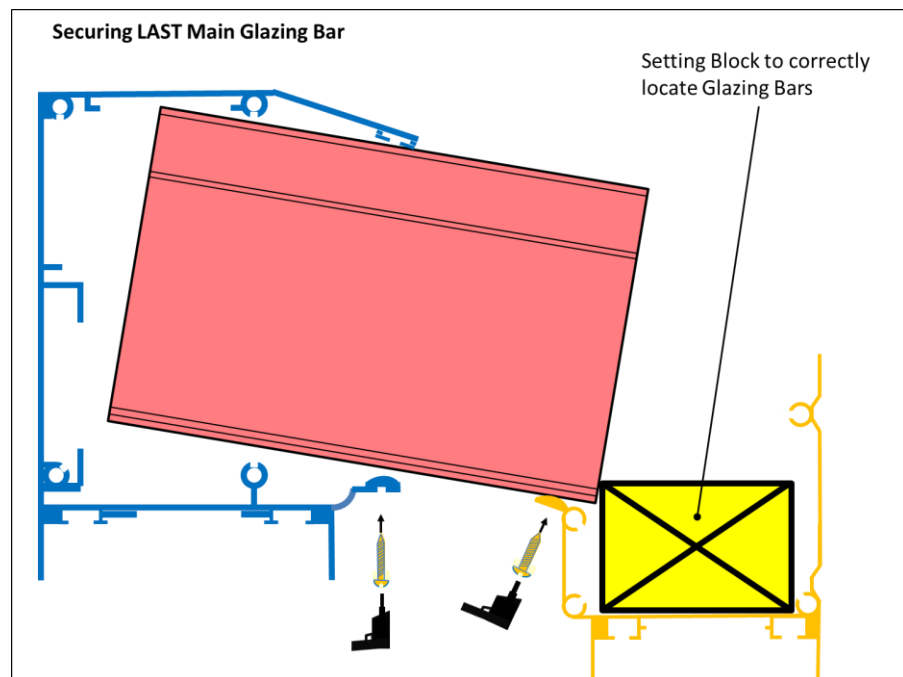
27 (Cont'd.)	 Check and adjust Main Glazing Bar Positions using 'Between Glazing Bar' Dimensions Remember: F-Sections are fitted to Glazing panel assembly and fit snugly between Glazing Bars
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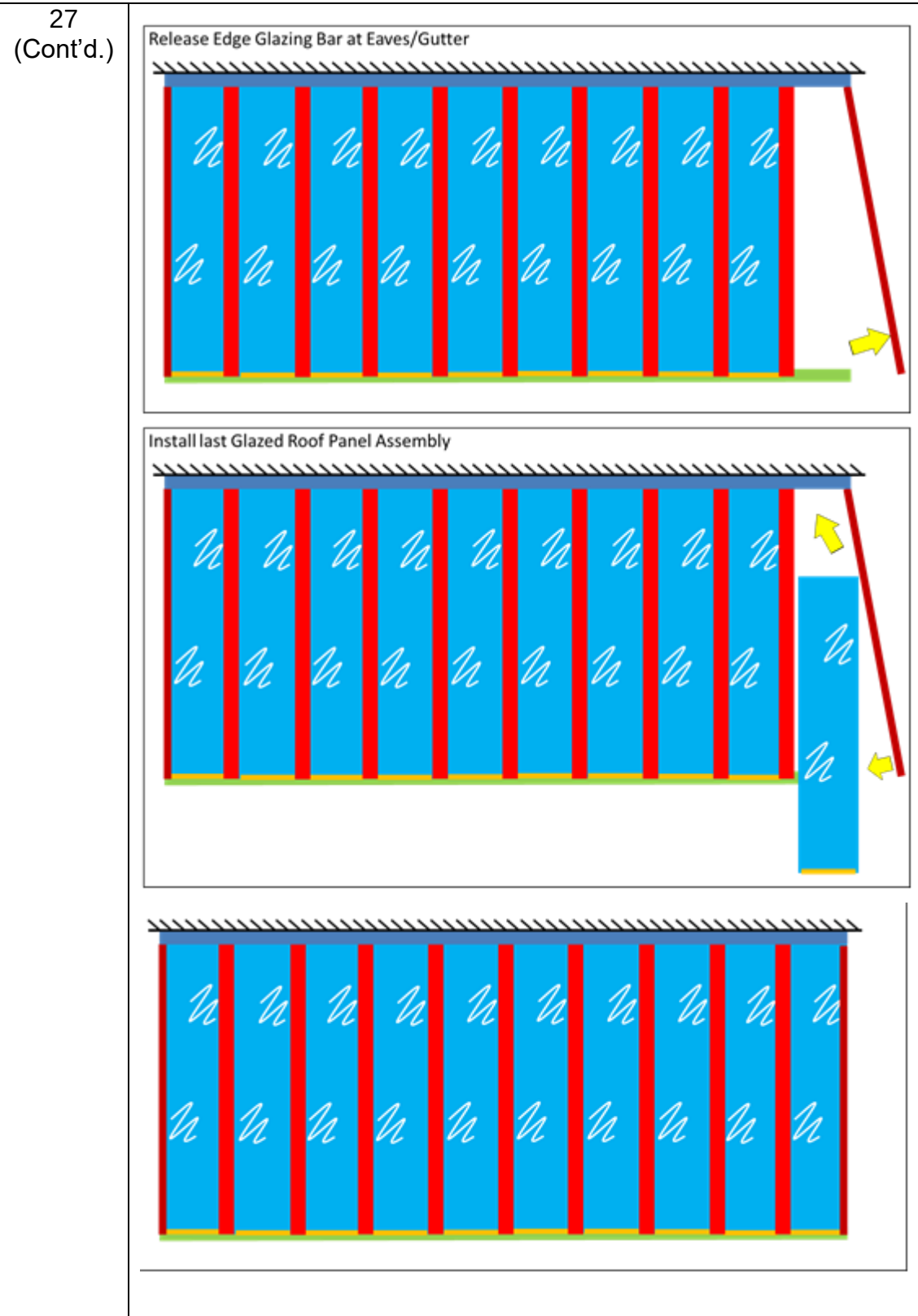
27
(Cont'd)

Secure last Main Glazing Bar with 1 Self-Tapping Screw at Ridge and 1 at Eaves/Gutter



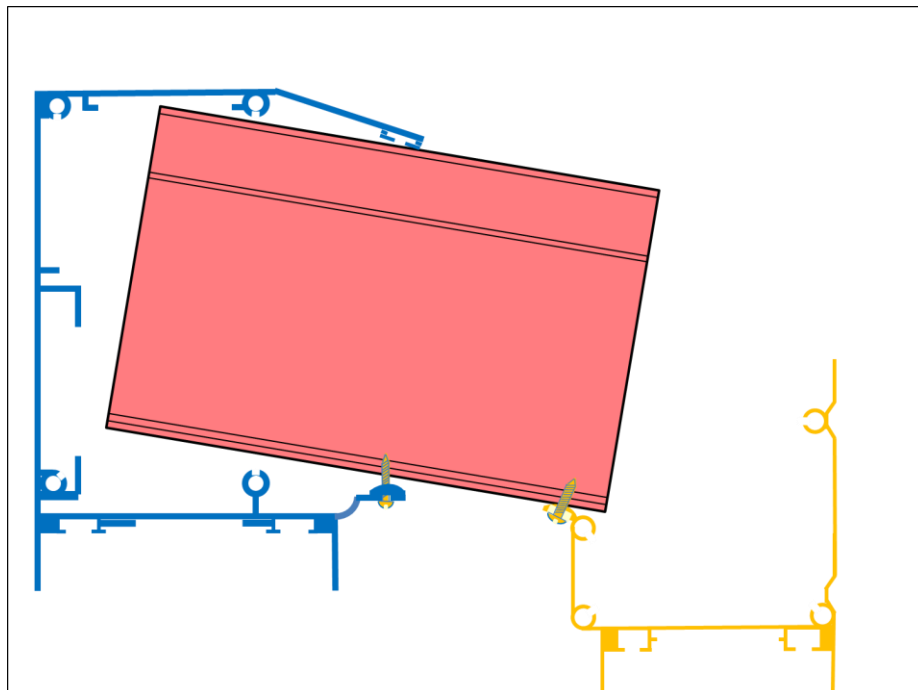
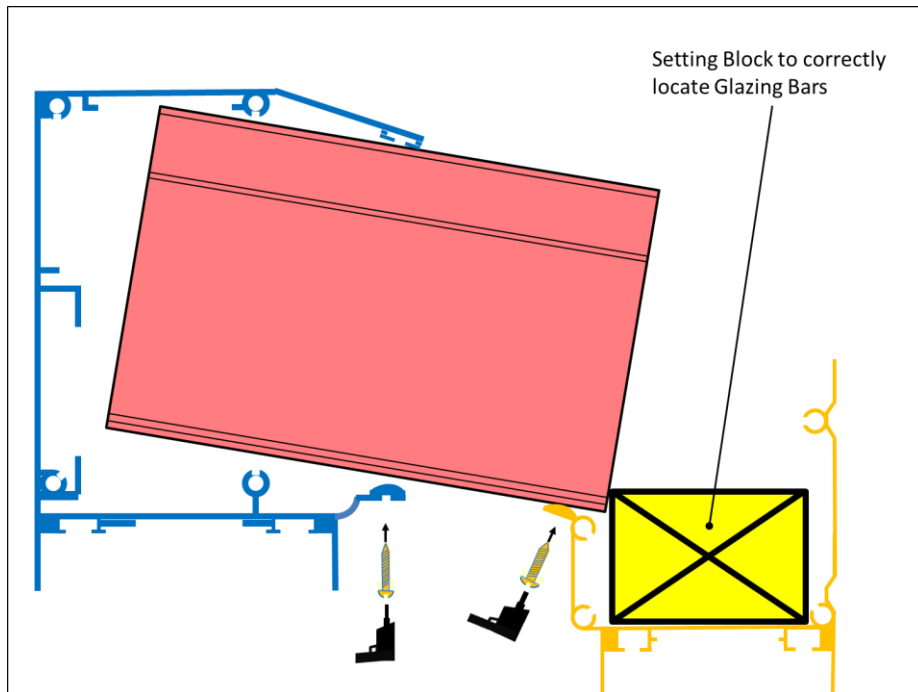
Securing LAST Main Glazing Bar

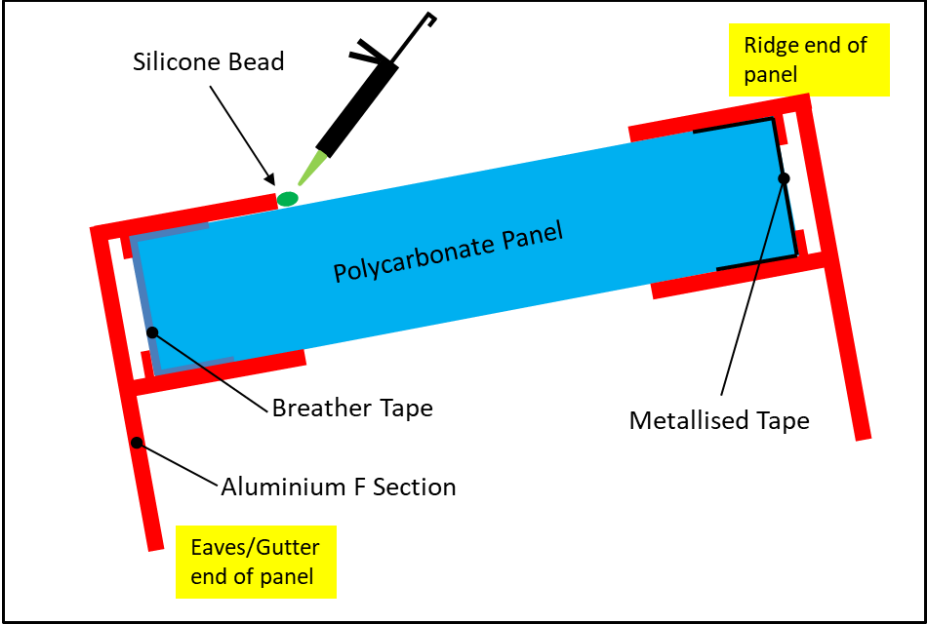




	<u>Stage 09: Fixing Main Glazing Bars</u>
28	Check that the alignment of the Main Glazing Bars with The edge Glazing Bars is correct using the <i>Glazing Bar Setting Block</i> (described in Process Steps 26-27).  Secure the Main Glazing Bars using (4) Self-Tapping Screws; (2) at the Ridge end of the Main Glazing Bar and (2) at the Eaves/Gutter end. 

28
(Cont'd.)



	<u>Stage 10:Applying Silicone Bead to Top of F Section/Glazing Panel Junction.</u>
29	With Glazing Bars secured, Glazing Panel Assembly located in its final position (Gap between inside face of F Section and end of panel of 6mm), Run a bead of silicone along the top edge of the F Section adjacent to the top surface of the Polycarbonate panel. This is important in preventing water ingress into the Polycarbonate panel. Side view of Polycarbonate Panel and Aluminium F Section 

Stage 11: Installing the Knee Braces

30	Installing the Knee Braces between Eaves to Supporting Posts and Ridge to Supporting Posts. The assembly process here is the same for securing all Knee Braces in position. <u>Locate the Knee brace in position:</u> Ensure that the knee brace sits within the (2) flange profiles on the Eaves/Gutter and also sits over the Knee Brace Bracket on the Supporting post. The Knee Brace is supplied with the pilot holes for securing the Knee Brace to the Knee Brace Brackets pre-drilled. Before any drilling for pilot holes in the Eaves/gutter is undertaken ensure that the end of the Knee Brace with the pre-drilled pilot holes is located at the knee Brace Bracket. Ensure that the Knee Brace is located so that both end of the Knee Brace are located flush to the Eaves/Gutter and the Supporting Post. <u>Securing Knee Brace:</u> 1. Secure the Knee Brace in position by driving (1) Self-Tapping screw through one of the pre-drilled holes in the Knee Brace into the Knee Brace Bracket. 2. Next drill a pilot hole through the Eaves/Gutter into the Knee Brace and secure by driving a self-tapping screw into the Knee Brace. 3. Repeat these (2) steps on the other side of the Knee Brace.
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30 (cont'd)	4. Drill remaining (2) pilot holes in the Eaves/Gutter. 5. Drive remaining (4) self-tapping screws. Repeat the entire process for all Knee Braces at the Eaves. Repeat the process for all Ridge to Supporting Post Knee Braces. 
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31	Installing the Knee Braces between Tie-Bars and Supporting Posts. These Knee Braces are supplied with pre-drilled pilot holes at both ends of the Knee Brace. These pilot holes are located so that when in the correct position the pilot holes overlay the Knee Brace Brackets on the Tie-Bar and the supporting Post. The stage in the process that requires a degree of patience is locating the Knee Brace so that it is located over both brackets and also sits flush with the face of the Tie-bar and the Supporting post face. <u>Securing the Knee Brace:</u> 1. Locate one end of the Knee Brace over the bracket on the Tie-Bar. 2. Push the Knee Brace 'upto' the inside edge of the bracket on the Tie-Bar. 3. Rotate the Knee Brace toward the Supporting Post using the Bracket on the Tie-Bar as the pivot point. 4. Locate the Knee Brace over the bracket at the Supporting Post. 5. Adjust the Knee Brace so that the faces of the Knee Brace in contact with the Tie-Bar and the Supporting Post are flush.   
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31 (cont'd)	6. Drill through one of the Knee Brace Pilot holes through the bracket on the supporting Post. 7. Secure the Knee Brace in position by driving (1) Self-Tapping screw through one of the pre-drilled holes in the Knee Brace into the Knee Brace Bracket. 8. Next drill a pilot hole through one of the Knee Brace pilot holes into the bracket on the Tie-Bar and secure by driving a self-tapping screw into this pilot hole in the Knee Brace. 9. Repeat these (2) steps on the other side of the Knee Brace. 10. Drill through all remaining pilot holes. 11. Drive remaining (4) self-tapping screws home. Repeat this process for all Knee braces between Tie-Bars and Supporting Posts.
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Stage 12: Secure Supporting Post Feet in Foundations

33

Pour Concrete mix into Supporting Post Holes covering the Supporting Post Feet with recommended 750mm cube of concrete.



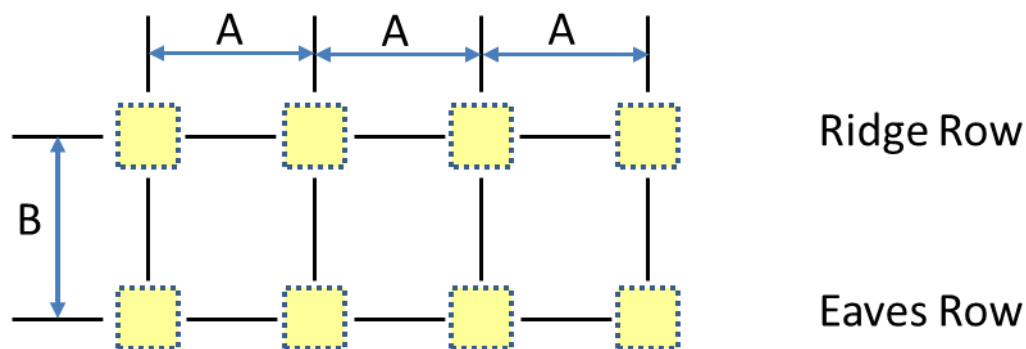
Make good surface as required.

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Main Glazing Bar Spacing										
Canopy Width (mm)	Ridge and Eaves/Gutter width (mm)	Qty. of Edge Bars	Qty. of Glazing Bars	Qty. Panels	Panel width (mm)	Edge bar base width (mm)	Glazing Bar base width (mm)	Space to be allowed between each glazing bar (mm)	Dimension from same edge to same edge, glazing bar to glazing bar (mm)	
Projections 2.0m - 3.0m										
3,106	3,100	2	2	3	1022	35	60	970	1030	
4,200	4,200	2	3	4	1039	35	60	987	1047	
5,200	5,200	2	4	5	1030	35	60	978	1038	
6,300	6,300	2	5	6	1040	35	60	988	1048	
7,400	7,400	2	6	7	1048	35	60	995	1055	
Projections 3.01m - 4.0m										
2,800	2,800	2	3	4	690	35	60	637	697	
3,506	3,500	2	4	5	690	35	60	638	698	
4,206	4,200	2	5	6	690	35	60	638	698	
4,906	4,900	2	6	7	690	35	60	638	698	
5,606	5,600	2	7	8	690	35	60	638	698	
6,306	6,300	2	8	9	690	35	60	638	698	
7,006	7,000	2	9	10	690	35	60	639	699	
7,806	7,800	2	10	11	700	35	60	648	708	
8,406	8,400	2	11	12	690	35	60	639	699	
(Also) Length of Sheet Closures (mm)										

Setting Out Foundation Holes



Canopy Dimensions	Dimension A (Supporting Post Centres)	Dimension B (Supporting Post centres)	Qty. of Foundation Holes
3.1m W x 2.0m P	3,025mm	1,947mm	4
4.2m W x 2.0m P	2,063mm	1,947mm	6
5.2m W x 2.0m P	2,563mm	1,947mm	6
6.3m W x 2.0m P	2,075mm	1,947mm	8
7.4m W x 2.0m P	2,442mm	1,947mm	8
3.1m W x 2.5m P	3,025mm	2,469mm	4
4.2m W x 2.5m P	2,063mm	2,469mm	6
5.2m W x 2.5m P	2,563mm	2,469mm	6
6.3m W x 2.5m P	2,075mm	2,469mm	8
7.4m W x 2.5m P	2,442mm	2,469mm	8
3.1m W x 3.0m P	3,025mm	2,983mm	4
4.2m W x 3.0m P	2,063mm	2,983mm	6
5.2m W x 3.0m P	2,563mm	2,983mm	6
6.3m W x 3.0m P	2,075mm	2,983mm	8
7.4m W x 3.0m P	2,442mm	2,983mm	8
3.5m W x 3.5m P	1,712mm	3,493mm	6
4.2m W x 3.5m P	2,063mm	3,493mm	6
4.9m W x 3.5m P	2,412mm	3,493mm	6
5.6m W x 3.5m P	2,763mm	3,493mm	6
6.3m W x 3.5m P	2,075mm	3,493mm	8
7.0m W x 3.5m P	2,308mm	3,493mm	8
7.8m W x 3.5m P	2,575mm	3,493mm	8
8.4m W x 3.5m P	2,775mm	3,493mm	8
4.2m W x 4.0m P	2,063mm	4,001mm	6
4.9m W x 4.0m P	2,412mm	4,001mm	6
5.6m W x 4.0m P	2,763mm	4,001mm	6
6.3m W x 4.0m P	2,075mm	4,001mm	8
7.0m W x 4.0m P	2,308mm	4,001mm	8
7.8m W x 4.0m P	2,575mm	4,001mm	8
8.4m W x 4.0m P	2,775mm	4,001mm	8

Care and Maintenance

Your Omega canopy will require very little care and maintenance.

The metalwork is powder coated in polyester. This is very hard-wearing.
The roof panels are formed in polycarbonate. This is 200 times stronger than glass and is highly impact resistant.

Cleaning

1. The metalwork can be cleaned with a soft cloth and soapy water.
2. The (polycarbonate) roof 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.

Other important instructions for (polycarbonate) roof 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.