

Climax Panorama®

Mounting instructions
Self-supporting aluminium profile system



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2 SAFETY

Take the necessary and required safety precautions, such as safety nets and lifelines when installing from the outside, safety goggles, gloves, hard hat, etc.

Do not step on the glass.



Falling from height

- When using ladders to go on the roof:
 - Ladder in good condition?
 - Set up correctly at an angle of 75°?
 - Secured below and on top against moving?
 - Don't take heavy material with you on the ladder (3-point contact rule)! If possible, use a crane to lift the material.
- If you are going on the roof, make sure there is a walking surface that is wide enough and that supports on the beams of the lower structure.
- When using an aerial work platform: always wear and secure your harness (mandatory)! Leaving the cage is forbidden.
- Never walk backwards on a roof, always walk forwards.
- · Make sure there's enough light in the working zone.



Low-hanging obstacles and falling loads

- Forbidden to walk under or within a radius of 1m of a hanging or lifted load.
- Demarcate the danger zone below the zone where there is a risk of material falling down during the installation of the veranda.
- It is prohibited to enter these danger zones during construction.



Crushing hazard

- All working tools are in good condition, provided with a valid CE label and all necessary safety regulations. These cannot be removed.
- People who use these working tools are educated for this purpose. Protections are always present on all working tools. They are in good condition and need to be set correctly.



Tripping/falling

- Safety is key and it begins with order and tidiness. Clean everything immediately, leave nothing lying around.
- Trash needs to be sorted.
- Be cautious with electric cables (danger of tripping/falling). Never walk backwards!
- · Make sure there's enough light in the working zone.

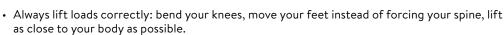


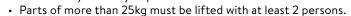
Sharp objects

- Make sure your fingers/hands are not pinched and watch out for cuts while handling veranda parts.
- Be careful where you put your hands during the installation.
- Wearing cut-resistant gloves is mandatory.



Ergonomics







Personal protective equipment

• Work clothes, safety shoes and helmet are mandatory for everyone.







• Lifeline and harness are mandatory if the edge is not secured enough or if there are no safety nets below the veranda roof. They are also necessary when using an aerial working platform.



• Use gloves when handling veranda parts.



• Safety glasses and hearing protection are mandatory when using saws / grinders.





Always perform a Last Minute Risc Analysis!

If in doubt: STOP! Do not take unnecessary risks. Ask your supervisor if needed.



3 GUIDELINES

Safety during construction

Please read this manual carefully.

The installation must be carried out by people with sufficient technical knowledge and experience in the area of conservatory installations (mechanical and electric). The installer must take the required safety measures into account during the installation such as the use of scaffolding and personal protection equipment - safety shoes, helmet (i.e. hard hat), gloves, safety goggles, etc. - to ensure the work is carried out in a safe environment. During installation, please make sure that the necessary precautions have been taken to ensure the stability of the unfinished construction.

Stability

- 1) Statik
 - For roofs (attached or freestanding) that need a Statik, separate mounting instructions & corresponding parts are
- 2) Construction situation in general

The installer is responsible for the assessment of the appropriate fixing materials for the load and foundation on which the structure is to be fixed. Please contact your fixing material supplier or specialised engineering consultants in case of doubts. Skylux cannot be held responsible for the installation or the fixing materials used.

Seal installation

A distinction is made between push-in seals and slide seals.

The seal of a push-in seal is pushed into the profiles. The C2CX, C12, C8, CY10 and C31 seals are push-in seals. The slide seals C1CX and C5 are slid into the profiles.

The seals C1CX and C2CX are equipped with an anti-stretch wire that prevents the seal from being stretched during installation. This technology ensures that the seal cannot shrink after installation.

Avoid the use of silicone and detergent when installing the seals. Plastic sheets can be damaged by these products. Plastic sheets can result in settlement noise due to temperature fluctuations. This will not affect the quarantee and will not be accepted as a claim.

Terms, conditions and guarantee

The guarantee is void when the installation instructions provided below are not followed. Not following the instructions and/ or using other parts may have an adverse effect on the safety and life cycle of the product. Variations are not permitted without written permission of the manufacturer. Our installation instructions manual and film are based on the latest level of our knowledge and technics. We cannot be held responsible for possible incomplete information. Always check if our product is suited for your application.

As the handling and installation of the product are done beyond our control, can Skylux not be held responsible for possible damages.

The installer must take the specified span values in relation to the glazing and load (snow and wind) according to the applicable standards into account.

The load graphs that you will find in this manual on page 7 are only indicative. Contact the manufacturer, architect or engineering consultant for conservatory roofs outside the normal range.

Technical changes are reserved by the manufacturer without prior oral or written notification.

Skylux reserves the right to change this manual without prior notification. Changing the installation requirements or the product will not mean a right to any compensation or exchange of parts.

The latest version of this manual can be consulted by visiting www.skylux.eu.

Climafast

The Climafast calculation application is offered by Skylux for free. You will receive information on how to log on and download the Excel version of the application upon request. With Climafast, you can determine the price of your Climax



Questions or information about your canopy? Scan your NFC code.

You will find this on the inside of the left gutter end plate (see drawing). With this code, unique to your order, our customer service can help you further.

4 LOAD CAPACITY GRAPHS

4.1 General considerations

The following pages contain the load graphs for the Climax profile system. You can use these to determine the free span of the gutter profiles and the supports in relation to the prescribed load.

A distinction is made between Climax roofs with plastic sheets (p. 8 & 9) and Climax roofs with single glazing (p. 10 & 11).

The maximum allowable bending is 1/200 (= 1cm per 200cm free span) with plastic sheets.

This includes the weight of the structure and the plastic sheets. Select the graph in relation to **the prescribed snow and wind load**. This depends on the region and the orientation.

The maximum allowable bending is 1/300 (= 1cm per 300cm free span) with single glazing.

This includes the weight of the structure. In order to determine the total load, add **the weight of the glazing to the prescribed snow and wind load**. To determine the weight of the glazing, calculate 2.5kg per m^2 and per mm thickness. Example: single glazing with a thickness of 8mm weighs 8 x 2.5 = 20kg/ m^2 . After converting into N/ m^2 x factor 9.81, this results in 20 x 9.81 = 196.20N/ m^2 . For double glazing, e.g. type 33.2/15/4, the cavatty is 15mm. The glass measures 6 + 4mm = 10mm. This weighs $10 \times 2.5 = 25$ kg/ m^2 or 245.25N/ m^2 . Suppose the prescribed snow and wind load is 500N/ m^2 and the glazing is 200N/ m^2 , the total load would be approximately 700N/ m^2 . In order to limit the weight of the glazing, the axis distance between the support profiles (AX) is limited to a maximum of 750mm. The total width of the roof is divided into equal parts.

The bending of 1/200 of 1/300 is achieved with a maximum load. For example, a gutter support of 5000mm with a maximum bending of 1/300 will bend 16.6mm when loaded. Less if unloaded.

These graphs do not apply with regard to a continuous support or a structure under the gutter profiles installed by the customer. The gutter profiles may put pressure on supporting window profiles when installed on top of each other. A possible bending of the gutter profile above the sliding doors should therefore be taken into account.

When the selected gutter (support) cannot be installed where a certain span or load is concerned, select a gutter support that can handle a larger span. You could also install an extra post to decrease the free span. "Span" refers to the distance between the posts. The total width of the roof = the free span + the width of the posts.

The roof's supporting posts should always be located at the corners of the roof. We do not recommend moving the post supports inwards.

Any sunblind installed on the profiles are at your own risk and should be included in the calculation as an additional load.

In case of large spans or loads, the use of reinforcement profiles is recommended. These are slid into the aluminium profiles. The galvanised reinforced profile V642 can be supplied. The other reinforcement profiles, such as IPE 120, are not provided. They can be bought at any local hardware store. We recommend treating the reinforcement profiles with an anti-corrosion product.

The selection of required fixing material is dependent on the foundation or the walls. Check whether the foundation and the walls on which the structure is to be anchored have a sufficient load-bearing capacity. The installer is responsible for the assessment of the appropriate fixing materials for the load and basis on which the structure is to be fixed. Please contact your fixing material supplier or specialised engineering consultants in case of doubts. Skylux cannot be held liable for the installation or the fixing material used.

We recommend removing any snow from the roof to prevent accumulation against the wall by the wind. When snow on a higher roof can slide on to the Climax roof, measures must be taken to prevent this, for example, by using snow hooks and snow beams.

You can use the Climafast calculation application to select the correct profiles and support in relation to the dimensions of the Climax roof, the prescribed load and the glazing.

The latest version of this calculation application can always be downloaded from www.skylux.eu.



4.2 Load capacity graphs for roofs with plastic sheets

4.2.1 Gutter profiles

The graphs below can be used to determine the free span for each type of gutter (support). This is the distance (P) between the supports (posts) in relation to the load and the depth (D) of the roof. The maximum bending is 1/200. The **load** is related to the **snow and wind load**.

Practical example:

The roof has a width (B) of 6500m and a depth (D) of 4500mm. The prescribed load is 500N/m² (~ 50 kg/m²). The roof is provided with multi-layer plastic sheets.

Determine the point in the "500N/m² & 1/200" graph and select a gutter (support) that is above this point.

The graph now has two options:

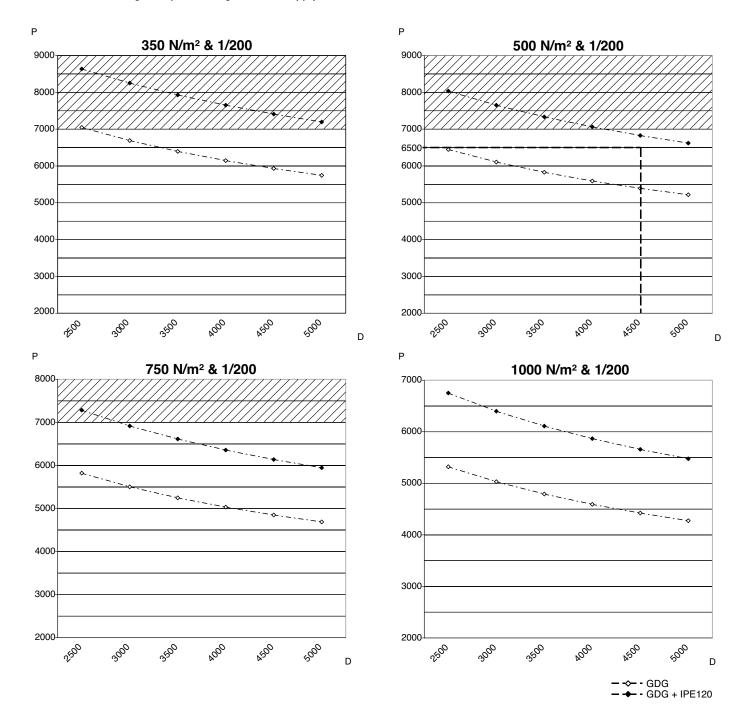
Either you select gutter support GDG + IPE that will make allowances for a free span of 6780mm.

Or you select gutter support GDG that will make allowances for a free span of 5400mm. You then install an extra post in the middle for support.

The span is the distance (P) between the posts. In this example, the width can be 7000mm where the free span (P) between the posts = $7000 - 2 \times 110 = 6780$ mm.

The bending in the middle with a load of 500N/m² is 1/200 or 6500/200 = 32.5mm. Less if unloaded.

The maximum gutter profile length we can supply is 7m.



4.2.2 Rafter profiles

The graphs below can be used to determine the free span for each type of support (D1 or D2) with or without a reinforcement profile. This is the maximum length of the support between the hinge profiles in relation to the load and the depth (D) of the roof. The maximum bending is 1/200. In other words: a bending of 1cm for a free span of 200cm. The **load** is related to the **snow and wind load**.

Practical example:

The axis distance (AX) between the support profiles is 1000mm (= with plastic sheets with a width of 980mm). The depth (D) of the roof is 3500mm. The support length L_D is > depth D for a roof pitch > 10° . Take this into account. The prescribed load is 500N/m² (~ 50kg/m²). The roof is provided with multi-layer plastic sheets.

Determine the point in the "500N/m² & 1/200" graph and select a support that is above this point.

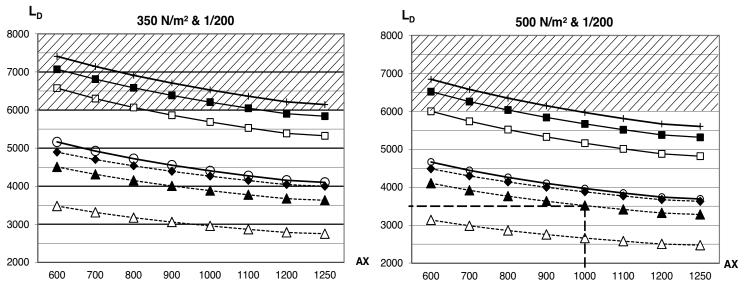
The graph now has two options:

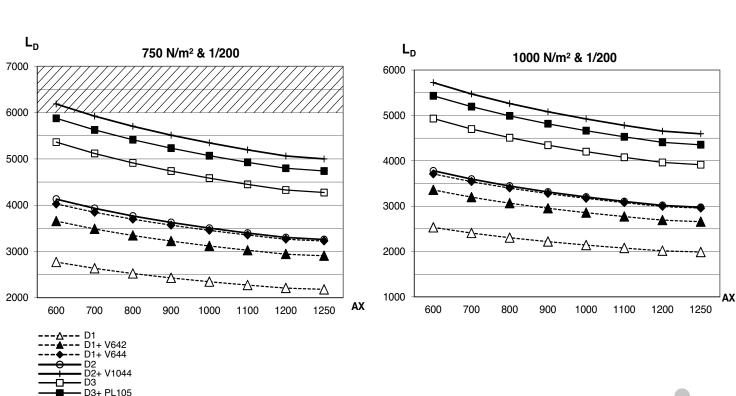
You either select support D1 with reinforcement profile V642.

Or you select support D2 without reinforcement that can handle a slightly larger span.

The maximum bending (1/200) with a load is 17.5mm. Less if unloaded.

The maximum support profile length we can supply is 6m.







4.3 Load capacity graphs for roofs with glass

4.3.1 Gutter profiles

The graphs below can be used to determine the free span for each type of gutter (support). This is the distance (P) between the supports (posts) in relation to the load and the depth (D) of the roof. The maximum bending for structures with glazing is 1/300. The load is the sum of the weight of the glazing and the snow and wind load applied to the roof.

Practical example:

The roof has a width (B) of 5500m and a depth (D) of 3500mm. The prescribed load is $500N/m^2$ ($\sim 50kg/m^2$). The glazing weighs $25kg/m^2$ (approximately $250N/m^2$). The total load is $750N/m^2$.

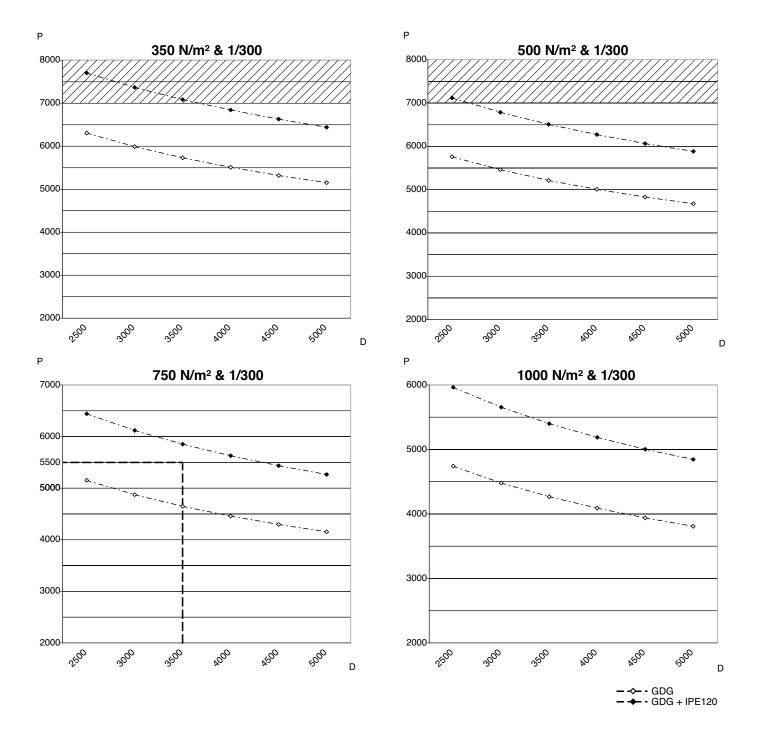
Determine the point in the "750N/m² & 1/300" graph and select a gutter (support) that is above this point.

The graph now has two options:

Either you select gutter GDG with reinforcement IPE 120 that will make allowances for a free span (P) of up to $5800 \, \text{mm}$. Either you select gutter support GDG with a free span (P) of up to $4650 \, \text{mm}$ between the posts. You then install an extra post in the middle for support. With 2 posts, the width can be at most $5800 + 2 \times 110 = 6020 \, \text{mm}$.

The maximum bending (1/300) in the middle with a load is 5500/300 = 18.3mm. Less if unloaded.

The maximum gutter profile length we can supply is 7m.



4.3.2 Rafter profiles

The graphs below can be used to determine the free span for each type of support (D1 or D2) with or without a reinforcement profile. This is the maximum length of the support between the hinge profiles in relation to the load and the depth (D) of the roof.

The maximum bending is 1/300. In other words: a bending of 1cm for a free span of 300cm. The load is the sum of the weight of the glazing and the snow and wind load applied to the roof.

Practical example:

The axis distance (AX) between the support profiles is 650mm. The depth (D) of the roof is 3500mm. The support length is (L_D) > depth D for a roof pitch > 10°. Take this into account. The prescribed load is $500N/m^2$ (~ $50kg/m^2$). The glazing weighs $25kg/m^2$ (approximately $250N/m^2$). The total load is $750N/m^2$.

Determine the point in the "750N/m² & 1/300" graph below and select a support that is above this point.

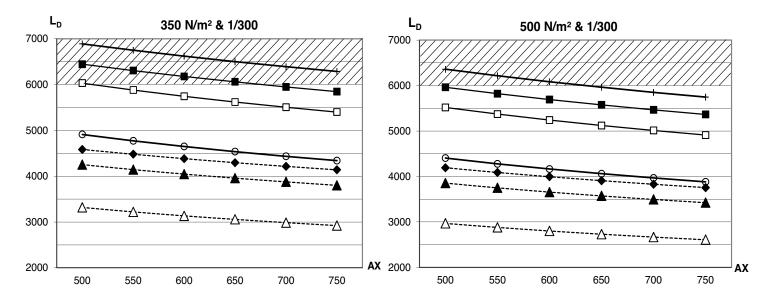
The graph now has two options:

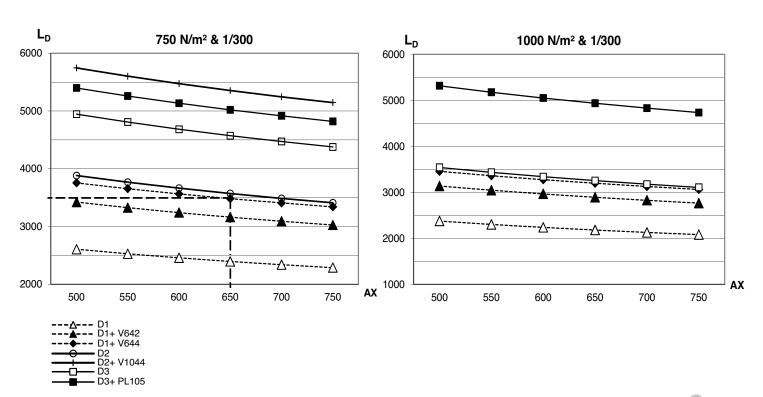
You either select support D1 with reinforcement profile V644.

Or you select support D2 without reinforcement.

The maximum bending (1/300) with a load is 3500/300 = 12mm. Less if unloaded.

The maximum support profile length we can supply is 6m.







5 OVERVIEW INSTALLATION VARIABLES

5.1 Approach of mounting instructions

- 1) The tables below identify the relevant part combinations in function of your roof configuration. The parts list can help you with this.
- 2) Afterwards, use the index at the beginning of this document to find the installation points with relevant

5.2 Codes for the positioning of the elements

Codes for th	ne positioning of the	Position					
	profiles	Side 1	Intermedia	Side n			
Posts	Gutter posts	P1.1	P1.2	•••	P1.n		
	Roof overhang posts	P1.1	P1.2	•••	P1.n		
	Ridge posts	P2.1	P2.2	•••	P2.n		
Horizontal	Gutter beam	G1	G2	•••	Gn		
beam	Roof overhang beam	01	O2	•••	On		
	Ridge beam	H1	H2		Hn		
	Side beam	W1	W2		Wn		
Roof rafters		R1	R2	•••	Rn		

5.3 Pitch

Pitch	Degrees
Plastic / Pergotop / glass maximum	20°
Plastic guarantee minimum	10°
Plastic absolute minimum	5°
Glass advised minimum	5°
Glass absolute minimum	2°

5.4 Frame connections

		Post type					
Wall-supp	oorted pent roof:	Р	72	PGDX			
		P1.1 = P1.n	P1.2	P1.1 = P1.n	P1.2		
Ground	Standard	PU72 + PV	PU72 + (PV)	PUX + PV	PUX + (PV)		
	Statik	GPV	PU72 + (PV)				
Gutter beam	GDG - Standard	PT72 + PU72					
	GDG - Statik	KO + GPT					
Overhang beam	GDX – with/no Statik			PUX +	PT110		
Side beam	P72 - Statik	PU72		PU72			
Optional = (*)							

To comply with the Statik:

- every Statik specific connection must be used.
 the roof dimensions are within the prescribed max. Statik dimensions.

		Post type					
Freestar	nding pent roof:	Р	72	PGDX			
		P1.1 = P1.n	P1.2	P2.1 = P1.n	P2.2		
Ground	Standard	VTPS01 o	n concrete	VTPS on	concrete		
	Statik	VTPS01 ir	n concrete	VTPS in concrete			
		P72 in c	concrete	PGDX in concrete			
Gutter beam	GDG - Standard	KO +	+ GPT				
	GDG - Statik	KO + GPT	KO + PU				
Ridge beam	GDX - Standard			C110 + PT110			
	GDX - Statik			C110 + PT110	PUX		
Side beam	P72 - with Statik posts	PU72		PU72			
	P72 - no Statik posts	C72		C72			
Optional = (*)	,						

To comply with the Statik:

- every Statik specific connection must be used.
 the roof dimensions are within the prescribed max. Statik dimensions..

5.5 Horizontal beams

		Extra elements					
Extra elem	ents	Steel reinforcement	Beam connector	Cover	profile		
Gutter beam	GDG	IPE120*	GIP	Without	GDGK		
Overhang beam &	GDX	IPE 140*		Without	GDCX		
ridge beam		V14	105*				
* Not provided							

5.6 Roof package

5.6.1 Elements below glazing

Polow planing		F	Rafter profile	9	Glazing		
	Below glazing			D2	D3	Plastic & Pergotop	Glass
Hinge profile		S1 + A1					
		S2 + A2					
Connector	Connector						
K		KD3					
Steel reinforce	Steel reinforcement						
		V1044*					
		PL105*					
Thermal	Plastic	TP					
break	Glass	TPG					
LED profile VPLED		VPLED					
* Not provided							

5.6.2 Elements above glazing

Above	Scr	ews	Clips							
glazing	R1/Rn	R2	R1/Rn	R2	R1/Rn	R1/Rn	R2	R2	R1/Rn	End- plate
Thickness	CLSB + CLSL	CLSB + CLST	CL16 + L16P	CL16	CLL	CL32 + L16P	CL32	C2CX	C2CX + L16P	Piate
5	++ / CY10) / °HL25	+ / CY10	/ °						
6	++ / CY10) / °HL25	+ / CY10	/ °						
7	++ / CY10) / °HL25	+ / CY10	/ °						
8	++ / CY10) / ° HL25	++ / CY10) /						
9	++ / CY10) / ° HL40								
10	++ / CY10) / ° HL40	+ °							S16.3
11	++ / CY10) / ° HL40	+ °							310.3
12	++ / CY10) / ° HL40	+ °							
13	++ / °	HL25	+ °						+	
14	++ / °	HL25	+ °						+	
15	++ / °	HL25	+ °						+	
16	++ / ° HL25		++						++	
17	++ / ° HL40		+ °						+	
18	++ / ° HL40		+ °						+	
19	++ / °	HL40	+ °						+	
20	++/°	HL40							+	
21	++/°	HL40								
22	++/°	HL40								
23	++/°	HL40								
24	++ / °	HL40								
25	++ / °	HL40			++	++				S32.3
26	++/°	HL40								332.3
27	++ / ° HL40									
28	++ / ° HL40									
29	++ / ° HL40								+ / Y32	
30	++ / ° HL40								+ / Y32	
31	++ / ° HL40								+ / Y32	
32	++ / °HL40				++	++			++ / Y32	
33	++ / Y32 / * ° HL40								+ / Y32	
34	++ / Y32/	* ° HL40							+ / Y32	

Legend

++	Ideal solution
+	Good solution
Y32	Slide Y32 on TP
CY10	Use the CY10 seal on both sides of the CL/T16/32
*	Always pre-dill, (Ø drill hole Y < Ø screw)
0	Screw tightly
HL25	Hilo 25 screw
HL40	Hilo 40 screw

5.7 Glazing edge profiles

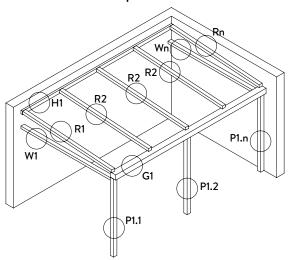
Glazing	Edge profile	Description
Glass	L432	Alu L finishing profile for glass (max. 38mm)
	L632	Alu L finishing profile for glass (max. 60mm)
16mm sheet	U16	Pre-drilled alu finishing profile 16mm
	U16A	Alu finishing profile 16mm
	U16P	Reinforced PVC finishing profile 16mm white
25mm sheet	U25P	
32mm sheet	U32	Pre-drilled alu finishing profile 32mm
	U32A	Alu finishing profile 32mm
	U32P	Reinforced PVC finishing profile 32mm white
Glass connector	GVT + GVB + (Y16P)	Lower + upper profile + (thermal break)

5.8 Post covers

Post & po	ost cover	Post				
		P7	72	PGDX		
		P1.1 = P1.n	P1.2	P2.1 = P2.n P2.2		
Gutter GDG		PCB72	+ PC72			

6 MEASURING A WALL-SUPPORTED PENT ROOF

6.1 Overview element position code

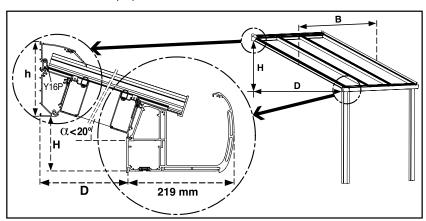


6.2 Measuring

6.2.1 Determine the measurements

Determine height difference H.

Height difference H is the difference between the bottom side of wall profile MB and the bottom surface of the gutter combination. The stop lip for the window is not included in the calculation.



Height h depends on the thickness of the glazing and the pitch angle where 1 or multiple thermal breaks Y16P are to be slid in.

Number of Y16P in function of sheet thickness and pitch angle									
Sheet thickness mm	0-	0-16 17-25 26-34							
Pitch °	5-35	36-45	5-20	21-35	36-40	41-45	5-30	31-34	41-45
# Y16P	1	2	1	2	3	4	2	3	4
Height h mm	156	172	156	172	188	204	172	188	204

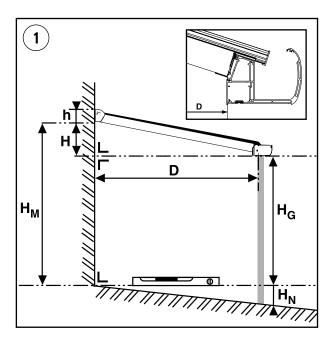
Determine the depth (see 6.2.1, image 1)

Measure from the wall to the inner side of the support post to determine roof depth D. The additional depth of the gutter is 219mm.

Determine the width B (see 6.2.1, image 1)

Width B of the Climax is the distance between the outer side of the side supports. If the Climax is installed between two walls and a gutter with screwed-on gutter end pieces is used, you can deduct 5mm per side from width B. This is because the screws for the gutter end piece require additional width and additional clearance is recommended.

These measurements can be used to calculate all other measurements using the Climafast calculation application that is made available free of charge by Skylux. We strongly recommend the use of the calculation application. All possible exceptions are taken into account. The correct cutting lengths are provided and only correct combinations are suggested. The list of measurements for sizing is always provided with the materials.



The difference in height H and depth D for the veranda.

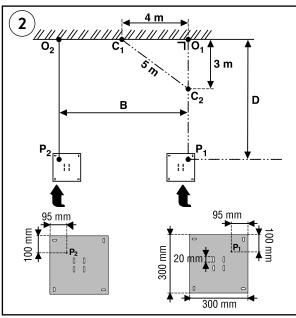
H_M = The height from the floor and the bottom side of the wall bottom (MB) measured at the back of the veranda.

 H_N = The pitch of your veranda floor.

 $H_G + H_N =$ Installation height from the bottom side of the gutter. This is also the height for the windows or the length of the posts.

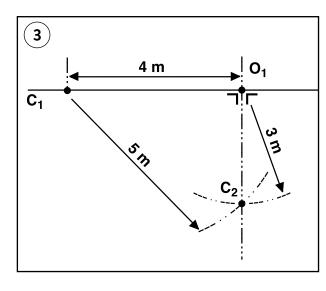
 $H = H_M - H_G$

h = Wall profile height



Installing the Climax post and the Climax PV base plate.

- Determine point O₁.
- Determine O_2 . The distance O_1 O_2 = conservatory width "B".
- Draw a line with chalk using the 3/4/5 rule and determine point P_1 . The distance O_1 P_1 is the depth = D. (Refer to item 3 below.)
- Repeat the same calculations for P₂.
- Measure the distance $(P_1 P_2)$, which must be equal to $(O_1 O_2)$ as an additional check.
- The base plate can be slid through the slotted holes in order to position the base plate properly.
- The U for the base plate can be moved 20mm either way to allow proper adjustment.



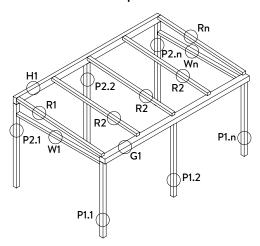
The 3/4/5 rule.

- Determine the auxiliary point C_1 based on O_1 at a distance of 4 metres.
- Use a 3 metre string and a piece of chalk to draw a circle from point O₁.
- Use a 5 metre string to draw a circle from point $C_1\,$
- The 2 circles intersect at C_2 .
- Line O_1 C_2 should be at a perfect right angle to your wall (line C_1 - O_1).



7 MEASURING A FREESTANDING PENT ROOF

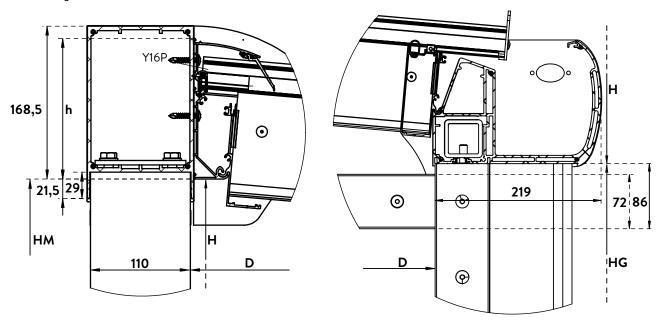
7.1 Overview element position code



7.2 Height & depth

7.2.1 Ridge & gutter beam

7.2.1.1 Height differences

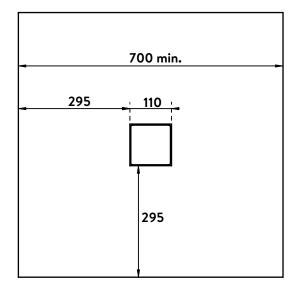


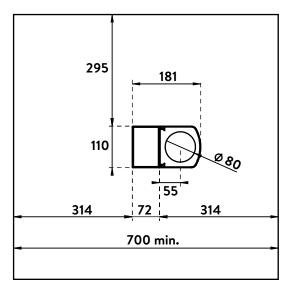
Height h' depends on the thickness of the glazing and the pitch angle where 1 or multiple thermal breaks Y16P are to be slid in.

Number of Y16P in function of sheet thickness and pitch angle

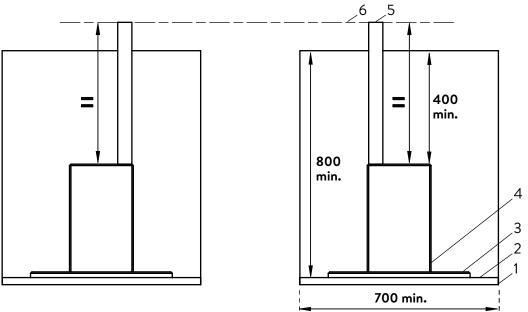
Sheet thickness	0-	16	17-	26-34	
Pitch °	5-35	36-45	5-20	21-35	5-30
# Y16P	1	2	1	2	2
Height h	156	172	156	172	172

7.2.2 Cross-section of posts





7.3 Optional ground foundation



- 1. Soil
- 2. Sandbed
- 3. Tile
- 4. Concrete base
- 5. Level equal measuring posts
- 6. Level mason twine



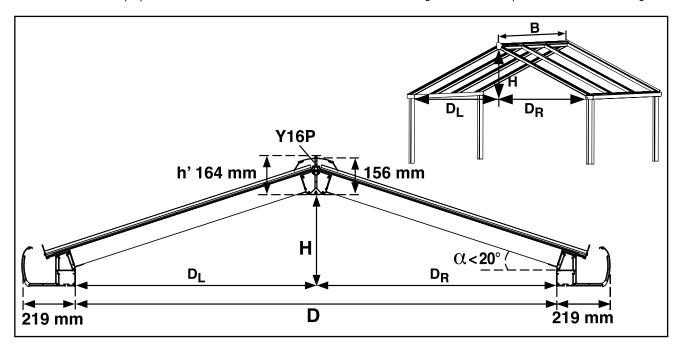
8 MEASURING A WALL-SUPPORTED GABLE ROOF

8.1 Determine the measurements

The ridge of the gable roof must be attached to at least one wall.

Determine height difference H.

Height difference H is the difference between the bottom side of wall profile MB and the bottom surface of the gutter combination. The stop lip for the window is not included in the calculation. Height H must be equal at the left and the right.



Height h' depends on the thickness of the glazing and the pitch angle where 1 or multiple thermal breaks Y16P are to be slid in

Number of Y16P in function of sheet thickness and pitch angle									
Sheet thickness mm	0-	0-16 17-25 26-34							
Pitch °	5-35	36-45	5-20	21-35	36-40	41-45	5-30	31-40	41-45
# Y16P	1	2	1	2	3	4	2	3	4
Height h mm	156 + 8	172 + 8	156 + 8	172 + 8	188 + 8	204 + 8	172 + 8	188 + 8	204 + 8

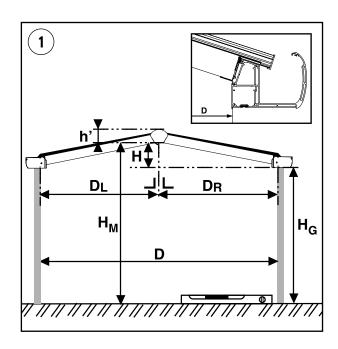
Determine the depth (see 8.1, image 1)

Measure the distance between the support posts P to determine roof depth D. The left depth DL may be different from the right depth DR when the roof is asymmetrical. The maximum depth D is 6m. The additional depth of the gutter G equals 2x 219.

Determine the width B (see 8.1, image 1)

Width B of the Climax is the distance between the wall and the exterior of the side support. If the Climax gable roof is installed between two walls and a gutter with screwed-on gutter end pieces is used, you can deduct 5mm per side from width B. This is because the screws for the gutter end piece require additional width and additional clearance is recommended.

These measurements can be used to calculate all other measurements using the Climafast calculation application that is made available free of charge by Skylux. All possible exceptions are taken into account. The correct cutting lengths are provided and only correct combinations are suggested. The list of measurements for sizing is always provided with the materials.



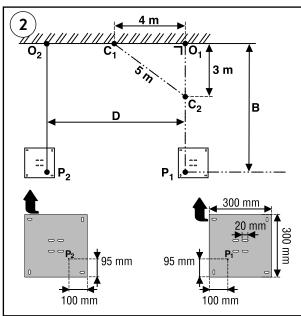
The difference in height H and depth D for the gable roof.

H_M = Height between the floor and the bottom side of the ridge to wall bottom MB measured at the back against the wall.

 H_G = Installation height of the bottom side of gutter. This is also the height for the windows or the length of the posts.

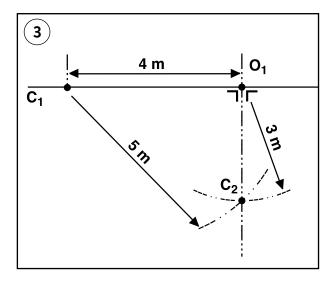
 $H = H_M - H_G$

h' = Gable roof wall profile height.



Installing the Climax post and the Climax PV base plate.

- Select point O₁.
- Determine O_2 . The O_1 O_2 distance = conservatory depth "D".
- Draw a chalk line using the 3/4/5 rule and determine point P_1 . The O_1 - P_1 distance is the width = B (See item 3 below.)
- Repeat the same calculations for P₂.
- Measure the distance (P_1 P_2), which must be equal to (O_1 O_2) as an additional check.
- The base plate can be slid through the slotted holes in order to position the base plate properly.
- The U for the base plate can be moved 20mm either way to allow proper adjustment.



The 3/4/5 rule.

- Determine the auxiliary point C_1 based on O_1 at a distance of 4 metres
- Use a 3 metre string and a piece of chalk to draw a circle from point O₁.
- Use a 5 metre string to draw a circle from point C_1 .
- The 2 circles intersect at C_2 .
- The O_1 C_2 line is at a right angle to the wall (line C_1 - O_1).



9 OVERVIEW PROFILES AND PARTS

) O V LI		·	I DIAN	13	
WALL	MT	WALL TOP		TP	THERMAL SHEET RAFTER
*	MB	WALL BOTTOM	<u> </u>	TPG	THERMAL RAFTER FOR GLASS
J	S1	HINGE		L432	L FOR FINISH SIDE RAFTER
3	S 2	HINGE		L632	L FINISHING PROFILE FOR GLASS
GUTTER	GDG	SELF-SUPPORTING CLIMAX GUTTER		V642	STEEL TUBE 60X40X2 GALVANISED
	GDGK	CLIP PROFILE FOR IPE IN GDG		V1044	STEEL TUBE 100X404
II	GDGL	LED PROFILE FOR GDG		L16P	ALU SIDE PROFILE 16, 25, 32MM
	GIP	CONNECTION FOR GDG		CL16	ALU CLIP 16MM
	IPE120	STEEL BEAM TYPE IPE		CL32	ALU CLIP 25/32MM
RAFTERS	D1	RAFTER		CLL	SIDE CLIP 16, 25, 32MM
	D2	RAFTER		CLSB	BASE SCREW-IN CLIP
	D3	RAFTER		CLST	TOP SCREW-IN CLIP FOR 8 TO 34MM

	CLSL	TOP SCREW-IN SIDE CLIP	ACCESSORIES	A1	SPACER A1
POSTS	P72	POST PART 110/72	[F-1-o	A2	SPACER A2
	PC72	POST CLIP FOR P72	-TT'	GVT	TOP PROFILE FOR GLASS CONNECTOR
· · · · · · · · · · · · · · · · · · ·	PCB72	POST CLIP BASE FOR POST CLIP WITHOUT COATING	<u> </u>	GVB	BOTTOM PROFILE FOR GLASS CONNECTOR
SEALS	C1CX	COEX SEAL FOR WALL TOP WHITE/BLACK COEX SEAL FOR WALL TOP GREY/BLACK	Å	Y10	ADAPTER PROFILE 8MM FOR 10MM SHEET
•	C12	SUPPORT CORD FOR C1CX	ų	Y25	ADAPTER PROFILE 9MM FOR 25MM SHEET
T	C2CX	COEX SEAL WHITE/BLACK FOR TP-TPG COEX SEAL GREY/BLACK FOR TP-TPG	¥	Y32	ADAPTER PROFILE 15MM FOR 32MM SHEET
	C5	SEAL (GREY) FOR SHEET SPACER OR SIDE RAFTER	Å	Y16P	THERMAL BREAK ABS 16MM
/ 9 /	C8	SEAL (GREY) FOR CL16, CL32 AND CLSB		U16P	REINFORCED PVC END PROFILE 16MM WHITE
â	CY10	SEAL (GREY) FOR CL16, CL32 AND CLSB FOR GLASS		U25P	REINFORCED PVC END PROFILE 25MM WHITE
"	C31	SUPPORT SEAL FOR GLASS		U32P	REINFORCED PVC END PROFILE 32MM WHITE



٢	U16A	ALUMINIUM END PROFILE 16MM		S163	STOP 16/3
	U32A	ALUMINIUM END PROFILE 32MM		S323	STOP 32/3
	U16	PRE-DRILLED ALUMINIUM END PROFILE 16MM	•	\$383	STOP 38/3 FOR GLASS
	U32	PRE-DRILLED ALUMINIUM END PROFILE 32MM		GAS4	GUTTER END PIECE FOR GDG
	BT16	CLOSED PLASTIC TAPE 10 AND 16MM WITH GUARANTEE	CLIMAX	LOGO	OVERFLOW COVER FOR GUTTER END PIECE
	BT25	CLOSED PLASTIC TAPE 25MM WITH GUARANTEE		MAS	WALL END PIECE FOR MT+MB
	BT32	CLOSED PLASTIC TAPE 32MM WITH GUARANTEE		NASZ	RIDGE END PIECE FOR GABLE ROOF
	BB16	PERFORATED PLASTIC TAPE 16MM WITH GUARANTEE		909	CONNECTING PIN
	BB25	PERFORATED PLASTIC TAPE 25MM WITH GUARANTEE		NCZ	SUPPORT BRACKET FOR GABLE ROOF RIDGE
	BB32	PERFORATED PLASTIC TAPE 32MM WITH GUARANTEE		PV	BASE PLATE FOR POST
\bigcirc	К	STRAIGHT CONNECTOR		PU72	U TOP, BOTTOM FOR POST P72

()	BMR	STAINLESS STEEL BOLT, NUT AND WASHER M8		8426	EYE BOLT M10 x 50
• • •	PT72	TOP PLATE FOR POST P72		8421	TUBE FOR TIE ROD SET
	GPT	TOP PART STATIK FOR POST P72		ZSB ZSG ZSC	5.5 x 32mm (TX 25) SELF-DRILLING STAINLESS STEEL SCREW (NON-COATED) SELF-DRILLING STAINLESS STEEL SCREW (COATED) SELF-DRILLING STAINLESS STEEL SCREW WITH SEAL
7:10	KO	TUBE STATIK FOR GDG		SCR.002 ZSB 82416	5.5 x 25mm (TX 25) GALVANISED FOR FIXATIONS THROUGH STEEL PROFILES
	GPV	BASE PLATE STATIK FOR POST P72	10 mm	6.3 x 25	SELF-DRILLING SCREW 6.3 x 25mm
	GC	OUTLET + SWIVEL Ø 80mm	PH2	PS48	PARKER STAINLESS STEEL SCREW 4.8 x 25mm
	UGS WUGS	UNIVERSAL OUTLET + SWIVEL FOR OUTLET	TX25	PST	PARKER SCREW 4.8 x 13mm
	8423	CENTRAL TIE RING	6 mm	BGDG 35412	DIN7380-1 M10 x 30
	8420	CENTRAL ROSETTE COVER		PGDX	POST 110/110
	8425	RIDGE FIXATION		GDX	CROSSBEAM
	8424	END PIECE FOR THREADED ROD		C110	CONNECTING PIECE FOR PGDX



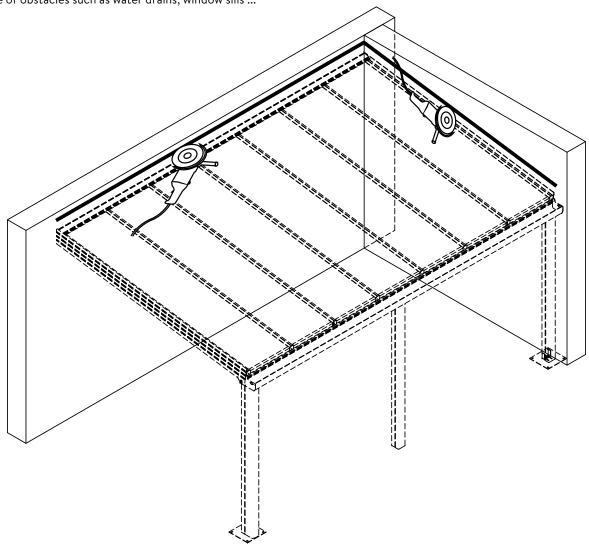
• •	PT110	REINFORCEMENT PLATE	W)	82573	DIN 931 M10×60
	GDSX	END PLATE FOR CROSSBEAM GDX		94567	PVC SEALING PROFILE WITH LIP FOR 8-10MM GLASS
	51810	DIN 7991 M10 X 180		94664	ONE-SIDED ADHESIVE FOAM TAPE 20 X 30MM (5M)
	82574	DIN 7991 M10x120		VTGB 94736	SEALING TAPE 200X150
	21604	DIN 7991 M8x20		48111 C110	CONNECTING PIECE FOR PGDX
ØP	51701	DIN 933 M10x30	<u> </u>	VTPS01 94528	POST SUPPORT FOR P72
0	46673	DIN 125-1A M10		VTBANDV 73799	JOINT TAPE 3-7/12MM (8M)
	51197 51819	COUNTERSINK Ø 16.5MM COUNTERSINK Ø 20.5MM			

10 PREPARATION

10.1 Walls

Check that the walls, against which the structure is to be installed, are:

- sufficiently load-bearing to anchor the roof;
- free of obstacles such as water drains, window sills ...



Cut a slot in the walls against which the patio roof will be mounted.

Place a lead slab or zinc flashing profile in this slot. We refer to chapter 6.2.1 for the positioning: measuring your Climax pent roof.

Height = first joint above Hm + h and max. 60mm above the wall profile.

10.2 Floor

Ensure that the foundation can carry the load. Have an architect determine the required foundation. Implement measures to remove rainwater from the roof.

10.3 Precautions

Protect the painted profiles againts scratches or dents during installation.



11 ASSEMBLING THE POSTS

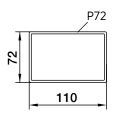
11.1 Determine the length

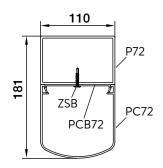
Determine the length of the posts (HN + HG) in function of the pitch and the position of the wall profile (HM).

11.2 Post type: P72

11.2.1 P72 + (97A + PC72): Post profiles

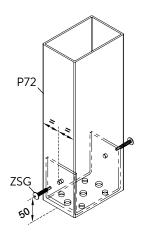
- Screw PCB72 on P72 with screw ZSB.
- If the gutter is provided with a reinforcement IPE 120, the post clip PC72 must be 60mm longer than the post P72.

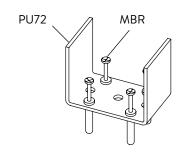


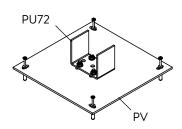


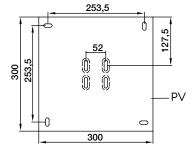
11.2.2 P72 + PU72 + (PV): Standard installation on ground

- For intermediate posts, the U-bracket without base plate PV is sufficient.
- Determine the position of the base & fix on the concrete with the appropriate fixation materials (not included in the delivery).





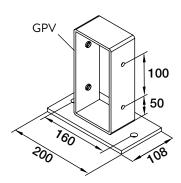






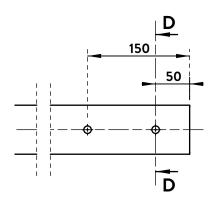
11.2.3 P72 + GPV: Ground fixation Statik

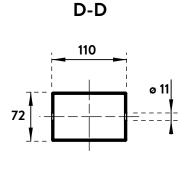
- Sticker 36436 = drill pattern on the flanks of P72.
- Determine the position of the base & fix on the concrete with the appropriate fixation materials (not included in the delivery).

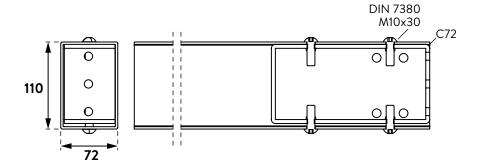


11.2.4 P72 + GPT: Gutter connection Statik

- Sticker 36436 = drill pattern on the flanks of P72





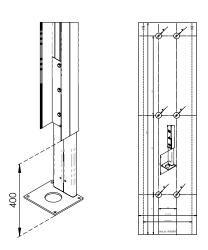


11.2.5 P72 + VTPS01

Gutter posts P1.1 = P1.2 = P1.n

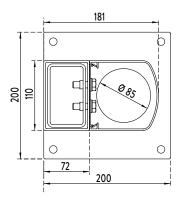
P72 founded in concrete with VTPS01

- Positioning sticker art. 94599: bottom edge of the sticker & post together = ground anchor protrudes 400mm to pour in the foundation.



P72 fixed on the concrete with VTPS01

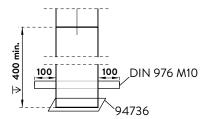
- Positioning sticker art. 94599: bottom edge of the sticker 392 above the bottom edge of the post = the ground anchor is fully retracted.
- Fix the base plate with the appropriate fixing material on the foundation.



11.2.6 P72: Foundation without anchor

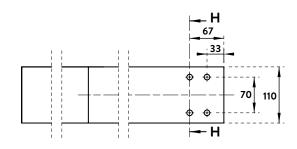
Gutter posts P1.1 = P1.2 = P1.n

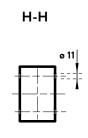
- Install the post at least 400mm deep into a concrete foundation.
- Slide 2 threaded rods M10 (not included in delivery) through the founded part of the post. Drill 4 holes & let the rods protrude 10cm in each direction.
- Close the openings in the post below the foundation level with tape art. 94736, so the concrete and aluminium cannot affect each other.

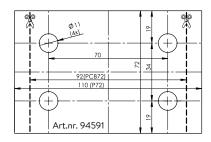


11.2.7 P72 + C72: W1/Wn reinforced connection

- Position the stickers at the same height on all posts.
- Post outside = stickers 94591 cut on the dashed line.
- Post inside = stickers 94591 as a whole.







11.3 Post type: PGDX

11.3.1 PGDX + PUX + (PV): Installation ground & GDX

------ PGDX ------

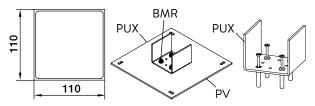
------ Wall-supported roof with overhang ------

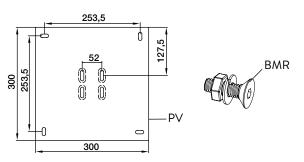
----- Ground fixation ------

P1.1 = P1.n PGDX + PUX + PV

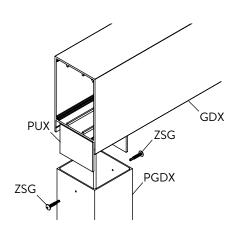
P1.2

PGDX + PUX (+PV)





- Anchor on a firm concrete surface.
- The base plate PV of the psot P1.2 is optional.
- The appropriate fixation material is not included in the delivery.



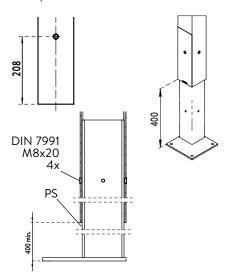
11.3.2 PGDX + PS: Installation with anchor; foundation in concrete / on the ground

------ PGDX ------

As overhang beam O1: P1.1 = P1.2 = P1.n As ridge beam H1: P2.1 = P2.2 = P2.n

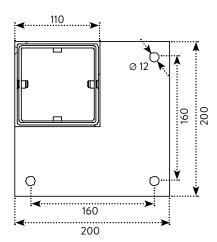
PGDX founded in concrete with PS

- Positioning sticker art. 94601: Bottom edge of sticker & post together = ground anchor protrudes 400mm to pour in the foundation.



PGDX fixed on the concrete with PS

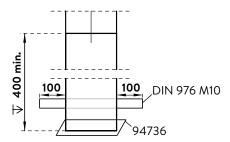
- Positioning sticker art. 94601: Bottom edge of the sticker 392 above the bottome edge of the post = the ground anchor is fully retracted.
- Fix the base plate on the foundation with the appropriate fixing material.





11.3.3 PGDX: Foundaton without anchor

- Install the post at least 400mm deep into a concrete foundation.
- Slide 2 threaded rods M10 through the founded part of the post. Perpendicular to each other. Drill 4 holes & let the rods protrude 10cm in each direction.
- Close the openings in the post below the foundation level with tape art. 94736, so the concrete and aluminium cannot affect each other.

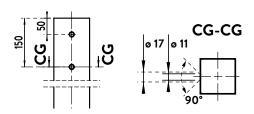


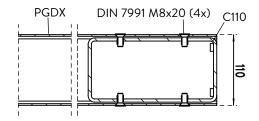
11.3.4 PGDX + C110: Installation crossbeam GDX

PGDX + C110

P1.1 = P1.2 = P1.n

Post flanks = sticker 49566



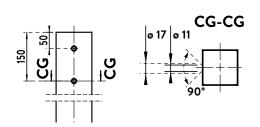


11.3.5 PGDX + C110 + C72: Installation horizontal beam GDX & side beam P72 and with bracket C72

PGDX + C110 + C72

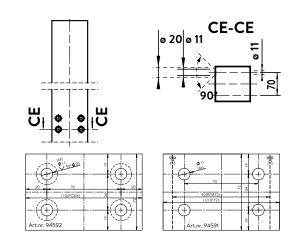
P1.1 = P1.n

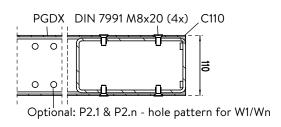
Post flanks = sticker 49566



Post outside = stickers 94592 (with countersink)
Post inside = stickers 94591 (without countersink)

The height position of the drill holes needs to be the same as those of the gutter posts in front.





12 ASSEMBLING THE HORIZONTAL BEAMS

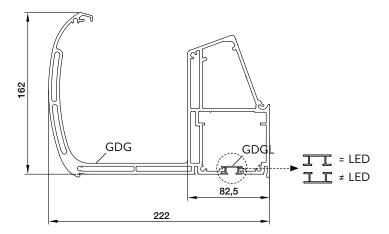
12.1 Gutter beam G1: Type GDG

12.1.1 GDG between 2 facades

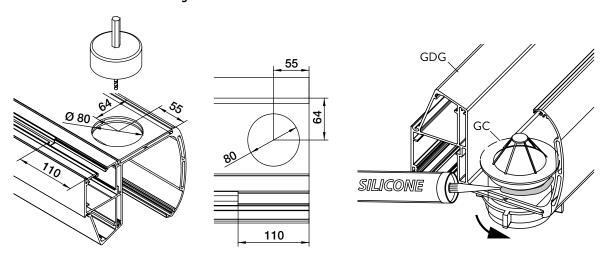
- Shorten the gutter combination by 10mm if the gutter combination is to be installed between two walls. The 5mm clearance on each side is required for the installation of the end pieces.

12.1.2 GDG + GDGL

- Length GDGL = distance between the posts.
- GDGL is installed with the opening facing downwards if LED lighting will be installed here.

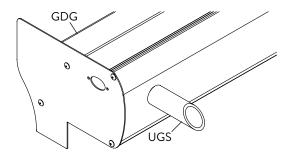


12.1.3 GDG + GC: Water drainage



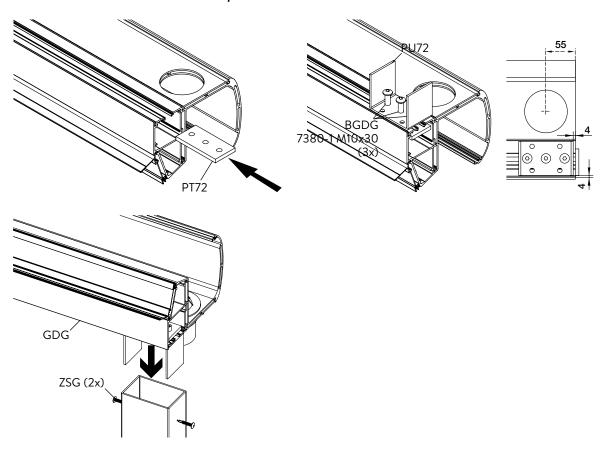
12.1.4 GDG + UGS + WUGS: Water drainage between 2 walls

- Cut an opening with \emptyset min. 33 – max. 35mm in the front of the gutter. This opening must be lower than the overhang in the gutter end plates.



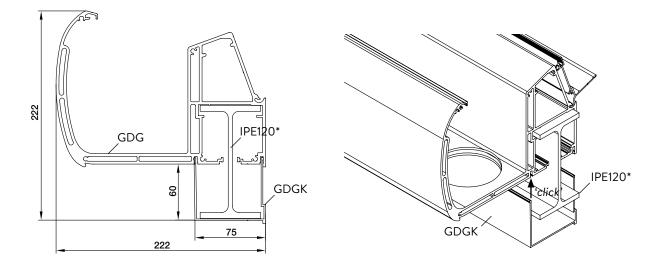


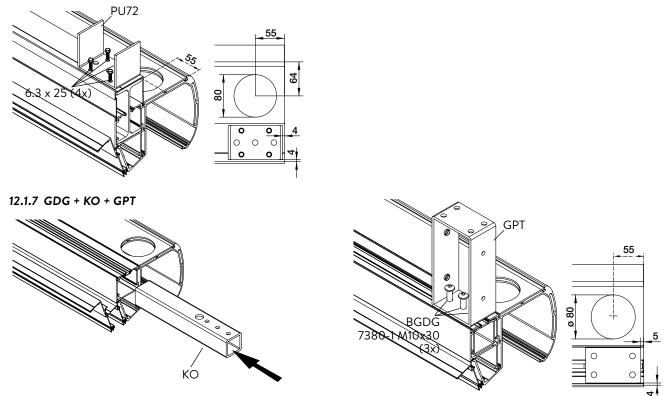
12.1.5 GDG + PT72 + PU72: Gutter with post fixation standard



12.1.6 GDG + PT72 + PU72 + IPE120* + GDGK : Steel-reinforced gutter standard

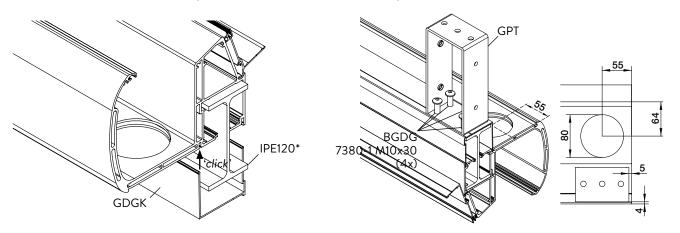
- The reinforcement profile IPE 120 is not included in the delivery. These profiles can be purchased at a local steel merchant. We recommend to treat the reinforcement profiles against corrosion.
- Pre-drilling is required to install the U-brackets if the gutter is reinforced with a steel profile. The use of strong self-drilling screws is recommended. If the Statik installation set is used, you have to foresee screw thread M10 (4x) in the reinforcement profile.





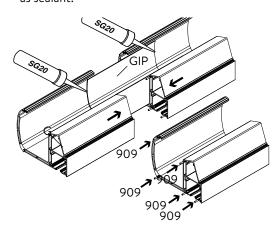
12.1.8 GDG + KO + GPT + IPE120* + GDGK : Steel-reinforced gutter Statik

- Threaded rods M10 (4x) must be provided in the IPE120 reinforcement profile.



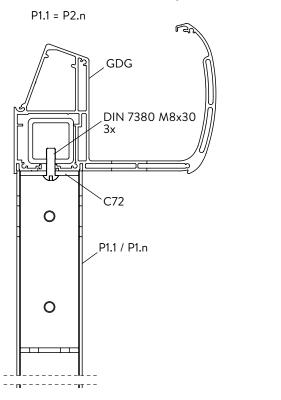
12.1.9 GDG + GDG + GIP: Coupled gutters

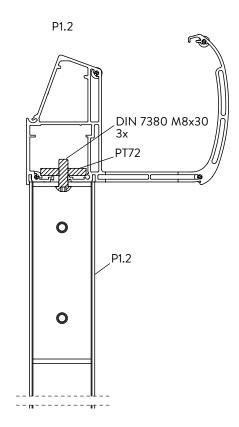
- Multiple gutter elements can be connected to each other for gutter lengths > 7m. A gutter support must be installed at every gutter connection point.
- The gutter profiles can be linked using connection pins 909 (5x) and a connection profile GIP. Use the silicone glue SG20 as sealant.

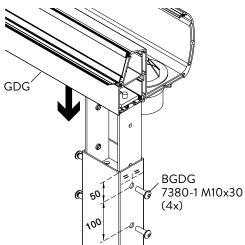




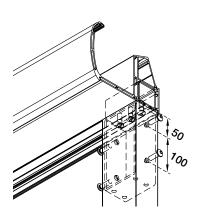
12.1.10 GDG + P72 : Gutter with post fixation Statik



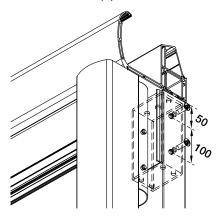




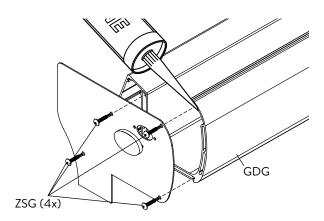
Check if the posts are perfectly vertical (perpendicular). Pre-drill with \emptyset 12mm on the marked positions and use the bolts M10 x 30 (4x). Use the sticker 36436.



Provide the drainpipe and connect it to the water drainage system. Mount the clip PC on the post.

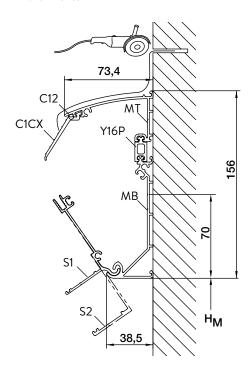


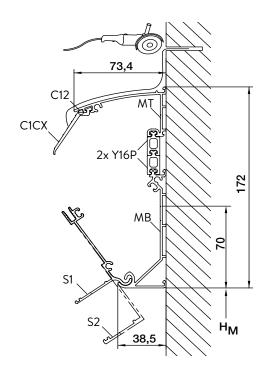
12.1.11 GDG + GAS4: End plate



12.2 Wall-supported back profile

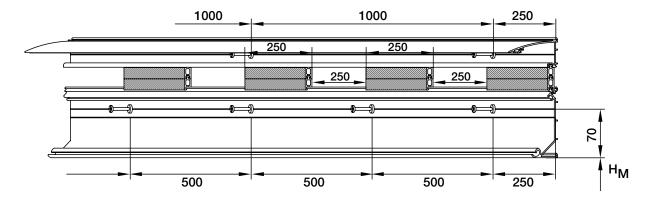
12.2.1 Parts







12.2.2 Preparation



Cut a slot in the wall against which the patio roof will be mounted (see p. 37). Place a lead slab or zinc flashing profile in this slot. Drill a hole in the bottom wall profile MB at 250mm from the ends and subsequently every 500mm on the indicated line with a diameter in function of the chosen fixation material. Repeat this every 1000mm for the top wall profile MT. Slide the seal C1CX in the provided opening of the MT. The bottom and top wall profile are attached to each other with the retractable thermal breaks Y16P.

These thermal breaks do not need to be retracted continuously over their full length. A 250mm length every 250mm is sufficient. The Y16P is used to regulate the height. The number of thermal bridges Y16P that are slid on to each other between the bottom wall profile (MB) and the top wall profile (MT) is determined in relation to the glazing thickness and the conservatory roof pitch (see the table in chapter 5).

12.2.3 Installation

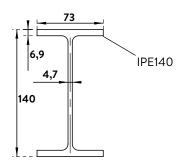
Fix the pre-mounted wall profile with the appropriate anchors. The holes in the bottom wall profile match the height HM + 70mm on the wall.

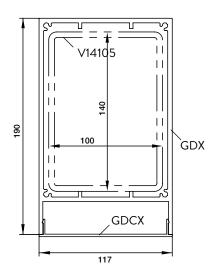
Finish the top of the top wall profile MT with silicone and with a lead or zinc flashing built into the wall. Install the hinge profile S1 or S2 in the bottom wall profile.

12.3 Ridge beam H1 & roof overhang beam O1

12.3.1 GDX + IP140 / V14105: Beam with reinforcement profile

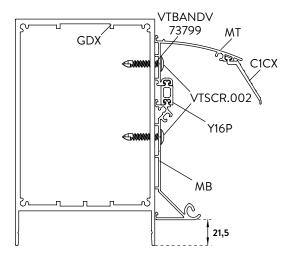
- This profile must be at least 220mm shorter than GDX so the LT150 can be fixed.
- Fastening a reinforcement profile in the GDX (below and above) has a positive influence on the overall strength.
- These profiles can be purchased at a local steel merchant.
- We recommend to treat the steel reinforcement profile against corrosion.

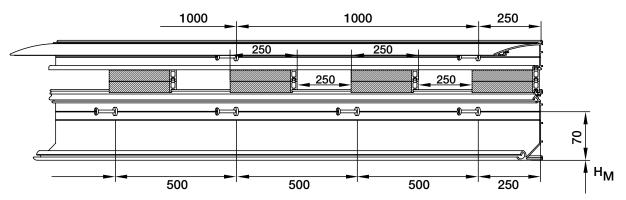




12.3.2 Ridge beam H1: GDX + MB + MT

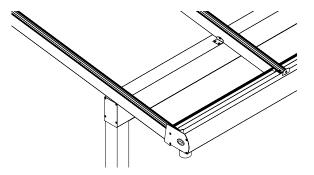
- Screw MB on GDX.
- Install Y16P (1 or 2 levels according to sheet thickness & angle, see tables in chapters 'measuring the roof').
- Install the self-expanding strip on the MT profile.
- Screw MT on GDX.
- Pull C1CX in the MT.



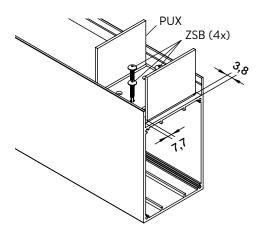




12.3.3 Overhang beam O1: GDX

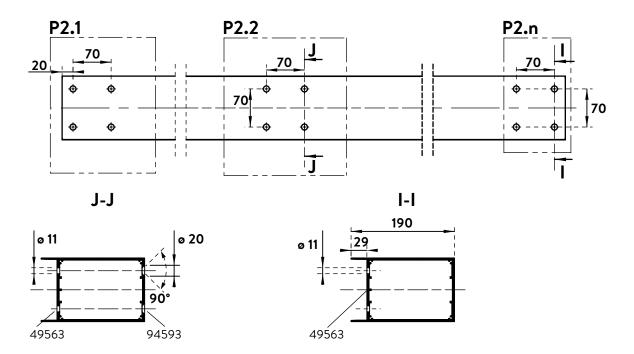


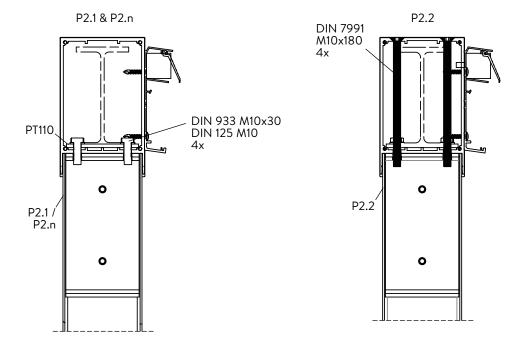
12.3.4 GDX + PUX: Installation on PGDX



12.3.5 GDX + C110: Installation on PGDX

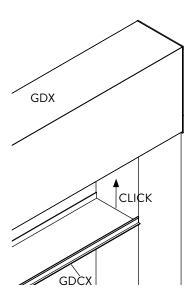
GDX	P2.1 & P2.n	P2.2		
Top side		Drill pattern = sticker 94593		
Bottom side	Drill	Drill pattern = sticker 49563		



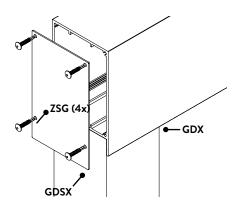


12.3.6 GDX + GDCX: Cover profile

- Cut the finishing clip to length and click it on the underside of the GDX.



12.3.7 GDX + GDSX: Cover sheet

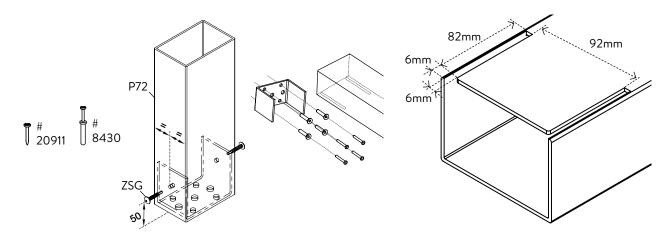




12.4 Side beams W1 & Wn: Type P72

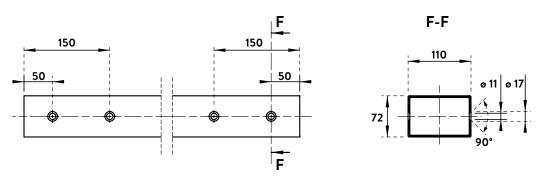
12.4.1 P72 + PU: Standard side beam

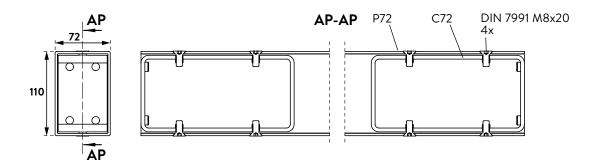
- If the top of the P72 is not visible, slots can be provided here to slide the P72 over the PU brackets, already fixed on a standing structure.



12.4.2 P72 + C110: Reinforced side beam

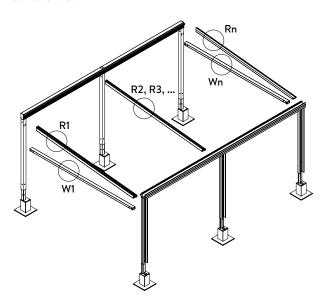
- Side beam flank = sticker art. 49565





13 INSTALLATION OF POSTS + BEAMS + RAFTERS

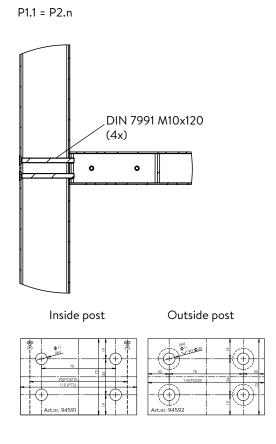
13.1 Overview

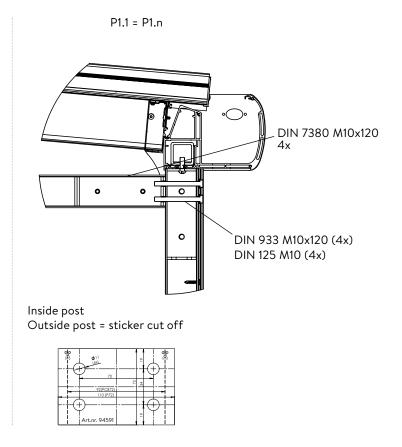


13.2 Installation W1 & Wn

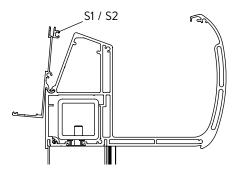
13.2.1 W1 / Wn with C72 brackets

W1 / Wn with C72 brackets

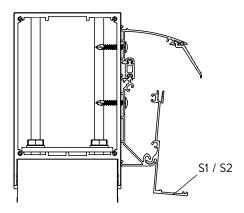




13.3 GDG + S1/S2



13.4 MB + S1/S2

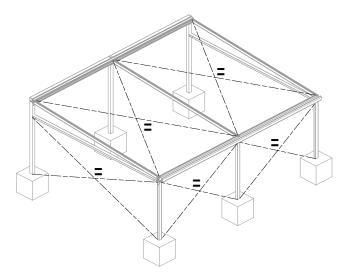


13.5 Installation R1 = R2 = Rn

- See chapter 15: Installation of roof package

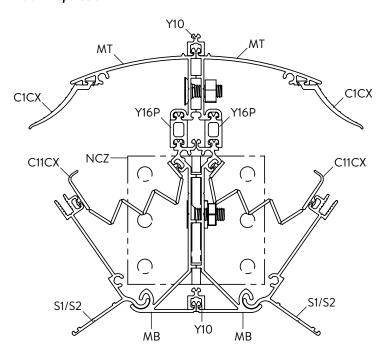
13.6 Outlining the structure

- Check the perpendicularity (squareness) of the structure with the spirit level.
- Also check if the diagonals are equal.
- Fix the entire structure firmly in its current position.
- Pour bags of C25/30 cement into the foundation pit & add water until the posts are at least 400mm deep in the concrete.
- Allow the concrete to harden before placing the glass on the structure.

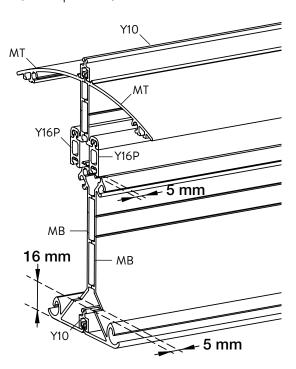


14 INSTALLING A WALL-SUPPORTED GABLE ROOF

14.1.1 Preparation

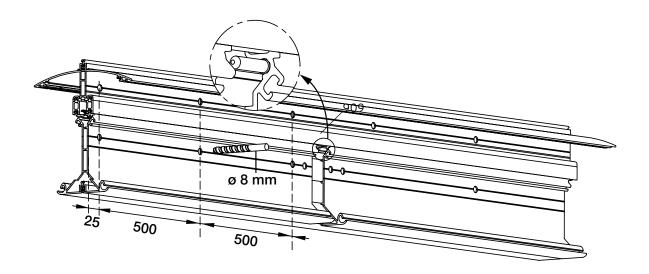


The ridge of the gable roof most be fixed to at least 1 wall. Check all the dimensions. These can be found in chapter 8 of these instructions. The assembly of the ridge profiles is identical for a thermal or non-thermal gable roof. The ridge is created with 2 sets of wall profiles (MB-MT-Y16P) that are assembled back-to-back using adapter profiles Y10. The number of thermal breaks Y16P between the bottom wall profile MB and the top wall profile MT depends on the glazing thickness and roof pitch (see chapter 6.2.1).

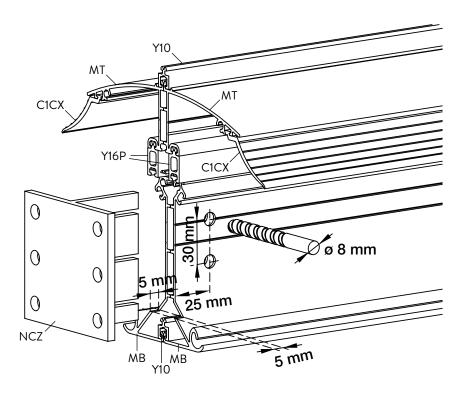


Cut 5mm from the bottom wall profiles for the ridge support bracket (NCZ). Connect the wall profiles at the bottom and at the top using the Y10 adapter profiles.



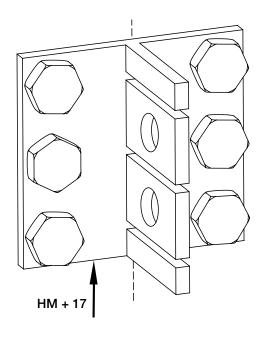


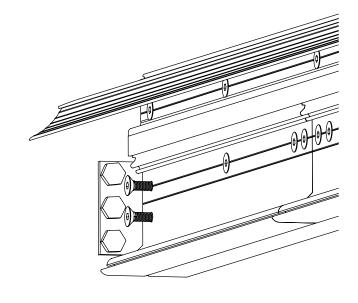
Drill a hole (\emptyset 8mm) every 500mm in the indication line of the bottom and top wall profile and fasten the profiles back-to-back using the BMR fixation sets. If the ridge profile consists of multiple lengths, the profiles must be slanted. Use the connection pins (909) to connect the profiles. If the top wall profile (MT) is discontinuous, the connection at the bottom must be sealed using self-adhesive aluminium tape (not included in the delivery). Ensure this seal extends to below the seal C1CX.



Slide the ridge support bracket NCZ in the short end of the installed ridge profile and drill through both the bottom wall profiles and ridge support bracket with \varnothing 8mm at the indicated locations. Slide the seal C1CX in the top wall profiles MT.

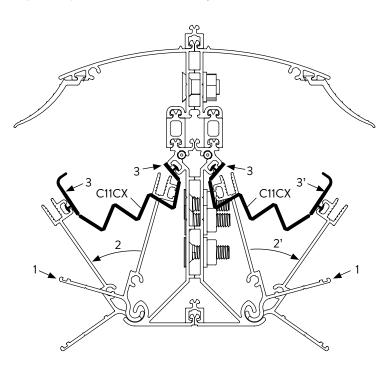
14.1.2 Installation





Install the ridge support bracket (NCZ) to the wall. Check whether the foundation and the walls on which the structure is anchored have sufficient load-bearing capacity. The installer is responsible for the assessment of the appropriate fixing material for the load and surface on which the structure is to be fixed. Please contact your fixing material supplier or specialised engineering consultants in case of any doubts.

Slide the assembled ridge profile on the ridge support bracket NCZ and fix these using 2 fixing sets BMR. Support the ridge profile until the roof has been fully installed.

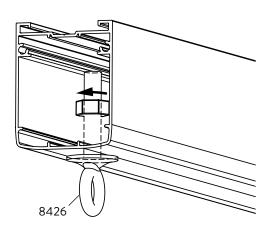


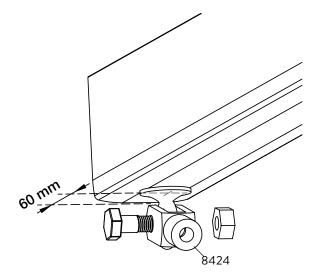
Install the hinge profiles S1 or S2 in the bottom wall profiles MB (1). Depending on the pitch angle (2), you may have to cut off the top part at the end of the hinge to ensure the hinge profile is not hindered by the ridge support bracket. With a thermal break Climax gable roof, the seal C11CX must be installed at both sides (3) between the wall profile and the hinge profile.



14.2 Tie rod set for gable roof

14.2.1 Preparation



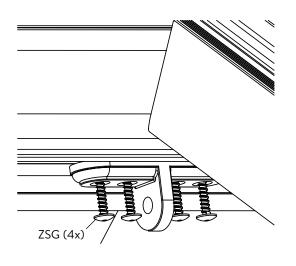


To guarantee the stability of the gable roof, a tie rod set must be installed for every 2 rafters. With a non-thermal break Climax gable roof, you must also use a tie rod set at the open end.

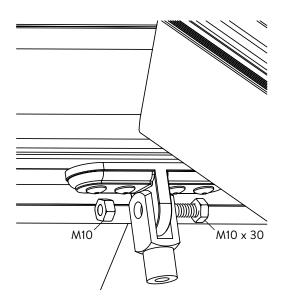
An eye bolt must be installed in these rafters at the gutter side during the preparation phase. Drill a hole \emptyset 10mm at 60mm from the end of the (side) rafter. The eye bolt must be fixed on the inside of the (side) rafter profile D1 or D2 with a bolt (M10). Repeat for every 2 rafters.

See the specific installation tips for the Climax Panorama pent roof in this manual for information on the assembly of the gutter, posts and (side) rafters (see chapters 6, 11 & 12).

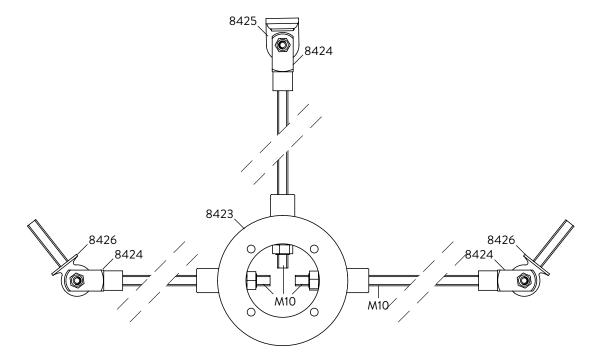
14.2.2 Installation



The tie rod set must be installed after all rafters have been installed and before you install the glazing. Screw the ridge fixation against the bottom side of the ridge between 2 rafters using an eye bolt. Fasten the ridge fixations against the ridge using the ZSG screws.

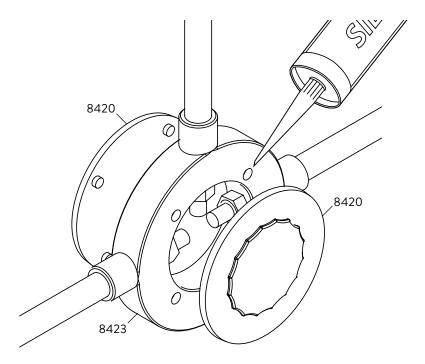


Install the threaded rod ends to the eye bolts using the stainless steel bolts M10 \times 30mm and the M10 safety nuts.



Measure the length of the threaded rods towards the central tie ring and cut it to size. The ring can be positioned by using the bolts M10 to ensure a horizontal connection between the rafters.

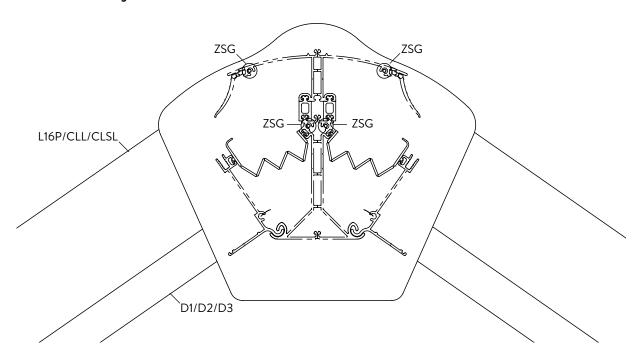
When you are certain about the position, you can cut the painted tubes to size and slide it over the threaded rods. Only remove the support from the ridge profile after the roof has been entirely finished. If necessary, you can still adjust the tie rod set by using the bolts in the central ring.



Place both rosette covers (8420) on the ring (8423). Use silicone to do this.



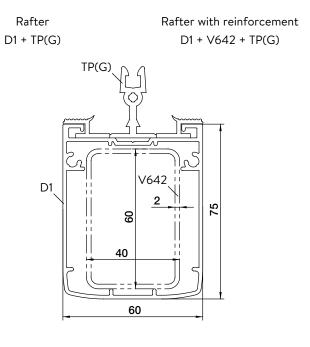
14.3 Side finish of gable roof



The visible side rafters are provided with an L16P (with C2CX seals), a CLL (with CL16 or CL32 clips) or a CLSL (with screw-in type CLSB with CLST clips). At the top of the ridge, this side finish is covered by the ridge end plate (NASZ). Use 4 coated screws ZSG for this.

15 ASSEMBLING THE ROOF PACKAGE

15.1 Rafters



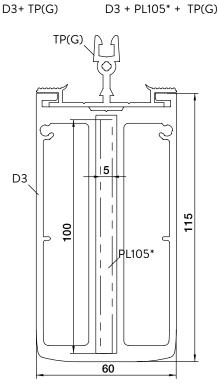
D2+ TP(G)

TP(G)

40

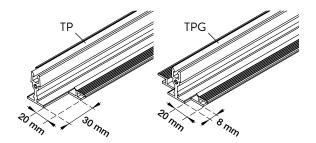
90

V1044*

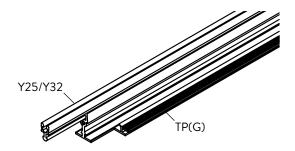


* The reinforcement profiles V1044 or PL105 are not provided. These profiles can be purchased at a local steel merchant. We recommend to treat the steel reinforcement profile against corrosion.

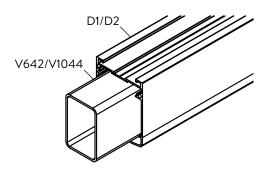
15.2 Preparation



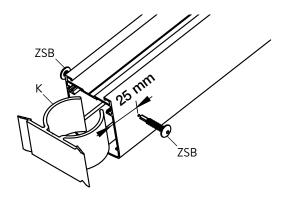
Cut the plastic sheet supports TP or TPG to the right length while retaining the pre-cut part. You may have to make this cut-away yourself depending on the cutting. This cut-away is required for proper water drainage of the end profiles.



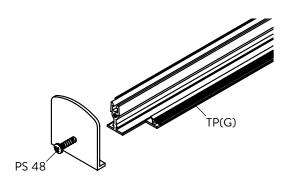
Adapter profile Y25 or Y32 should be slid in depending on the glazing thickness (see table in chapter 5.6.2).



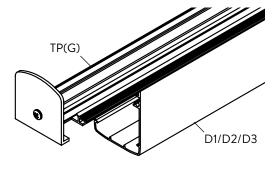
Cut the rafters D1 or D2 to the proper length at a right angle. Cut the reinforced profiles to the right length and slide them into the aluminium rafter profiles. For regular installation with plastic sheets, the length of the reinforced profiles must be the same as the rafter length.



For installation with glazing, the reinforced profiles should be 100 +mm shorter than the rafters (installation with connectors and spacers; see chapter 15.5).

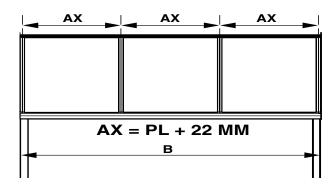


Screw the stop profiles against the pre-cut side of the sheet supports, use the included Parker screws PS 48 $(4.8 \times 25 \text{mm})$.



Slide the sheet supports TP(G) in the aluminium rafters D1 or D2.

15.3 Installation



The number of rafters and their position is determined in function of the glazing and the load. Check the axis distance in function of the depth of the patio roof (D) and the load (glazing + snow and wind); see the graphs in chapter 4 or use the Climafast calculation programme.

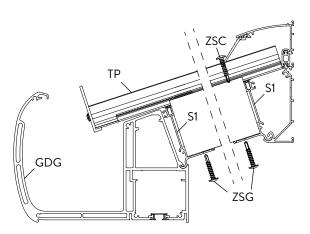
The total sheet width is used for polycarbonate or acrylic plastic sheets, except for the left and/or right sheet which may be cut to size. The axis distance between the AX rafters = sheet width + 22mm. Take into account a lateral clearance of 5mm on each side. All useful information for the processing and installation of glazing plastics can be found in chapter 17.

The total width is divided into equal parts of max. 750mm when using glass. The glazing quantity is determined as follows: (B-60mm)/750 rounded off upwards. The width of the glazing is determined as follows:

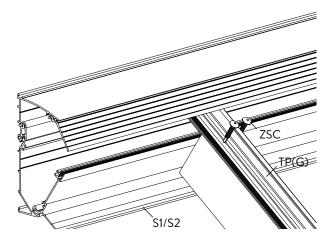
((B - 60mm) / glazing units) - 22mm. Please follow the instruction of your supplier for the glass.

Mark out the positions of the rafters on the hinge profiles (on the gutter and wall) and check the axis-to-axis measurements.

15.4 Standard installation for plastic sheets



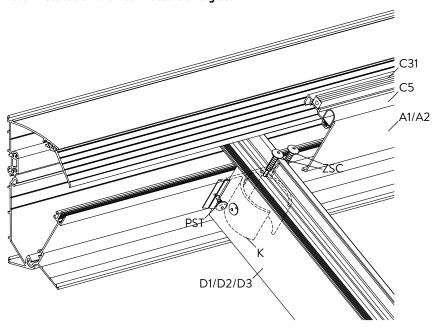
Position the pre-mounted (side) rafters on hinges S1 or S2. The rafters must be fixed in the hinge profile S1 or S2 on the wall and gutter side by using the ZSG screws. Do this on the marked line that can be seen on the bottom side of hinge profile S. For rafters with steel reinforcement, you must pre-drill with \emptyset 4mm first.



Slide sheet supports TP(G) as far up as possible against the wall profile and fasten them using 2 ZSG screws with neoprene seal. Ensure that all stop profiles on the gutter side are aligned.

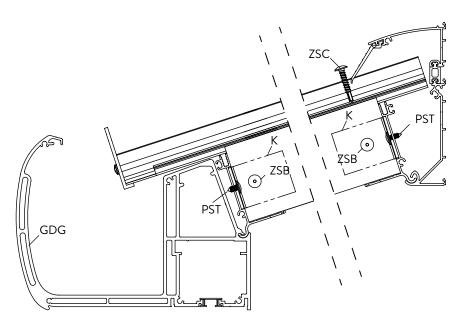


15.5 Installation with connectors and glass



Use the Parker screws PST to fasten the connectors K in the hinge profiles. Pre-drill with Ø 4mm in the indication lines (left & right) of the connector. Do this each time on the left and right side of the rafter, on the wall side and gutter side. Cut away one wing of the connector when installing the side rafters with K connectors to ensure that the connector does not hinder the finishing profile.

Allow for a clearance of at least 5mm if the side rafter will be placed against a wall. Install spacers A1 or A2 between the rafters on hinge profile S1 or S2. The support seal C5 (for plastic sheets) or support seals C5 + C31 (for glass) will be installed here.



Slide the TP(G) profile completely upwards against the wall profile and fasten these AS HIGH AS POSSIBLE using 2 ZSG screws with a neoprene O-washer. Make sure all stop profiles on the gutter siede are ligned. The TP(G) profile expands downwards.

16 OPTIONS

16.1 Lighting

16.1.1 Installation in gutter or wall profile

16.1.1.1 Installing the LED lighting on the gutter GDG

All electrical operations must be performed by a professional and in accordance with the applicable local regulations for electric installations.

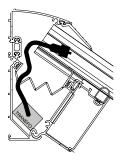
The installation and electric wiring must be carried out in accordance with the instructions below.

Transformer:

Provide 1 transformer per LED strip of maximum 7 metres. Pull the extension cord (6m) through the side rafter from the wall profile to the gutter.

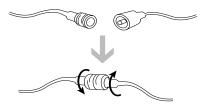
The transformer must be placed in the wall profile in the provided space between the lowest wall profile and the and the hinge profile.





Connect the plugs:

Connect the wires of the transformer to the LED strip with the plugs (IP44).



16.1.1.2 Installing the LED lighting in the gutter GDG

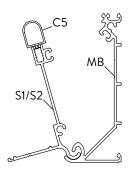
If the GDGL profile is slid into the GDG with the opening at the bottom, there is a cut-out in which the LED strip fits. There is a plug at the end of the LED strip for the connection with the transformer. There is also an extra cable of 6m so the transformer can be installed in an easy-to-reach place.

17 GLAZING

17.1 Plastic sheets & Pergotop

17.1.1 Finish below the sheets

- Push the support seal C5 in the cut-out of the hinge profiles between the rafters.
- These spacers A1/A2 are to be fixed in the hinge profile & fit perfectly between the rafters. This supports the glazing on all 4 sides.





17.1.2 Multi-walled plastic sheets

- Only the left and right sheet are cut to size in width.
- Provide the right tape (suited for plastic) for the open ends (closed tape BT at the top = walls side and perforated tape BB at the bottom = gutter side).
- Provide each sheet with a closing profile on the gutter side.

The qualitative and technological level of the multiple layer plastic sheet is high. We provide a few important tips for problem-free installation. Please pay special attention to the following: Space for expansion/silicone and wooden protection/seals.

1. CLEARANCE

Synthetic sheets can expand or contract when there are temperature fluctuations. The following tips should be taken into account:

- Ensure there is 5mm clearance lengthwise for each sheet metre and ensure there is 10mm clearance (5mm on each side) widthwise.

 E.g. a 3000mm sheet must have a length clearance of 1.5cm.
- Never block the sheet lengthwise or widthwise. Always ensure sufficient clearance.
- Never stick the sheet using silicone (even when it does not damage synthetic materials). It would prevent the expansion and contraction of the sheets.
- The sheet is blocked at the bottom end to prevent it from sliding. The clearance must therefore, be provided at the top.

2. SILICONE, SEALS AND WOOD PROTECTORS

- Nearly all silicone products affect the polymethyl methacrylate or polycarbonate sheets. <u>Purchase</u> <u>silicone types that are safe</u> <u>for acrylic and polycarbonate</u> (guarantee certificate).
- The fumes from these silicones may never evaporate in the slots of the sheet. The ventilation openings as well as the sides of the end profiles may not be closed off. The silicone should always be allowed to release fumes freely.
- Some seals contain softening agents (as used in certain types of rubber, PVC, polyurethane, etc.) that may cause small cracks. <u>Use only</u> approved seals.
- Do not use black or dark-coloured seals to prevent heat accumulation.
- A lead flashing can be placed on the seals but cannot rest against the sheets.
- Some paints, varnishes and wood protectors affect the polymethyl methacrylate or polycarbonate sheets.
- Never use lubricants to put the seals into the profiles.
- Never spray insecticide directly on to the sheets. Synthetic sheets can be damaged by these products.

4. INSTALLATION

- Observe the safety instructions that apply to work on roofs.

Polycarbonate sheets: Very IMPORTANT! The side which is protected against UV radiation must always be installed facing the exterior or the sky. The "sun side" is indicated on the protection film.

- The plastic tape or the provisional aluminium tape will only ensure the sheets are free from dust while being shipped. These should be removed!
 - Adjusted aluminium tape or end profiles must be used (see point 6 p. 49).
- The load-bearing structure must be strong and stable (see the regulations that apply to the timber and metal construction industry). Cross supports may be required depending on the type of sheet used. Only specific maximum lengths may be used without a cross support for each type of sheet taking into account the loads of 500N/m² or 750N/m², respectively (see the technical plastic sheets information sheet).
- Heat accumulation: the top side of the load-bearing structure that is turned towards the sheets must be WHITE reflective.
- Apply white dispersion paint (diluted in water or paint without solvents) or use preferably aluminium tape.
 Attention: Let the paint dry after
- Attention: Let the paint dry after painting the load-bearing structure! Continue with the installation of the sheets after the paint has dried. The synthetic sheets may NEVER be installed directly on to timber structures.

- Do not place roof tiles directly on the sheets! Leave a space of at least 10mm between the sheets and the roof covering.
- Use a special weather stripping (seal C6) for sealing the opening between the plate and the gutter beam. Do not seal using sealant or fill with PU foam.
- We formally recommend not adding a ceiling under the acrylic sheets (PMMA). Any used sun blinds or other finish under the sheets should be at least 120mm from the roofing sheet. These may not have insulation properties and should have a reflecting colour. The polycarbonate sheets (PC) do not require any specific precautions.

WIDTH DISTRIBUTION OF THE SHEETS: RECOMMENDED:

standard sheet width with an adapter for the 2 outer sheets. This is especially important for the S5P heatstop sheet.

The closed off sides are one of the factors that determine the sheet strength!

NOT RECOMMENDED:

in equal sections with sized sheet widths. Take the standard sheet width into account. We formally advise against sizing multiple-layer sheets.

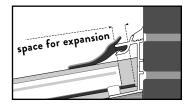
3. MAINTENANCE

- Clean the sheets annually using lukewarm rainwater. Dissolve a little household soap (neutral) in the water if required (no detergent!!). Never use solvents or abrasive products.
- Do not rub dry (may cause scratches).
- Simply rinse.

5. GLASS

 Follow the installation instructions provided by the glass manufacturer when including the installation of glass!





The guidelines regarding the placement is only of an advisory nature. They are for informational purposes only. The installation is under the sole responsibility of the customer.

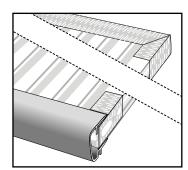
THE RESPONSIBILITY OF THE PUBLISHER IS EXPRESSLY DISCLAIMED REGARDING THE PLACEMENT.

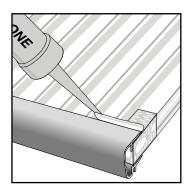
PERGOLUX - SKYLUX - CLIMAX - CLIMALITE - REFLEX PEARL - RELAX - PRIMALITE - POLYCLEAR ARE REGISTERED BRANDS OF SKYLUX

6. DRAINAGE & CONDENSATION

Dust and damp may not enter into the cell structure:

- A combination of BT 16/25/32 at the top and BB 16/25/32 with U16/25/32P at the bottom, stops dust of $> 50\mu m$ from entering the cell structure.
- The underside is provided with a perforated aluminium filter tape.
 To protect the tape, a U-shaped closing profile is installed.
- Seal the profile with synthetic friendly silicone to prevent water infiltration as much as possible.
- In case of sheets with a no-drop layer, the edge needs to be moistened and dried before taping.



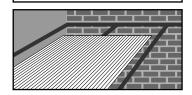


- Make sure that the bottom NEVER stands in water (moss and algae).
- Condensation in the hollows channels is not 100% inevitable (physical phenomenon).

Acrylic and polycarbonate are very less gas- and dampproof. The characteristics of the material and the guarantee are not diminished because of this. An appropriate seal is recommended.

7. SHEET DIRECTION

- Install the sheets with inclination or vertically, never horizontally (unless interior use).
- Minimum inclination: 10° (18cm per meter) or more. A slope of less than 10° can cause condensation problems
- The direction of the sheet's hollow channels must always go along with the roof inclination.

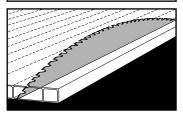


8. REFLECTION

- Multi-walled synthetic sheets may reflect the sunlight to the inside or the outside in case of direct sunlight (following the orientation or the inclination). This is a normal situation which does not affect the sheet guarantee.

9. SAWING & DRILLING

- Always use a grease pencil to make notes on the protection film (felt pen is difficult to remove).
- To ensure a firm clamping when sawing, you should always make sure that a raised rib is as near as possible by a sawn edge.

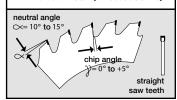


 When sawing, use a hard metal saw (widea) with high rotation speed.
 Saw slowly and by preference with one move. Use new or sharpened saw blades. Make sure the sides are always smooth.

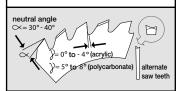
ATTENTION: The basis on which the sheets are sawn, must be stable and vibration-free. The sheets must not move during sawing. The saw blade must slightly protrude from the sheet

- Type of saw blade:

1. Hard metal (for about 50m/s)



2. HSS (not more than 40m/s)



- Remove all dust and sawing residue from the channels with pure compressed air or a powerful vacuum cleaner and seal off the channels immediately afterwards.
- Remove the protection film only after installation to avoid scratches.
- Drilling is strongly advised against. However, if unavoidable, provide grooves (contraction and expansion).

10. PILING

- Avoid direct sunlight on piled sheets.
- If you pile the sheets outside, cover the sheets with white polyethyl foil.
 Always keep the synthetic friendly tape as sealing on the front sides of the sheet.
- The sheets must not be piled directly on the ground. Use appropriate pallet boards.

11. SUN PROTECTION

- If you install sun protection, you must do this on the upper side of the sheets: e.g. on the outside.

Attention:

Do not put the sun protection directly on the sheet!

You can also buy sunproof sheets (PC: Primalite Clear, Reflex Pearl, Relax - PMMA: S5P Heatstop) or install a Skylux conservatory skylight.

12. REMEMBER

- Never walk or kneel directly on the sheets. Always use solid timber boards underneath. Make sure these boards are supported by the timber construction.
- Multi-walled synthetic sheets with thin walls and a high insulating structure in the sheet, are sensitive to foot, knee and other impressions at the surface. Please take enough precautions during transport and installation. Impressions in the sheet are <u>not</u> covered by the guarantee.



13. SNOW AND SNOW PILE

 The multi-walled synthetic sheets resist normal snow load. You can find the maximum snow load on the technical files per sheet type and size. In case of heavy snow fall, we recommend to regularly clear the snow.

The conservatory roof must also be protected against snow falling from a higher situated roof.

14. DILATATION NOISES

- As we already mentioned several times, synthetic sheets contract and expand due to temperature fluctuations. When they move with regard to the roof construction, there can be some creak noises. There is no danger for the sheets if they have been installed according to the installation instructions.
- Screwed clips cause more creak noises with synthetic sheets. Do not fasten too tightly.
- If you would like to avoid crack noises, we advise you to always use the TP and TPH profiles. The TP can also contract/expand together with the plastic, aluminium or sandwich sheet.

15. FURTHER INSTRUCTIONS

- Only use sheets with identic production number per project to avoid colour differences.
- For glass: see Pergolux Glass series



17.1.3 Sheet installation & finish

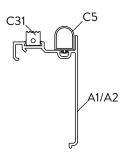
- Lay the glazing between the sheet rafters with the end profile against the stop profiles on the gutter side. Take into account a lateral clearance of 5mm on each side.
- Apply a silicone sealant that does not affect plastic material at the upper edge of the end profile.
- Check whether the end profile is perforated at the bottom. This is required for proper water drainage. Make sure the UV-protected side of the sheet is always facing upwards.
- Ensure that the multiple layer plastic sheets have a slope of at least 5° or 8,7 cm per metre because, if not, the guarantee will be void.



17.2 Glass

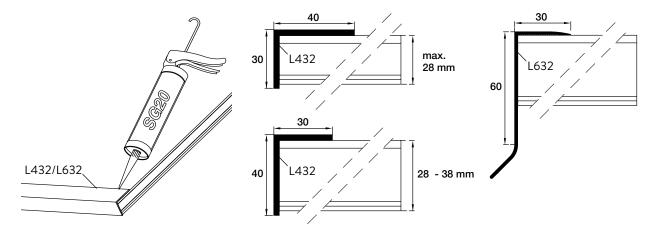
17.2.1 Finish below the glass

- Slide the C5 seal in the provided groove and push the support seal C31 in the provided cut-outs.
- These spacers A1/A2 are to be fixed in the hinge profile & fit perfectly between the rafters. This supports the glazing on all 4 sides.



17.2.2 Glass installation & finish

- Lay the glazing between the sheet rafters with the end profile against the stop profiles on the gutter side. Take into account a lateral clearance of 5mm on each side.
- Always use laminated glazing in your patio roof according to the applicable standards. Consult your glass supplier.
- Stick an L-shaped end profile L432 or L632 on the crosscut side of the glass. Use silicone SG20.



17.3 Glazing connection

17.3.1 Finish below the glass

The glass connector is used for pitched roofs to create a watertight connection between two glass or two plastic sheet sections. This is only possible with sheet support TP or TPG and the screw-in type clips CLSB with CLST/CLSL.

The following parts are used for a glass connection:

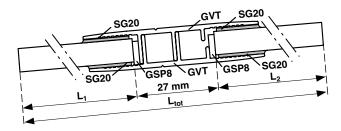
Top profile GVT Thermal break Y16P Buffer blocks GSP 20 or GSP 8

Bottom profile GVB Adapter profile Y10 Glass adhesive SG20

Composition in function of the glazing thickness:

Glass thickness	GVB	GVT	Y16P (ABS)	Y10 (alu)	GSP (blocks)	Adhesive SG20
8 – 21mm		2 x			GSP 8	Х
22 - 29mm	1 x	1 x	1 x		GSP 20	×
30 - 34mm	1 x	1 x	1 x	1 x	GSP 20	Х

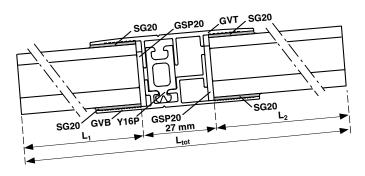
17.3.2 For glazingg 8 - 21mm GVT + GVT (only glass)

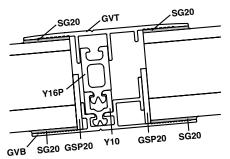


Glazing length:

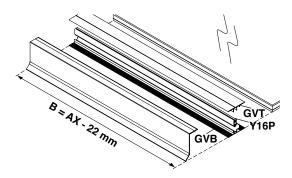
 $L_{tot} = L_1 + 27mm + L_2$ $L_{tot} = total$ glazing length $L_1 = length$ of lower glass sheet $L_2 = length$ of upper glass sheet

17.3.3 For double glass or plastic sheets > 21mm (GVB + GVT + Y16P + Y10)

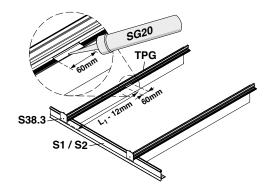




17.3.4 Measurements and preparation



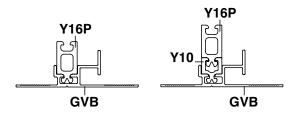
Cut the profiles GVT, GVB, L632, Y16P and/or Y10 using the same width B as for the glass sheet. Make sure that the surfaces that need to be glued are dry enough and free from dust and grease.

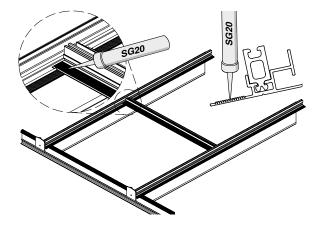


Measure the length L_1 - 12mm from glass stopper S38.3 and draw a line on the ribbed coex layer of sheet rafter rafter TPG. Draw a second line 60mm further along. Remove only the coex layer between both drawn lines. Add SG20 adhesive to the zones without a coex layer.



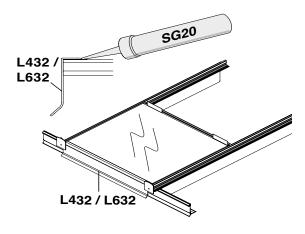
17.3.5 Installation



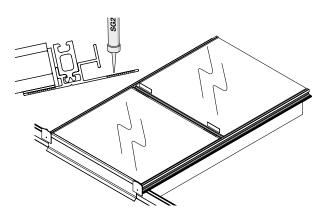


Slide profiles Y16P and Y10 in bottom profile GVB in function of the glazing thickness according to the table in chapter 5. The GVT profile is also used as the bottom profile without spacers for single glazing (8, 10 and 12mm) or glazing up to 21mm.

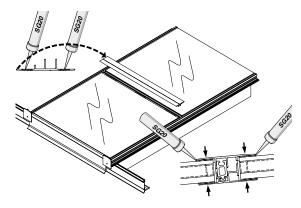
Position the complete set on sheet support TPG with the stop edge towards the ridge. Add adhesive to the bottom ribbed zone of bottom profile GVB (or GVT).



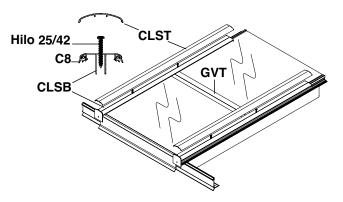
Stick end profile L432 or L632 on the glazing. Position the bottom glass sheet on the patio roof rafters. Press profile GVB against the glazing. Position 2 plastic buffer blocks inbetween the glazing and bottom profile GVB. Repeat this for all rafters.



Add adhesive to the top ribbed zone of bottom profile GVB. Position the top glass sheet and add 2 plastic buffer blocks in between the glass sheet and the stop edge without any clearance.



Add adhesive to the ribbed zone of bottom profile GVT and position the profile as indicated. Press the profile evenly and make sure there is counterpressure along the bottom side. Remove excess adhesive and seal with silicone sealant.



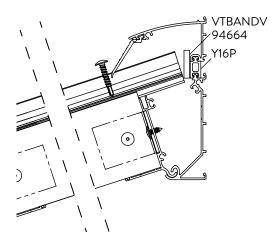
Install seals C8 in the screw-in type clips CLSB. Drill holes with a \varnothing of 5.5mm every 50cm, starting and ending at 20cm from the ends. Fasten profile CLSB to sheet support TPG using adapted Hi-Lo screws. Press the clips (CLST/CLSL) manually or use a rubber hammer.

18 SEALS & WATER DRAINAGE

18.1 Extra seals for glass roof with pitch 2° to 5°

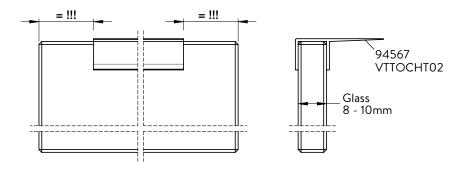
18.1.1 Grey foam adhesive tape

- Stick the adhesive tape over the complete width, with the bottom side equal to the bottom side of Y16P.



18.1.2 Glass sheet preparation

- Measure & demarcate so the PVC profile is fixed precisely on the cetre of the glass sheet.
- Firmly fix the profile on the glass edge:
 - Art. 94567 = black PVC profile for 8 & 10mm glass (if necessary, use a bit of lubricant for the installation on 10mm glass if the glass edge is not chamfered).



18.1.3 Silicone sealant

- After the installation of the glass cover profiles (CL16 or CLSB+CLST).
- Apply a silicone line along all contact joints of the PVC profile & fill gaps if necessary (glass, glass covers & glass seals). This way, the wind cannot blow water along the barriers.

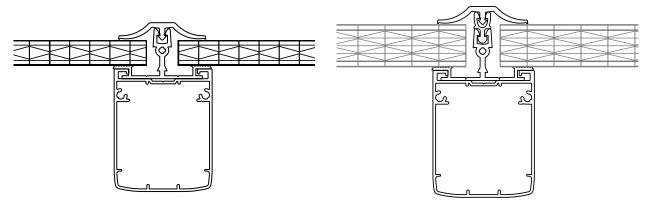
18.1.4 Mounting the seal C1CX

- $\,$ Pull the C1CX seal in the groove of the back profile.



18.2 Seal for glazing covers

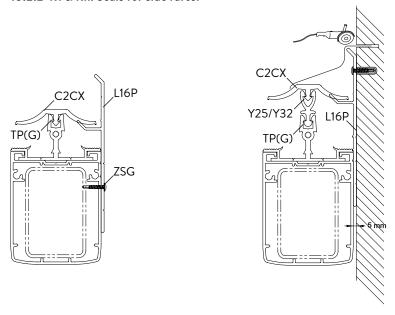
18.2.1 R2: Seals for middle rafters



Finish with seal C2CX for plastic sheets or glass: the possibilities and glazing thicknesses can be found in the table in chapter 5.

Push the seal C2CX in the sheet rafter TP(G) or in the adapter profile Y25 / Y32.

18.2.2 R1 & Rn: Seals for side rafter

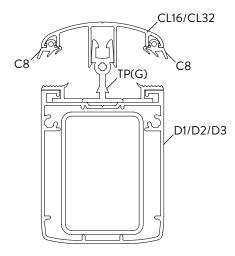


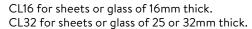
Push the C2CX seal in the sheet rafter TP(G) or in the adapter profile Y25 / Y32. Saw the side finish profile L16P diagonally on the wall side according to the roof pitch. Measure the distance to the stop profile to determine the length of the L16P profile. Position the L16P profile against the outside against the rafter profile. If you install against a wall or if you install a freestanding structure, then it is necessary to screw L16P each metre sideways against the rafter (with ZSG) or against the wall.

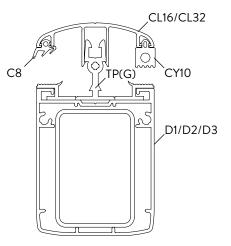
18.3 Clip-on glazing covers

18.3.1 R2: Middle rafters

Standard clip

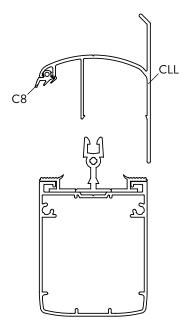






Push the C8 or CY10 seal on both sides into the clip. Make sure the C8 seal does not continue up to the end of the gutter side, but to the end profile on the glazing. The CL16 and CL32 must be clipped on the sheet rafter TP(G). Clip manually or use a rubber hammer and a small board. Be sure to not make any dents in the clip.

18.3.2 R1 & Rn: Side rafters



CLL for plastic sheets or glass of 16, 25 or 32mm thick. Place the seal C8 or CY10 in the clip on 1 side.

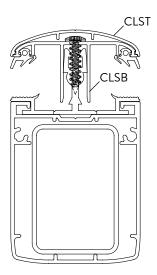


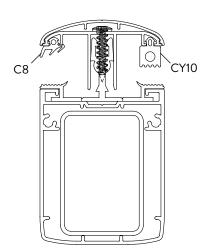
18.4 Screw-on glazing covers

18.4.1 R2: Middle rafters

Screw-on clip

For plastic sheets or glass: the possibilities and glazing thicknesses can be found in the table in chapter 5.

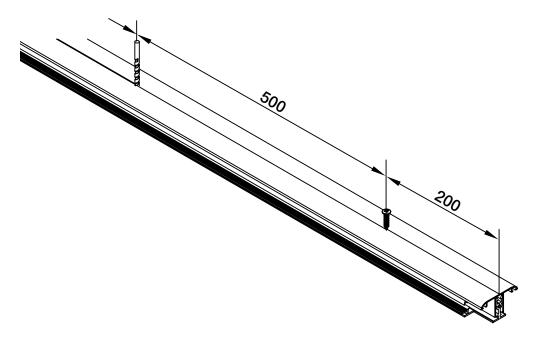




The screw-on clip consists of 2 parts:

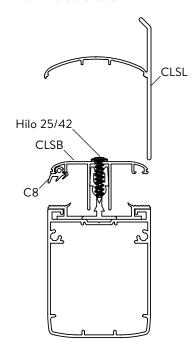
- the bottom clip CLSB
- the top clip CLST

Push the C8 or CY10 seal on both side into the CLSB clip. Make sure the C8 seal does not continue up to the end of the gutter side, but to the end profile on the glazing.

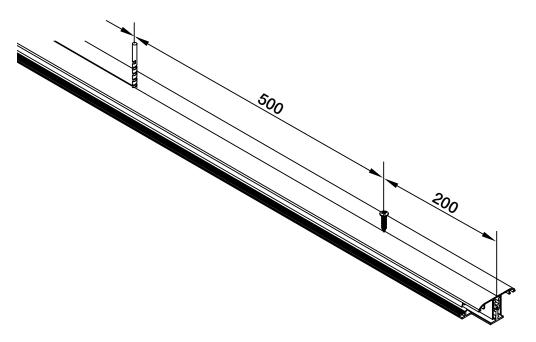


Pre-drill the CLSB with \varnothing 5.5mm every 500mm, starting and ending on 200mm from the ends. Fasten the CLSB on the TPG using the appropriate HiLo-screws. Fasten perpendicularly and use a slight torque to ensure the screw head is pressed flat against the CLSB. Depending on the glazing thickness, only the screws and/or adapter profiles CY10 / Y25 are used (see table in chapter 5). Clip the CLST manually or with a rubber hammer and a small board. Be sure not to make any dents in the clip.

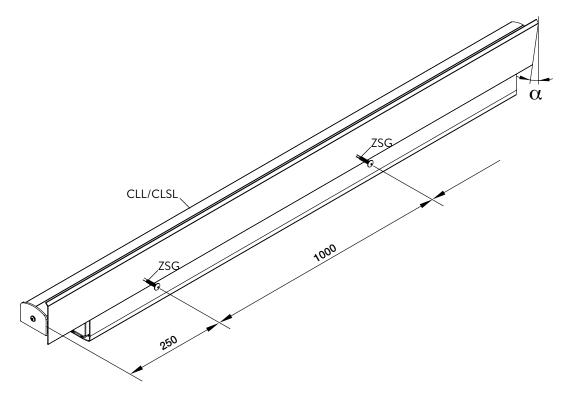
18.4.2 R1 & Rn: Side rafters



CLSB + CLSL for plastic sheets or glass of 8 to 34mm thick. Place the seal C8 or CY10 in the clip on 1 side.

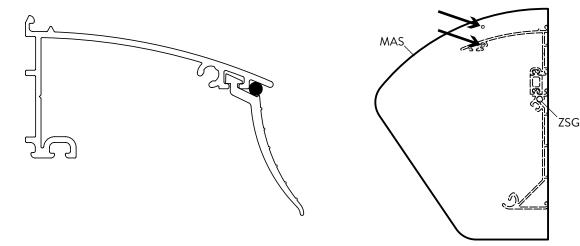


Pre-drill the CLSB with \emptyset 5.5mm every 500mm, starting and ending on 200mm from the ends. Fasten the CLSB on the TPG using the appropriate HiLo-screws. Fasten perpendicularly and use a slight torque to ensure the screw head is pressed flat against the CLSB. Depending on the glazing thickness, only the screws and/or adapter profiles CY10 / Y25 are used (see table in chapter 5).



Pre-drill the CLSB with \emptyset 5.5mm every 500mm, starting and ending on 200mm from the ends. Fasten the CLSB on the TPG using the appropriate HiLo-screws. Fasten perpendicularly and use a slight torque to ensure the screw head is pressed flat against the CLSB. Depending on the glazing thickness, only the screws and/or adapter profiles CY10 / Y25 are used (see table in chapter 5). Clip the CLST manually or with a rubber hammer and a small board. Be sure not to make any dents in the clip.

18.5 Seal the wall profile



Install the C12 seal to increase the pressure from the C1CX on the glazing. $\,$

Install the end profile MAS on the freestanding sides of the wall profile. To determine the position of the 2nd ZSG screw, use the point marking that is already provided on the MAS. Only screw the MAS after the roof has entirely been installed.

ONLY USE ORIGINAL PARTS SUPPLIED BY SKYLUX. FAILURE TO USE ORIGINAL PARTS VOIDS THE GUARANTEE.

THESE GUIDELINES ONLY SERVE AS ADVICE AND INFORMATION. INSTALLATION IS CONDUCTED UNDER THE SOLE RESPONSIBILITY OF THE CUSTOMER.

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